

Initial Study and Mitigated Negative Declaration
MAVERIK FUELING CENTER PROJECT

Orland, California

Lead Agency:



City of Orland
815 Fourth Street
Orland, California 95963

Prepared by:



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

55 Hanover Lane
Suite A
Chico, California 95973

December 2021

THIS PAGE INTENTIONALLY LEFT BLANK

MITIGATED NEGATIVE DECLARATION

Lead Agency:	City of Orland
Project Proponent:	Maverik, Inc.
Project Location:	The Proposed Project is located in the City of Orland on a 5.56-acre site at the southwest corner of Newville Road and Commerce Lane, Orland, California. Project Site addresses include 4463, 4473, and 4483 Commerce Lane. Assessor's Parcel Numbers (APN) associated with the property are 045-170-040, 045-170-041, and 045-170-042. (Figures 1 and 2). The Project Site corresponds to a portion of Section 21, Township 22 North, and Range 3 West (Mount Diablo Base and Meridian) of the Kirkwood, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1958, photo revised 1978). The approximate center of the site is located at latitude 39.751095° and longitude -122.209809°.

Project Description:

Maverik, Inc. proposes the development of an automobile and truck fueling center on a 5.56-acre vacant property. The project includes: a 9,084-square-foot building, which includes a convenience store and fast food restaurant with drive thru, seven automobile gas fueling dispensers with two fueling stations each, a separate truck diesel fueling location with six dispensers, canopies covering both fueling locations, 62 parking stalls, two short-term (30 minutes maximum) semi-truck parking stalls, a RV wastewater dumping station, two driveways on Commerce Lane, and underground and above ground fuel storage tanks.

Public Review Period: to be determined

Mitigation Measures Incorporated into the Project to Avoid Significant Effects:

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 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 National Register of Historic Places (NRHP) or California Register of Historical Resources (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 Glenn County Coroner (in accordance with § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 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 NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 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 (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 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 Orland Planning Department and construction lead.*

Geology and Soils

GEO-1: Paleontological or Sensitive Geologic Resource Discovery.

If paleontological or other geologically sensitive resources are identified during any phase of development including roadway development and future developments on the Project Site, the applicant shall cease operation at the site of the discovery and immediately notify the City. The future Project proponent shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less than significant level. In considering any suggested mitigation proposed by the qualified paleontologist, the City shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the development site while mitigation for paleontological resources is carried out.

Timing/Implementation: *During construction*

Monitoring/Enforcement: *The City of Orland and construction lead.*

Noise

NOI-1: The Project improvement and building plans shall include the following requirements for operational activities:

The required sound wall shall span the northern and western Project Site boundary and must be at least 6 feet in height in order to break the *line of sight* between the Project Site and adjacent residents. The wall shall be constructed of CMU block, mortared masonry, stucco, gypsum board, or material of similar density, use or comparable acoustic ratings. All walls shall be sealed airtight, free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces.

Timing/Implementation: *Prior to the issuance of Occupancy Permits*

Enforcement/Monitoring: *City of Orland Planning Department*

THIS PAGE INTENTIONALLY LEFT BLANK

CONTENTS

Mitigated Negative Declaration – Maverik Fueling Center Project	1
Mitigation Measures Incorporated into the Project to Avoid Significant Effects	2
1.0 Background	1-1
1.1 Summary	1-1
1.2 Introduction	1-1
1.3 Surrounding Land Uses/Environmental Setting	1-1
2.0 Project Description	2-1
2.1 Project Characteristics	2-1
2.1.1 Construction	2-1
2.1.2 Employees and Operations	2-1
2.2 Regulatory Requirements, Permits, and Approvals	2-1
2.2.1 Lead Agency Approval	2-3
2.2.2 Relationship of Project to Other Plans and Projects	2-3
2.3 Consultation with California Native American Tribe(s)	2-3
3.0 Environmental Factors Potentially Affected and Determination	3-1
3.1 Environmental Factors Potentially Affected	3-1
4.0 Environmental Checklist and Discussion	4-1
4.1 Aesthetics	4-1
4.1.1 Environmental Setting	4-1
4.1.2 Aesthetics (I) Environmental Checklist and Discussion	4-2
4.1.3 Mitigation Measures	4-4
4.2 Agriculture and Forestry Resources	4-4
4.2.1 Environmental Setting	4-4
4.2.2 Agriculture and Forestry Resources (II) Environmental Checklist and Discussion	4-5
4.2.3 Mitigation Measures	4-9
4.3 Air Quality	4-9
4.3.1 Environmental Setting	4-9
4.3.2 Air Quality (III) Environmental Checklist and Discussion	4-11
4.3.3 Mitigation Measures	4-20
4.4 Biological Resources	4-21
4.4.1 Environmental Setting	4-21
4.4.2 Biological Resources (IV) Environmental Checklist and Discussion	4-23
4.4.3 Mitigation Measures	4-25
4.5 Cultural Resources	4-25

4.5.1	Environmental Setting	4-26
4.5.2	Cultural Resources	4-26
4.5.3	Cultural Resources (V) Environmental Checklist and Discussion.....	4-31
4.5.4	Mitigation Measures	4-32
4.6	Energy.....	4-33
4.6.1	Environmental Setting	4-33
4.6.2	Regulatory Setting	4-37
4.6.3	Energy (VI) Environmental Checklist and Discussion	4-39
4.6.4	Mitigation Measures	4-42
4.7	Geology and Soils	4-42
4.7.1	Environmental Setting	4-42
4.7.2	Geology and Soils (VII) Environmental Checklist and Discussion	4-45
4.7.3	Mitigation Measures	4-50
4.8	Greenhouse Gas Emissions	4-50
4.8.1	Environmental Setting	4-50
4.8.2	Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion	4-51
4.8.3	Mitigation Measures	4-56
4.9	Hazards and Hazardous Materials.....	4-56
4.9.1	Environmental Setting	4-56
4.9.2	Hazards and Hazardous Materials (IX) Environmental Checklist and Discussion ...	4-57
4.9.3	Mitigation Measures	4-61
4.10	Hydrology and Water Quality	4-62
4.10.1	Environmental Setting	4-62
4.10.2	Hydrology and Water Quality (X) Environmental Checklist and Discussion	4-64
4.10.3	Mitigation Measures	4-70
4.11	Land Use and Planning	4-70
4.11.1	Environmental Setting	4-70
4.11.2	Land Use and Planning (XI) Environmental Checklist and Discussion.....	4-71
4.11.3	Mitigation Measures	4-71
4.12	Mineral Resources.....	4-71
4.12.1	Environmental Setting	4-71
4.12.2	Mineral Resources (XII) Environmental Checklist and Discussion	4-72
4.12.3	Mitigation Measures	4-72
4.13	Noise	4-73

4.13.1	Environmental Setting	4-73
4.13.2	Noise (XIII) Environmental Checklist and Discussion	4-75
4.13.3	Mitigation Measure	4-82
4.13.4	Mitigation Measures	4-86
4.14	Population and Housing	4-86
4.14.1	Environmental Setting	4-86
4.14.2	Population and Housing (XIV) Environmental Checklist and Discussion	4-86
4.14.3	Mitigation Measures	4-87
4.15	Public Services	4-87
4.15.1	Environmental Setting	4-87
4.15.2	Public Services (XV) Environmental Checklist and Discussion	4-89
4.15.3	Mitigation Measures	4-90
4.16	Recreation	4-90
4.16.1	Environmental Setting	4-90
4.16.2	Recreation (XVI) Materials Checklist	4-91
4.16.3	Mitigation Measures	4-91
4.17	Transportation	4-91
4.17.1	Environmental Setting	4-91
4.17.2	Regulatory Setting	4-92
4.17.3	Transportation (XVII) Environmental Checklist and Discussion	4-94
4.17.4	Mitigation Measures	4-100
4.18	Tribal Cultural Resources	4-100
4.18.1	Environmental Setting	4-100
4.18.2	Tribal Consultation	4-101
4.18.3	Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion	4-102
4.18.4	Mitigation Measures	4-103
4.19	Utilities and Service Systems	4-103
4.19.1	Environmental Setting	4-103
4.19.2	Utilities and Service Systems (XIX) Environmental Checklist and Discussion	4-107
4.19.3	Mitigation Measures	4-110
4.20	Wildfire	4-110
4.20.1	Environmental Setting	4-110
4.20.2	Wildfire (XX) Environmental Checklist and Discussion	4-111
4.20.3	Mitigation Measures	4-112
4.21	Mandatory Findings of Significance	4-112

4.21.1	Mandatory Findings of Significance (XXI) Environmental Checklist and Discussion	4-112
5.0	List of Preparers.....	5-1
5.1	Lead Agency - City of Orland	5-1
5.2	ECORP Consulting, Inc.	5-1
5.3	KD Anderson & Associates, Inc	5-1
6.0	Bibliography.....	6-1

LIST OF TABLES

Table 4.2-1.	Land Evaluation Worksheet Land Capability Classification and Storie Index Scores	4-6
Table 4.2-2.	Site Assessment Worksheet 2 - Water Resource Availability.....	4-6
Table 4.2-3.	LESA Scoresheet.....	4-6
Table 4.2-4.	California LESA Model Scoring Thresholds	4-7
Table 4.3-1.	Construction-Related Project Emissions	4-13
Table 4.3-2.	Operation-Related Project Emissions	4-14
Table 4.3-3.	Cancer Risk Summary by Pollutant.....	4-17
Table 4.3-4.	Non-Carcinogenic Health Risk Summary.....	4-18
Table 4.6-1.	Non-Residential Electricity Consumption in Glenn County 2016-2020.....	4-36
Table 4.6-2.	Non-Residential Natural Gas Consumption in Glenn County 2016-2020	4-36
Table 4.6-3.	Automotive Fuel Consumption in Glenn County 2016-2020.....	4-36
Table 4.6-4.	Proposed Project Energy and Fuel Consumption.....	4-40
Table 4.7-1.	Project Site Soil Characteristics.....	4-44
Table 4.8-1.	Construction Related Greenhouse Gas Emissions.....	4-51
Table 4.8-2.	Operational-Related Greenhouse Gas Emissions	4-52
Table 4.10-1.	Depth to Groundwater.....	4-63
Table 4.13-1.	Construction Average (dBA) Noise Levels at Nearest Receptor - Project Site	4-76
Table 4.13-2.	Existing Plus Project Conditions Predicted Traffic Noise Levels.....	4-79
Table 4.13-3.	Unmitigated Modeled Operational Noise Levels.....	4-80
Table 4.13-4.	Mitigated Modeled Operational Noise Levels.....	4-82
Table 4.13-5	Construction Vibration Levels at 250 Feet	4-85
Table 4.19-1.	Solid Waste Disposal Facilities Used by the Glenn County Waste Management Regional Agency	4-105

LIST OF FIGURES

Figure 1. Regional Location.....	1-2
Figure 2. Project Location.....	1-3
Figure 3. Surrounding Land Uses.....	1-5
Figure 4a. Site Plan.....	2-2
Figure 4b. Site Paving Plan	4-65
Figure 5. Unmitigated Modeled Operational Noise Levels.....	4-81
Figure 6. Mitigated Modeled Operational Noise Levels	4-83

LIST OF ATTACHMENTS

Attachment 4.2 - California Agricultural Land Evaluation and Site Assessment (LESA) Model Calculation Tables and Zone of Influence Map City of Orland
Attachment 4.3 – Air Quality & Greenhouse Gas Assessment Maverik Fueling Station Project ECORP Consulting, Inc.
Attachment 4.4 – Biological Resources Assessment Maverik Fuel Center Project ECORP Consulting, Inc.
Attachment 4.6 – Energy Consumption Calculations ECORP Consulting, Inc.
Attachment 4.13 – Noise Impact Assessment Maverik Fueling Center Project ECORP Consulting, Inc.
Attachment 4.17 – Traffic Impact Analysis for Maverik C-Store/Fuel Sales/QSR KD Anderson & Associates, Inc.

ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Description
°F	Degrees Fahrenheit
AB	Assembly Bill
ADT	Average Daily Trips
AF	Acre-feet
AMSL	Above mean sea level
APE	Area of Potential Effect
APN	Assessor's Parcel Numbers
AQAP	Air Quality Attainment Plan
bgs	Below ground surface

Acronym/Abbreviation	Description
BMPs	Best Management Practices
BRA	Biological Resources Assessment
C	Commercial
C-H	Highway Commercial
C-2	Community Commercial
CAA	Clean Air Act
CAISO	California Independent System Operator
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
CalGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH	Highway Service Commercial
CH ₄	methane
CHL	California Historical Landmark
CHRIS	California Historical Resources Information System
City	City of Orland
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	Carbon dioxide equivalent
County	Glenn County
CPUC	California Public Utilities Commission
CRHR	California Register of Historic Places
CWA	Clean Water Act
dB	Decibel
dBA	Decibel is A-weighted
DEIR	Draft Environmental Impact Report
DOC	Department Of Conservation
DOE	California Department of Education
DOF	Department of Finance
DPM	Diesel particulate matter
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
ECHO	Enforcement and Compliance History Online
EIR	Environmental Impact Report

Acronym/Abbreviation	Description
EO	Executive Order
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GCAPCD	Glenn County Air Pollution Control District
GCTC	Glenn County Transportation Commission
GCWMRA	Glenn County Waste Management Regional Agency
GHG	Greenhouse Gas
gpd	Gallons per day
gpm	Gallon per minute
hp	Horsepower
HUE	Housing Unit Equivalent
I-5	Interstate 5
IS/MND	Initial Study/(Mitigated) Negative Declaration
kv	Kilovolt
kWh	Kilowatt hour
lbs/day	Pounds per day
LCC	Land Capability Classification
L _{eq}	Measure of ambient noise
LESA	Land Evaluation & Site Assessment
LOS	Level of Service
MEIR	Maximum exposed Individual Resident
MEIW	Maximum exposed Individual Worker
mgd	Million gallons per day
MLD	Most Likely Descendent
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
N ₂ O	nitrous oxide
NAHC	Native American Heritage Commission
NDMC	National Drought Mitigation Center
NEIC	Northeastern Information Center
NHPA	National Historic Preservation Act
NIOSH	National Institute for Occupational Safety and Health
NOAA	National Oceanic and Atmospheric Administration
NO _x	nitrogen oxides
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSVAB	Northern Sacramento Valley Air Basin
NSVPA	Northern Sacramento Valley Planning Area
NWI	National Wetlands Inventory
O ₃	Ozone
OPD	Orland Police Department

Acronym/Abbreviation	Description
OPR	Office of Planning and Research
OUSD	Orland Unified School District
OVFD	Orland Volunteer Fire Department
PG&E	Pacific Gas & Electric Company
PI	Plasticity Index
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	Maverik Fueling Station Project
psi	Pounds per square inch
REL	Reference Exposure Level
ROG	Reactive Organic Gases
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO ₂	sulfur dioxide
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminant
TIA	Traffic Impact Analysis
TWLT	Two-Way Left-Turn
USACE	United States Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
UCMP	University of California Museum of Paleontology
USC	U.S. Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
VMT	Vehicle Miles Traveled
WEAL	Western Electro-Acoustic Laboratory, Inc.

1.0 BACKGROUND

1.1 Summary

Project Title:	Maverik Fueling Center Project
Lead Agency Name and Address:	City of Orland 815 Fourth Street Orland, California 95963
Contact Person and Phone Number:	Scott Friend, City Planner (530) 865-1608
Project Location:	The Proposed Project is located in the City of Orland on a 5.56-acre site at the southwest corner of Newville Road and Commerce Lane, Orland, California. Project Site addresses include 4463, 4473, and 4483 Commerce Lane. APNs associated with the property are 045-170-040, 045-170-041, and 045-170-042. (Figures 1 and 2). The Project Site corresponds to a portion of Section 21, Township 22 North, and Range 3 West (Mount Diablo Base and Meridian) of the Kirkwood, California" 7.5-minute quadrangle (USGS 1958, photo revised 1978). The approximate center of the site is located at latitude 39.751095° and longitude -122.209809°.
General Plan Designation:	Commercial (C)
Zoning:	Highway Service Commercial (CH)

1.2 Introduction

The City of Orland 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 Maverik Fueling Center 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 Surrounding Land Uses/Environmental Setting

Surrounding uses include a single-family home and Eagles Hall, Neville Road, a gas station, the Black Butte mobile home park, and rural residential uses to the north of the Project Site. To the east is Commerce Lane, the Pilot/Flying J truck stop, a gas station, RV park, a fast-food restaurant and other commercial uses, and rural residential uses and vacant land.

Figure 1. Regional Location

Figure 2. Project Location

To the west of the Project Site is rural residential uses, agricultural uses, and vacant land and to the south is vacant land, a portion of which is approved for development as a truck wash/truck service center and commercial use. See Figure 3 for surrounding uses.

The Project Site is relatively flat, with elevations ranging from 261 feet to 265 feet above mean sea level (AMSL) over the 5.56-acre site. No natural water ways such as rivers or creeks exist on the Project Site. An irrigation canal borders the northern property line. The entire Project Site was planted with row crops as seen on Google Earth aerial photographs from 2013. However, these photographs indicate that the site has been undeveloped fallow land since at least 2016. The Project Site is currently undeveloped fallow land but has been extensively farmed and leveled in the past.

Figure 3. Surrounding Land Uses

THIS PAGE INTENTIONALLY LEFT BLANK

2.0 PROJECT DESCRIPTION

2.1 Project Characteristics

The Proposed Project is the development of an automobile and truck fueling center on a 5.56-acre vacant property. The Project includes the following:

1. A 9,084-square-foot building, which includes a convenience store and fast-food restaurant with drive thru,
2. Outside seating area,
3. Seven automobile gas fueling dispensers with two fueling stations each,
4. A separate truck diesel fueling location with six dispensers,
5. Canopies covering both fueling locations,
6. 62 parking stalls,
7. Two short-term (30 minutes maximum) semi-truck parking stalls,
8. An RV wastewater dumping station,
9. Underground and above ground fuel storage tanks, and
10. Two site access driveways on Commerce Lane.

The underground storage tanks will be double-walled, non-corrodible fiberglass tanks. The tanks are connected to the fueling dispensers through non-corrodible flexible plastic piping.

City required approvals include a lot merger and site plan review.

2.1.1 Construction

Construction activities associated with the proposed project would require grading, utility connections, building construction, frontage improvements (e.g., new curb, gutter, sidewalk, and driveway construction), and landscaping on the Project Site. Construction is anticipated to begin in spring 2022.

2.1.2 Employees and Operations

The hours of operation will be 24 hours per day, seven days per week. The Project anticipates that there will be a total of 16 to 20 employees per day divided over three shifts in the 24-hour period.

2.2 Regulatory Requirements, Permits, and Approvals

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

Figure 4a. Site Plan

2.2.1 Lead Agency Approval

As the lead agency, the City of Orland 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:

- Approval of the lot line adjustment/merger
- Site plan review
- Adoption of the IS/MND

In addition to the above City actions, the Project may require approvals, permits, and entitlements from other public agencies for which this IS/MND may be used, including, without limitation, the following:

- California Department of Fish and Wildlife (CDFW), Region 2
- California Department of Transportation (Caltrans), District 3
- Glenn County Air Pollution Control District (GCAPCD)

2.2.2 Relationship of Project to Other Plans and Projects

2.2.2.1 City of Orland 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 *Orland General Plan* is the City's basic planning document and provides a comprehensive, long-term plan for physical development in the city (City of Orland 2010a).

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.

THIS PAGE INTENTIONALLY LEFT BLANK

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.

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

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.	☐
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.	☒
I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	☐
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.	☐
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.	☐


Scott Friend
City Planner

12/14/2021

Date

THIS PAGE INTENTIONALLY LEFT BLANK

4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

4.1 Aesthetics

4.1.1 Environmental Setting

Views available from the Project Site include the Coast Range to the west, and on clear days the Cascade and Sierra Nevada and foothills to the east and northeast.

4.1.1.1 Regional Setting

The City's *General Plan Draft Environmental Impact Report* (DEIR, City of Orland 2010b) identifies views of the Coast Range and the Black Butte Recreation Area, Mount Lassen and the Cascade and Sierra Nevada, and Stony Creek, as the most significant natural scenic resource within the Planning Area of the City. The General Plan does not include any policies for the protection of views or identify any viewsheds, or scenic vistas that should be protected.

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 (Caltrans 2021).

4.1.1.2 Visual Character of the Project Site

The Project Site is located in the rural western portion of the City of Orland, approximately 1,000 feet west of Interstate 5 (I-5). The Project Site is generally bound by agricultural land to the south and west, with residential and agricultural uses beyond; residential and commercial uses to the north, with a mobile home park beyond; and the Flying J commercial center to the east, with I-5 beyond. The I-5 and State Route (SR) 32/Newville Road interchange is located northeast of the Project Site. Stony Creek and Hambright Creek are within 2 miles north of the Project Area. The Project Site is relatively level, and elevations range from 260 feet AMSL to 265 feet AMSL.

The Site is currently undeveloped land but has been extensively farmed and leveled in the past. The entire Site was planted with row crops as seen on Google Earth aerial photographs from 2013. The surrounding lands include undeveloped farmland, commercial and rural residential development and orchards.

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?	☐	☐	☐	☒

No impact.

A scenic vista is a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. While the City's General Plan DEIR identifies views of the Coast Range and the Black Butte Recreation Area, Mount Lassen and the Cascade and Sierra mountains, and Stony Creek, the General Plan does not include any policies for the protection of views or identify any viewsheds, or scenic vistas that should be protected. Distant views of the Coast Range can be seen from the Project Site and surrounding area. However, these views are fragmented by existing development and natural features such as trees and hills.

The Orland 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, nor do these areas have any significant visual features. The Project would not affect the viewshed or scenic vista of the site. Therefore, The Proposed Project would have no impact on scenic vistas.

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

No impact.

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

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
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐

Less than significant.

The Proposed Project Site is within the City of Orland, bordering the City's western boundary. There are existing commercial uses, and as well as residential uses within close proximity of the Project Site. For example, the Project Site is directly located directly adjacent to (across Commerce Lane) to the recently constructed Pilot/Flying J commercial center, which includes a truck fueling station, an auto fueling station, restaurants and a convenience mini market. Additionally, there are two mobile home parks located less than a 0.25 mile to the north and west of the Project Site. Finally, the area directly south of the Project Site is zoned for commercial use and has been approved for the development of a hotel, restaurant and a truck wash and service center by the City.

The Project Site is located within the Orland General Plan Commercial land use designation and identified for urban uses in the General Plan. While the Proposed Project would result in a change in use from vacant land to commercial, this change has been considered by the City in the General Plan. The construction of a new commercial building may change the visual character from vacant land to commercial. However, this change does not result in a substantial degradation of the Project Site as this change supports the future urban uses identified in the General Plan. Additionally, the Project Site is located in a developing urban area. As such, the Proposed Project would have a less than significant impact to the existing visual character or quality of the Site and its surroundings.

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
d) Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Less than significant.

The current Project Site is on vacant land with no existing sources of light or glare. Surrounding land uses and infrastructure provide sources of light experienced within the Project Site. However, 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.

The main sources of daytime glare in Project vicinity are from sunlight reflecting from structures with reflective surfaces such as windows. Development under the Proposed Project would include commercial structures and other potential sources of glare. 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.

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.

The Proposed Project may result in a moderate increase of artificial light and glare into the existing environment. The introduction of new sources of light and glare may contribute to nighttime light pollution and result in impacts to nighttime views in the area. However, all future development would be subject to Orland Municipal Code Section 17.44.110, which requires the shielding of lighting to prevent illumination of the adjacent properties and to prevent glare or direct illumination of public streets, limits the height of light poles to the height of the main building, and requires suitable lights to properly illuminate any parking area. As such, the Proposed Project would have a less than significant impact for the potential to create light or glare that would adversely affect day or nighttime views.

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, which can be used to identify the farmland classification of a specific area. This website program identifies the Project Site as being Prime Farmland, Unique Farmland, and Farmland of Statewide Importance (DOC 2021). Neither the site nor adjacent lands are subject to a Williamson Act contract (Glenn County 2021a). The Project Site is not within an area which contains forest or timber resources and is not zoned for forestland protection or timber production.

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?	☐	☐	☒	☐

Less than significant.

According to the DOC (2021), approximately 0.5 acre of the site is identified as Prime Farmland, 2.1 acres is Farmland of Statewide Importance, while the remaining 2.6 acres are identified as Unique Farmland. Additionally, land identified as Farmland of Statewide Importance and Prime Farmland are in close proximity to the Proposed project. As such, the Proposed Project has the potential to convert these farmlands into non-agricultural use.

The Land Evaluation & Site Assessment (LESA) Model is a tool developed by the DOC to evaluate the significance of converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. The LESA model methodology involves the use of a numerical rating system to consider characteristics of the farmland including soil type, water availability, and percentage of surrounding parcels utilized for agricultural purposes. The LESA Model was developed for evaluating the significance of the loss of Important Farmland. This methodology was used to determine the potential impact that the Project would have on agricultural land in the area.

Table 4.2-1 summarizes the Land Capability Classification (LCC) and Storie Index Scores identified for the Project Site. Table 4.2-2 is the Water Resource Availability worksheet provided in the LESA Model. These tables and other information provided in the LESA Model are then used in the LESA Scoresheet. Table 4.2-3 is the LESA scoresheet with the calculations performed for the Project Site. Table 4.2-4 Summarizes the California LESA Model scoring thresholds of significance. As shown in Table 4.2-4, based on LESA modeling, the Proposed Project's impact to agricultural land is not considered significant. LESA calculations and Area of Influence Map are included in *Attachment 4.2*.

Table 4.2-1. Land Evaluation Worksheet Land Capability Classification and Storie Index Scores							
A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
Czt	2.8	51%	4s	40	20.4	39	19.89
Wg	0.6	10%	3s	60	6	77	7.7
Wh	2.2	39%	3s	60	23.4	61	23.79
Totals	5.6	100%		LCC Total	49.8	Storie Index Total	51.38

Source: NRCS 2021; DOC 1997; ECorp Consulting, Inc 2021

Table 4.2-2. Site Assessment Worksheet 2 - Water Resource Availability				
A	B	C	D	E
Project Portion	Water Resource	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1	Irrigated Water District	51.0%	90	45.9
2		10.0%	90	9.0
3		39.0%	90	35.1
		(Must Sum to 1.0)	Total Water Resource Score	90

Source: DOC 1997; ECorp Consulting, Inc 2021

Table 4.2-3. LESA Scoresheet					
A	B	C	D	E	F
Factor Name	Factor Rating (0-100 point)	X	Factor Weighting (Total=1.00)	=	Weighted Factor Rating
Land Evaluation (LE)					
1. Land Capability Classification	49.8	X	0.25	=	12.4
2. Storie Index Rating	51.8	X	0.25	=	12.8
Site Assessment (SA)					
1. Project Size	0	X	0.15	=	0
2. Water Resource Availability	90	X	0.15	=	13.5
3. Surrounding Agricultural Lands	0	X	0.15	=	0
4. Protected Resource Lands	0	X	0.05	=	0
Final LESA Score					38.8 Not significant

Source: DOC 1997; ECorp Consulting, Inc 2021

Table 4.2-4. California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0-39 points	Not considered significant
40-59 points	Considered significant only if both the LE and SA subscores are greater than or equal to 20 points
60-79 points	Considered significant unless either LE or SA subscores is less than 0 points
80-100 points	Considered significant

Source: DOC 1997

The Orland General Plan EIR determined that the conversion of agricultural land to urban type uses, including the Project Site, would result in a significant and unavoidable impact (City of Orland 2010b). The Project Site General Plan land used designation is Commercial. Therefore, the proposed use is consistent with the General Plan planned urban uses for this property and would not result in a greater impact than the conversion of agricultural land impact identified in the General Plan EIR. The parcels would inevitably be transformed from agricultural to nonagricultural use regardless of whether or not the Project is constructed. As such, the Project is consistent with the General Plan determination and would not increase the level of impact identified in the General Plan.

Due to the LESA determination that agricultural impacts are not significant as a result of Project development and the fact that the Proposed Project is consistent with future urban development for the site and would not result in a greater agricultural impact than what was identified in the General Plan, the Project would have less than significant impact regarding the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use.

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?	☐	☐	☐	☒

No impact.

There are no Williamson Act contract lands within the vicinity of the Project Site (Glenn County 2021a). 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
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))?	☐	☐	☐	☒

No impact.

The Project Site is not located in a forestland protected 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?	☐	☐	☐	☒

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?	☐	☐	☒	☐

Less than significant.

As previously addressed, the Project Site is not located in an area considered to be forest land, timberland. The Project would have no impact in this area.

In instances where a residential project is to be constructed in the vicinity of agricultural use, there is potential for residential or agricultural conflicts because of pesticide or herbicide use and noise. These conflicts could result in the conversion of agricultural land to nonagricultural use. However, because the Project is an automobile and truck fueling center, no future resident concerns about adjacent agricultural

practices would occur. Finally, the area is developed with a variety of uses from agricultural to commercial to residential to industrial. Urban type infrastructure, such as water, sewer, electricity, and roadways are all readily available in the immediate area. The Proposed Project would not result in the extension of infrastructure as it already exists. Therefore, development of the Project would not result in future unplanned growth which may impact agricultural uses in the area.

Based on the information provided above, the Project has a less than significant impact in regard to causing changes in the existing environment, which due to its location in nature, may result in the conversion of farmland to nonagricultural use.

4.2.3 Mitigation Measures

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

4.3 Air Quality

4.3.1 Environmental Setting

The Project Site is located within Glenn County in the City of Orland. The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. The Proposed Project is located in Glenn County, which is in the Northern Sacramento Valley Air Basin (NSVAB). The NSVAB consists of a total of seven counties: Butte, Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba. The NSVAB is bounded on the north and west by the Coastal Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada. These mountain ranges reach heights in excess of 6,000 feet AMSL, with individual peaks rising much higher. The mountains form a substantial physical barrier to locally created pollution as well as that transported northward on prevailing winds from the Sacramento metropolitan area (Sacramento Valley Basin-wide Air Pollution Control Council 2018).

Both the U.S. Environmental Protection Agency (USEPA) and 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 (O₃), carbon monoxide (CO), particulate matter (PM), oxides of nitrogen (NO_x), sulfur dioxide (SO₂), 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 Glenn County region is designated as a nonattainment area for the federal O₃ standards and is also a nonattainment area for the state standards for O₃, PM₁₀ (Particulate Matter less than 10 microns in diameter), and PM_{2.5} (Particulate Matter less than 2.5 microns in diameter) (CARB 2019).

The air quality regulating authority in Glenn County is the GCAPCD, which adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs. The district also regulates agricultural burning. Other responsibilities include monitoring air quality, preparing clean air plans, and responding to citizen complaints concerning air quality. The GCAPCD develops regulations to

improve air quality and protect the health and welfare of Glenn County residents and their environment. GCAPCD rules and regulations (CARB 2014) most applicable to the Project Area include, but are not limited to, the following:

Article IV, Section 76, Visible Emissions. A person shall not discharge into the atmosphere from any single source of emission whatsoever, any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

- A. as dark or darker in shade as that designated as No. 2 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- B. of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection "A" above.

Article IV, Section 78, Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public of which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.

Article IV, Section 85, Particulate Matter Concentration. Except for emissions from agricultural operations, no person shall discharge into the atmosphere from any source particulate matter in excess of 0.3 grains per cubic foot of gas at standard conditions.

The GCAPCD has stringent requirements for the control of gasoline vapor emissions from gasoline-dispensing facilities. GCAPCD Sec 98. *Airborne Toxic Control Measure: Retail Service Stations*, prohibits the transfer or allowance of the transfer of gasoline into stationary tanks at a gasoline-dispensing facility unless a CARB-certified Phase I vapor recovery system is used and further prohibits the transfer or allowance of the transfer of gasoline from stationary tanks into motor vehicle fuel tanks at a gasoline-dispensing facility unless a CARB-certified Phase II vapor recovery system is used during each transfer. Vapor recovery systems collect gasoline vapors that would otherwise escape into the air during bulk fuel delivery (Phase I) or fuel storage and vehicle refueling (Phase II). Phase I vapor recovery system components include the couplers that connect tanker trucks to the underground tanks, spill containment drain valves, overfill prevention devices, and vent pressure/vacuum valves. Phase II vapor recovery system components include gasoline dispensers, nozzles, piping, break away, hoses, face plates, vapor processors, and system monitors. Section 98 also requires fuel storage tanks to be equipped with a permanent submerged fill pipe and the storage tank which prevents the escape of gasoline vapors.

4.3.2 Air Quality (III) Environmental Checklist and Discussion

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

The North Sacramento Valley Planning Area (NSVPA) 2018 Air Quality Attainment Plan (AQAP) is the most recent air quality planning document covering Glenn County. State Implementation Plans (SIP) are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, and permitting), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards for ozone and particulate matter. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts prepare SIP elements and submit them to CARB for review and approval. The NSVPA 2018 AQAP includes forecast Reactive Organic Gases (ROGs) and NO_x emissions (O₃ precursors) for the entire NSVPA region through 2020. These emissions are not appropriated by county or municipality.

Criteria for determining consistency with the 2018 AQAP are defined by the following indicators:

- *Consistency Criterion No. 1:* The Proposed Project would not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQAP.
- *Consistency Criterion No. 2:* The Proposed Project would not exceed the assumptions in the AQAP.

The violations to which Consistency Criterion No. 1 refers are the California ambient air quality standards and the national ambient air quality standards. The Project would not exceed the short-term construction standards (see Table 4.3-1) or long-term operational standards (see Table 4.3-2) and in so doing would not violate any air quality standards.

Concerning Consistency Criterion No. 2, the AQAP contains air pollutant reduction strategies and demonstrates that the applicable ambient air quality standards can be achieved within the time frames required under federal law. Growth projections from local general plans adopted by cities in the district are used to develop regional growth forecasts that are used to develop future air quality forecasts for the NSVPA 2018 AQAP. Development consistent with the growth projections in the City of Orland General Plan is considered to be consistent with the 2018 AQAP. The Project Site is currently zoned in the Glenn County General Plan as Service Commercial. The proposed rezoning of the parcels in the City of Orland General Plan (2010) are Highway Commercial (C-H) and Community Commercial (C-2). Therefore, the Project Site is currently anticipated for commercial land uses under the Glenn County General Plan as well as the City of Orland General Plan. Thus, the Project is consistent with the regional growth anticipated by

the AQAP and thereby consistent with the second criterion. The Project would not hinder implementation of any NSVPA Air Quality Attainment Plan control measures.

Would the Project:	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?	☐	☐	☒	☐

Less than significant impact.

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.

Implementations of the Proposed Project could result in air quality impacts during construction and operations. Neither the City of Orland nor GCAPCD have established air pollution thresholds under CEQA for the assessment of air quality impacts. Therefore, the Project emissions will be compared with the thresholds established in Sacramento County. As with Glenn County and the Proposed Project Site, Sacramento County is located within the Sacramento Valley Air Basin and thus possesses similar air circulation patterns and temperature inversion layers. Therefore, air quality thresholds of significance developed in that county are appropriate. While air quality standards established in Sacramento County are not binding on Glenn County, they are instructive for comparison purposes. The air quality standards established in Sacramento County are promulgated by the Sacramento Metropolitan Air Quality Management District (SMAQMD) and are consistent with the California Clean Air Act (CCAA). The thresholds of significance are summarized in Table 3.2-4 of *Attachment 4.3*.

4.3.2.1 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 CARB-approved California Emissions Estimator Model (CalEEMod) computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. See *Attachment 4.3* for more information regarding the construction assumptions, including construction equipment and duration, used in this analysis.

Predicted maximum daily construction-generated emissions for the Proposed Project are summarized in Table 4.3-1. 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 (see *Attachment 4.3* for further details regarding Project thresholds of significance).

Table 4.3-1. Construction-Related Project Emissions										
Construction Year	ROG		NO_x		CO		PM₁₀		PM_{2.5}	
	Daily (lbs)	Annual (tons)	Daily (lbs)	Annual (tons)	Daily (lbs)	Annual (tons)	Daily (lbs)	Annual (tons)	Daily (lbs)	Annual (tons)
Year 2022	2.97	0.13	29.28	1.40	31.67	1.36	4.7546	0.1133	2.66	0.08
Year 2023	6.79	0.16	20.23	0.56	23.20	0.69	1.0680	0.0315	0.96	0.03
<i>SMAQMD Threshold</i>	<i>None</i>	<i>None</i>	85	<i>None</i>	<i>None</i>	<i>None</i>	80	14.6	82	15
Exceeded Threshold?	No	No	No	No	NA	NA	No	NA	NA	NA

Source: CalEEMod version 2020.4.0

As shown in Table 4.3-1, emissions generated during Project construction would not exceed the thresholds of significance. Therefore, 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 standards and therefore no substantial health risks would occur. Emissions for SO₂ were also calculated by CalEEMod but are minimal (>0.005 tons per year and >0.05 lbs/day) and can be found in *Attachment 4.3*.

4.3.2.2 Long-Term Operational Impacts

Implementation of the Project would result in long-term operational emissions of criteria air pollutants such as PM₁₀ and O₃ precursors such as ROG and NO_x. Operational-generated emissions associated with the Proposed Project were calculated using CalEEMod. Predicted maximum annual operational-generated emissions of criteria air pollutants for the Proposed Project are summarized in Table 4.3-2.

Table 4.3-2. Operation-Related Project Emissions										
Operational Emissions	ROG Daily (lbs)		NO_x Daily (lbs)		CO Daily (lbs)		PM₁₀ Daily (lbs)		PM_{2.5} Daily (lbs)	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Area	26.34	26.34	0	0	0	0	0	0	0	0
Energy	0	0	0.03	0.03	0.02	0.02	0.002	0.002	0.002	0.002
Mobile	10.24	7.52	21.83	24.32	65.62	67.90	13.90	13.90	3.85	3.85
Total	10.49	7.76	21.85	24.34	65.64	67.92	13.90	13.90	3.85	3.85
<i>SMAQMD Threshold</i>	65	65	65	65	None	None	80	80	82	None
Exceeded Threshold?	No	No	No	No	NA	NA	No	No	NA	NA

Source: CalEEMod version 2020.4.0

Area source emissions for the gasoline station include ROG released gasoline vapor during dispensing activities. Gasoline vapor emissions are calculated based on an emission factor of 1.27 pounds per 1,000 gallons of gasoline dispensed (California Air Pollution Control Officers Association [CAPCOA] 1997) and the prediction of 7,500,000 gallons of gasoline dispensed annually as provided by the Project applicant $[(7,500,000/1,000) \times 1.27 = 9,525$ pounds annually. $4,572/365 = 26.09$ pounds daily].

As shown in Table 4.3-2, daily emissions associated with Project operations would not exceed the significance thresholds.

Would the Project:		Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Less than significant.

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 a single-family residence and Black Butte mobile home park to the north, rural residences and the Orland Oaks mobile home park to the northwest, and rural residences to the southwest of the Project Site. Figure 3 of this document presents the Project Area in respect to the surrounding land uses.

Construction-related activities would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM), ROG, NO_x, PM₁₀ and PM_{2.5} 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 portion of the NSVAB which encompasses the Project area is designated as a nonattainment or unclassified area for all federal standards yet is designated a nonattainment area for the state PM₁₀ standard (CARB 2019). Thus, PM₁₀ levels in the Glenn County portion of the NSVAB are at unhealthy levels during certain periods. However, as shown in Table 4.3-1, the Project would not exceed the significance thresholds for any criteria air pollutant emissions, including PM₁₀.

The health effects associated with O₃ are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in significant O₃ precursor emissions (ROG or NO_x) according to Project significance thresholds, the Project is not anticipated to substantially contribute to regional O₃ 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 (PM₁₀ and PM_{2.5}) 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. PM₁₀ exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. Based on the emission modeling conducted, the maximum onsite construction-related daily emissions of exhaust PM₁₀, considered a surrogate for DPM and includes emissions of exhaust PM_{2.5}, would be 1.42 pounds per day during construction (see *Attachment 4.3*). PM₁₀ exhaust is considered a surrogate for DPM as most of the construction equipment (by total horsepower) is diesel fueled. The Project would not generate emissions of PM₁₀ (or PM_{2.5}) that would exceed significance thresholds. Accordingly, the Project's PM₁₀ and PM_{2.5} 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.

Operational Air Contaminants

Health Risk

Operation of the Proposed Project would result in the development of sources of air toxins. Specifically, the Project would be a source of gasoline vapors such as benzene, ethyl benzene, n-hexane, naphthalene, propylene (or propene), xylenes, and toluene. Additionally, the Project would be a source of DPM generated by Project vehicular traffic exiting and entering I-5 and traveling on local roadways to the Project Site.

CARB identifies benzene as the primary TAC of concern associated with gas stations. Benzene is highly carcinogenic and occurs throughout California. According to CAPCOA, benzene is the most important substance driving cancer risk, while xylene, another air toxic associated with gasoline stations, is the only substance which is associated with acute adverse health effects (CAPCOA 1997). According to CAPCOA, not until the benzene emissions are three orders of magnitude above the rate of an increase of 10 per million cancer risk, do the emissions of xylene begin to cause acute adverse health effects.

As with Criteria Pollutants, the GCAPCD has not set fourth thresholds for health risk, thus the SMAQMD thresholds will be used to determine what constitute an exposure of substantial air toxics are as follows (see *Attachment 4.3* for a further discussion regarding significance thresholds).

Cancer Risk: Emit carcinogenic or toxic contaminants that exceed the maximum individual cancer risk of 10 in one million.

Non-Cancer Risk: Emit toxic contaminants that exceed the maximum hazard quotient of 1 in one million.

Cancer risk is expressed in terms of expected incremental incidence per million population. The SMAQMD has established an incidence rate of 10 persons per million as the maximum acceptable incremental cancer risk due to TAC exposure. This threshold serves to determine whether or not a given project has a potentially significant development-specific and cumulative impact. The 10-in-one-million standard is a very health-protective significance threshold. A risk level of 10 in one million implies a likelihood that up to 10 persons out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of TACs over a specified duration of time. This risk would be an excess cancer that is in addition to any cancer risk borne by a person not exposed to these air toxics. To put this risk in perspective, the risk of dying from accidental drowning is 1,000 in a million, which is 100 times more than the SMAQMD's threshold of 10 in one million.

The SMAQMD has also established non-carcinogenic risk parameters for use in HRAs. Noncarcinogenic risks are quantified by calculating a *hazard index*, expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level (REL). An REL is a concentration at or below which health effects are not likely to occur. A hazard index of less than one (1.0) means that adverse health effects are not expected. Within this analysis, non-carcinogenic exposures of less than 1.0 are considered less than significant.

Additionally, CARB identified DPM as a TAC in 1998. Mobile sources (including trucks, buses, automobiles, trains, ships, and farm equipment) are by far the largest source of diesel emissions. The exhaust from

diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Diesel exhaust is composed of two phases, either gas or particulate – both contribute to the risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, and polycyclic aromatic hydrocarbons. The particulate phase has many different types that can be classified by size or composition. The sizes of diesel particulates of greatest health concern are fine and ultrafine particles. These particles may be composed of elemental carbon with adsorbed compounds such as organics, sulfates, nitrates, metals, and other trace elements. Diesel exhaust is emitted from a broad range of on- and off-road diesel engines.

Carcinogenic Risk

Cancer risk calculations for vicinity residences are based on 70-, 30-, and 9-year exposure periods to continual traffic exhaust from all Project related traffic within 0.25-mile of the Project Site and continual gasoline dispensing operations. As described above, the calculated cancer risk accounts for 350 days per year of exposure to vicinity receptors. While the average American spends 87 percent of their life indoors (USEPA 2001), neither the pollutant dispersion modeling nor the health risk calculations account for the reduced exposure structures provide. Instead, health risk calculations account for the equivalent exposure of continual outdoor living. The calculated carcinogenic risk at the Project Site is depicted in Table 4.3-3.

Table 4.3-3. Cancer Risk Summary by Pollutant					
Exposure Scenario	Benzene	DPM	Ethyl Benzene	Naphthalene	Total Risk
70-Year Exposure MEIR ¹	0.27	3.40	0.0055	0.0003	3.675
30-Year Exposure MEIR	0.23	2.86	0.0046	0.0003	3.094
25-Year Exposure MEIW ²	0.009	0.62	0.0002	0.00001	0.629
9-Year Exposure (School)	0.002	0.029	0.00004	0.000002	0.031
Significance Threshold:					10

¹MEIR=Maximum Exposed Individual Resident

²MEIW=Maximum Exposed Individual Worker

As shown, impacts related to cancer risk for all modeled scenarios at the Project Site would be below the 10 in one million threshold. These calculations do not account for any pollutant-reducing remedial components inherent to the Project or the Project Site. The MEIR receptor is located directly north of the site and has a 70-year cancer risk of 3.40 related to the Project. The MEIW is located at the business park to the north and across I-5 with a 25-year cancer risk of 0.62 in one million. The locations of cancer risk MEIR and MEIW can be seen in Figure B-3 found in *Attachment 4.3*. Detailed cancer risk results for all modeled receptors can be found in *Attachment 4.3*.

Non-Carcinogenic Risk

In addition to cancer risk, the significance thresholds for TAC exposure requires an evaluation of non-cancer risk stated in terms of a hazard index. Non-cancer chronic impacts are calculated by dividing the annual average concentration by the REL for that substance. The REL is defined as the concentration at

which no adverse non-cancer health effects are anticipated. The potential for acute non-cancer hazards is evaluated by comparing the maximum short-term exposure level to an acute REL. RELs are designed to protect sensitive individuals within the population. The calculation of acute non-cancer impacts is similar to the procedure for chronic non-cancer impacts.

An acute or chronic hazard index of 1.0 is considered individually significant. The hazard index is calculated by dividing the acute or chronic exposure by the REL. The highest maximum chronic and acute hazard indexes for residents, workers and school children at the Proposed Project site as a result of DPM and gasoline vapor exposure is shown in Table 4.3-4.

Table 4.3-4. Non-Carcinogenic Health Risk Summary			
Exposure Scenario	Maximum Residential Hazard	Maximum Worker Hazard	Maximum Sensitive Receptor Hazard
Chronic Hazard Index	0.0015	0.0027	0.0001
Acute Hazard Index	0.247	0.285	0.015
SMAQMD Significance Threshold	1.0	1.0	1.0

As shown in Table 4.3-4, impacts related to non-cancer risk (chronic and acute hazard index) at the Project Site would not surpass significance thresholds. The MEIR for both chronic and acute is located at the residence directly north of the Project Site. The MEIW for both chronic and acute hazard is located at the Pilot Filling station to the west of Project Site. The locations of the MEIR and MEIW for both chronic and acute hazard can be seen in Figure B-4 found in *Attachment 4.3*. Detailed modeling results for chronic and acute risk are shown in *Attachment 4.3* and in the supplemental materials submitted with this report.

Carbon Monoxide Hot Spots

It has long been recognized that CO hotspots and exceedances are caused by vehicular emissions, primarily when idling at congested 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.. 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 per 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 in 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 one-hour standard of 20 parts per million (ppm) or the eight-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 one-hour concentration was measured at 4.6 ppm at Wilshire Boulevard and Veteran Avenue and the highest eight-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.

The Project is anticipated to generate approximately 4,702 average daily trips (ADT). There is no likelihood of the Project traffic exceeding CO values.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

4.3.2.3 Odors

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 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.

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any of these uses considered to be associated with odors; however, the Project does propose to include an RV wastewater dumping station and a high-turnover quick service restaurant, which are a potential source of odors that may affect certain people.

The Project proposes the construction of an RV dump station onsite. This sewage discharge facility would be installed in a manner consistent with all local, state and federal regulations as applicable. Specifically, the State Water Resource Control Board (SWRCB) Title 27 and the California Integrated Waste Management Board (CIWMB) Division 2 regulate the treatment, storage, processing, and disposal of solid waste (SWRCB 2014). Because the Project Site is located within a municipality, the waste discharged at the facility would be required to discharge into the municipal sewage system and all hookups from the visiting RV to the sewage system would comply with all applicable regulations put in place to minimize harmful impacts to people and the environment, including the release of toxic odors.

Cooking odors (molecules) generated by the combustion of animal and vegetable matter result in a complex mixture of reactive odorous gases. A small percentage of these odors may be absorbed by the grease particles, but the vast majority exists separately in the airstream.

The two common methods of abating odor from cooking are (1) the use of an odor oxidant (potassium permanganate) that oxidizes the molecules to solids and then retains them; and (2) a spray odor neutralizer system. Either of the above-mentioned types of odor control can remove 85 to 90 percent of the molecules, depending on the type of cooking. However, determining the efficiency of odor control is subjective, as testing is usually conducted by people rather than machines.

The restaurant use would be required to comply with all state regulations associated with cooking equipment and controls, such as grease filtration and removal systems, exhaust hood systems, and blowers to move air into the hood systems, through air cleaning equipment, and then outdoors. The proposed restaurant use would be equipped with kitchen exhaust systems and pollution/odor control systems. Pollution/odor control systems typically include smoke control, odor control, and exhaust fan sections. Such equipment would ensure that pollutants associated with smoke and exhaust from cooking surfaces would be captured and filtered, allowing only filtered air to be released into the atmosphere.

Because the Project developer is responsible for complying with all local, state, and federal regulations regarding odors emitted by RV wastewater/sewage dump stations and quick-service restaurant being, this impact is found to be less than significant.

4.3.3 Mitigation Measures

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

4.4 Biological Resources

A Biological Resources Assessment (BRA) was completed by ECORP Consulting, Inc. for the Proposed Project (ECORP 2021a). This BRA is included as *Attachment 4.4*. The following information was obtained from this BRA.

4.4.1 Environmental Setting

The Project Site is located on an undeveloped parcel in the southwestern portion of the City of Orland and is situated at an elevation of approximately 265 feet AMSL in the Sacramento Valley subregion of the Great Central Valley region of California. The average winter minimum temperature is 38.0 degrees Fahrenheit (°F) and the average summer maximum temperature 91.9°F; the average annual precipitation is approximately 23.01 inches (National Oceanic and Atmospheric Administration [NOAA] 2021).

The Project Site is currently undeveloped fallow land but has been extensively farmed and leveled in the past. The entire Project Site was planted with row crops as seen on Google Earth aerial photographs from 2013. The surrounding lands include undeveloped fallow farmland, commercial and rural residential development and orchards.

4.4.1.1 Vegetation Communities

The vegetation community of the entire Project Site most closely resembles the *Avena* spp.-*Bromus* spp. Herbaceous Semi-Natural Alliance (Wild oats and annual brome grasslands). This vegetation community is dominated by nonnative naturalized weedy grasses and forbs, including wild oats (*Avena* sp.), ripgut brome (*Bromus diandrus*), and filaree (*Erodium botrys*). This vegetation community has no global and state rarity ranking and is not considered a sensitive natural community according to CDFW. There is a small patch of tree-of-heaven (*Ailanthus altissima*) trees in the northwestern corner and along the northern boundary of the Project Site. A mulberry (*Morus* sp.) tree is located outside of the western boundary of the Project Site. Portions of the Project Site are denuded likely due to soil compaction and historic farming practices.

4.4.1.2 Wildlife

The Project Site lacks any significant wildlife habitat elements, such as aquatic habitat, emergent wetlands, or woodlands. While the Project Site is currently not developed, the surrounding lands are comprised of a matrix of developed and undeveloped lands with extensively travelled paved roads. The Project Site is not located within an area mapped in the Essential Habitat Connectivity Project (ECORP 2021a). Wildlife observed during the reconnaissance site visit included Eurasian collared-dove (*Streptopelia decaocto*), house finch (*Haemorhous mexicanus*), and Brewer's blackbird (*Euphagus cyanocephalus*) seen in flight over the site. There is minimal wildlife use onsite, and no movement/migratory corridors or nursery site are present. No California ground squirrels (*Otospermophilus beecheyi*) or their burrows, including burrow surrogates (e.g., debris piles, pipes, or culverts), or other small mammal burrows were found onsite.

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 BRA site visit. There are no aquatic resources present within the Project Site. The entire Project Site has been leveled and historically farmed. There are no topographic depressions or other topographic relief onsite that could support pooling water or drainageways to extent that wetland indicators would persist. According to the National Wetlands Inventory, no aquatic resources have been previously mapped onsite.

4.4.1.4 Special-Status Plants

A total of 19 special-status plants were identified in the BRA as potentially occurring in the Project Site based on the initial literature review and database queries. However, it was determined that all of these special-status plant species were absent due to a lack of suitable habitat onsite. Therefore, no further discussion of these species is included in this IS/MND. The complete special-status species list is included as Table 4-1 of the BRA (*Attachment 4.4*).

4.4.1.5 Special-Status Wildlife

Amphibians

Two special-status amphibians were identified in the BRA as having potential to occur in the Project Site based on the literature review. However, upon further analysis and after the site visit, both of these special-status species are absent due to a lack of suitable habitat onsite.

Reptiles

One special-status reptile was identified as having the potential to occur in the Project Site based on the literature review. However, upon further analysis and after the site visit, the giant garter snake (*Thamnophis gigas*) was considered absent from the site due to the lack of suitable habitat.

Birds

Seven special-status bird species were identified as having the potential to occur within the Project Site based on the literature review. However, upon further analysis and after the site visit, all of these species were considered absent from the site due to the lack of suitable habitat or the Project Site is outside the known breeding range of the species.

Mammals

Three special-status mammal species were identified in the BRA as having the potential to occur within the Project Site based on the literature review. However, upon further analysis and after the site visit, all of these species were considered absent from the site due to the lack of suitable habitat. No further discussion of these species is provided in this IS. The complete special-status species list is included as Table 4-1 of the BRA (*Attachment 4.4*).

4.4.1.6 Sensitive Natural Communities

One sensitive natural community, Great Valley Valley Oak Riparian Forest, was identified as having the potential to occur within or in the vicinity of the Project Site based on the literature review (CDFW 2021). This community or any other sensitive natural community is not present within the Project Site. No further discussion of sensitive natural communities is provided within this IS/MND.

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?	☐	☐	☐	☒

No impact.

No special-status species are known to occur within the Project Site, and there is no potential suitable habitat for any special-status species present.

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?	☐	☐	☐	☒

No impact.

The Project Site supports weedy nonnative annual grassland habitat. There are no sensitive natural communities as defined by CDFW, and there is no riparian habitat onsite. Therefore, the Project will not impact riparian habitat or sensitive natural communities.

Would the Project:	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?	☐	☐	☐	☒

No impact.

Based on the preliminary aquatic resources assessment, there are no aquatic resources, potential Waters of the U.S. or State, present within the Project Site.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

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 Project 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 through the Project Site. The Project is not expected to substantially interfere with wildlife movement.

There are no documented nursery sites, and no nursery sites were observed within the Project Site during the site reconnaissance. Therefore, the Project is not expected to impact wildlife nursery sites.

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?	☐	☐	☐	☒

No impact.

There are currently no adopted or proposed local policies or ordinances that affect the Proposed Project. Therefore, 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?	☐	☐	☐	☒

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

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

4.5 Cultural Resources

A Cultural Resources Inventory Report was prepared by ECORP Consulting, Inc. (ECORP 2021b) for the Proposed Project to determine if cultural resources 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.

Sections 6253, 6254, and 6254.10 of the California Code authorize state agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (Government Code § 6250 et seq.) and California's open meeting laws (The Brown Act, Government Code § 54950 et seq.) protect the confidentiality of Native American cultural place information. Because the disclosure of information about the location of cultural resources is prohibited by the Archaeological Resources Protection Act of 1979 (16 U.S. Code 552 [USC] 470HH) and Section 307103 of the National Historic Preservation Act (NHPA), it is exempted from disclosure under Exemption 3 of the federal Freedom of Information Act (5 USC 552). Likewise, the Information Centers of

the California Historical Resources Information System (CHRIS) maintained by the California Office of Historic Preservation prohibit public dissemination of records search information. In compliance with these requirements, the results of this cultural resource investigation were prepared as a confidential document, which is not intended for public distribution in either paper or electronic format. As such, the Cultural Resources Inventory Report is not included in this IS/MND.

4.5.1 Environmental Setting

The Project Site is located in the rural western portion of the City of Orland. The Project Site is surrounded by orchard crops and farms, rural residences, industrial areas, irrigation canals, and existing country roads. The I-5 and SR 32/Newville Road interchange is located northeast of the Project Site. Stony Creek and Hambright Creek are within 2 miles north of the Project Area. The Project Site is relatively level, and elevations range from 260 feet AMSL to 265 feet AMSL.

4.5.1.1 Area of Potential Effects

The Area of Potential Effects (APE) consists of the horizontal and vertical limits of a project and includes the area within which significant impacts or adverse effects to historical resources or historic properties could occur as a result of the project. The APE is defined for projects subject to regulations implementing Section 106 (federal law and regulations) of the NHPA. For projects subject to CEQA, the term Project Area or Project Site is used rather than APE. The terms Project Area and APE are interchangeable for the purpose of this document.

In the case of this Project, it equals the Project Area subject to environmental review under the National Environmental Policy Act and CEQA. This includes areas proposed for construction, vegetation removal, grading, and other elements described in the official Project description. The horizontal APE is the Project Site and represents the survey coverage area. It measures approximately 5.77 acres.

The vertical APE is described as the maximum depth below the surface to which excavations for Project foundations and facilities will extend. Therefore, the vertical APE includes all subsurface areas where archaeological deposits could be affected. The subsurface vertical APE across the Project is not yet known. This study assumes the vertical APE will not extend beyond 15 feet below the current surface and, therefore, a review of geologic and soils maps was necessary to determine the potential for buried archaeological sites that cannot be seen on the surface.

The vertical APE is also described as the maximum height of structures that could impact the physical integrity and integrity of setting of cultural resources, including districts and traditional cultural properties. This study assumes the vertical APE will not exceed 30 feet above the ground surface.

4.5.2 Cultural Resources

The analysis of cultural resources was based on a records and literature search conducted at the Northeastern Information Center (NEIC) of the CHRIS at California State University-Sacramento on August 27, 2021, and a literature review, historical maps and photographs review, and a field survey on

September 15, 2021. The literature search included the results of previous surveys within a 0.5-mile radius of the Proposed Project location.

In addition to the record search, ECORP contacted the California Native American Heritage Commission (NAHC) on August 27, 2021, to request a search of the Sacred Lands File for the APE. A search of the Sacred Lands File by the NAHC on October 11, 2021, failed to indicate the presence of Native American cultural resources in the Project Area.

4.5.2.1 Ethnography

Prior to the arrival of European-Americans to what was to become California, indigenous groups speaking more than 100 different languages and occupying a variety of ecological settings inhabited the state. When the first European explorers entered the regions between 1772 and 1821, an estimated 100,000 people, about one-third of the state's native population, lived in the Central Valley. At least seven distinct languages of Penutian stock were spoken among these populations: Wintu, Nomlaki, Konkow, River Patwin, Nisenan, Miwok, and Yokuts. Common linguistic roots and similar cultural and technological characteristics indicate that these groups shared a long history of interaction. Historians and archeologists recognized the uniqueness of California's indigenous groups and classified them as belonging to the California culture area. As a result, California as it relates to indigenous groups, was further subdivided into four subculture areas: Northwestern, Northeastern, Southern, and Central. The Central area encompasses the current Project Area and includes the Wintu and Nomlaki. Further information regarding the Native Americans of California and potential for impacts tribal cultural resources is provided in Section 4.18.

4.5.2.2 Regional Pre-Contact History

It is generally believed that human occupation of California began at least 10,000 BP. The archaeological record indicates that between approximately 10,000 BP and 8,000 BP, a predominantly hunting economy existed, characterized by archaeological sites containing numerous projectile points and butchered large animal bones.

Around 8,000 BP, there was a shift in focus from hunting toward a greater reliance on plant resources. Archaeological evidence of this trend consists of a much greater number of milling tools (e.g., metates and manos) for processing seeds and other vegetable matter. This period, which extended until around 5,000 BP. Projectile points are found in archaeological sites from this period, but they are far fewer in number than from sites dating to before 8,000 BP.

Archaeological evidence indicates that reliance on both plant gathering and hunting continued as in the previous period, with more specialized adaptation to particular environments in sites dating to after about 5,000 BP. Mortars and pestles were added to metates and manos for grinding seeds and other vegetable material. Flaked-stone tools became more refined and specialized, and bone tools were more common. New peoples from the Great Basin began entering Southern California during this period. These immigrants, who spoke a language of the Uto-Aztecan linguistic stock, seem to have displaced or absorbed the earlier population of Hokan-speaking peoples. During this period, known as the Late Horizon, population densities were higher than before, and settlement became concentrated in villages

and communities along the coast and interior valleys. Regional subcultures also started to develop, each with its own geographical territory and language or dialect. These were most likely the basis for the groups encountered by the first Europeans during the 18th century. Despite the regional differences, many material culture traits were shared among groups, indicating a great deal of interaction. The introduction of the bow and arrow into the region sometime around 2,000 BP is indicated by the presence of small projectile points.

4.5.2.3 Local Pre-Contact History

This section provides a regional overview with contextual elements drawn from California's Central Valley Region, and the northern Sierra Nevada foothill zone. There has been more extensive research and study of Central Valley prehistory than the prehistory of the northern Sierra Nevada foothill transition zone, but a fair amount of cultural overlap exists within these regions.

California's Great Central Valley has long held the attention of archaeologists and was a focus of early research in California. Archaeological work during the 1920s and 1930s led to the cultural chronology for central California. This chronology was based on the results of excavations conducted in the lower Sacramento River Valley. This period is divided into three periods: the Paleoindian, the Archaic and the Emergent.

The Paleoindian Period began when the first people began to inhabit what is now known as the California culture area. It was commonly believed these first people subsisted on big game and minimally processed foods, (i.e., hunters and gatherers), presumably with no trade networks. More recent research indicates these people may have been more sedentary, relied on some processed foods, and traded. Populations likely consisted of small groups traveling frequently to exploit plant and animal resources.

The Archaic Period is further divided into three sub-periods, the lower Archaic, the Middle Archaic and the Upper Archaic. The Archaic Period was characterized by an increase in plant exploitation for subsistence, more elaborate burial accoutrements, and increase in trade network complexity.

The Emergent Period is most notably marked by the introduction of the bow and arrow, the emergence of social stratification linked to wealth, and more expansive trade networks signified by the presence of clam disk beads that were used as currency.

4.5.2.4 Regional History

The first European to visit California was Spanish maritime explorer Juan Rodriguez Cabrillo in 1542. Cabrillo was sent north by the Viceroy of New Spain (Mexico) to look for the Northwest Passage. Cabrillo visited San Diego Bay, Catalina Island, San Pedro Bay, and the northern Channel Islands. The English adventurer Francis Drake visited the Miwok Native American group at Drake's Bay or Bodega Bay in 1579. Sebastian Vizcaíno explored the coast as far north as Monterey in 1602. He reported that Monterey was an excellent location for a port.

Colonization of California began with the Spanish Portolá land expedition. The expedition, led by Captain Gaspar de Portolá of the Spanish army and Father Junipero Serra, a Franciscan missionary, explored the California coast from San Diego to Monterey Bay in 1769. As a result of this expedition, Spanish missions

to convert the native population, presidios (forts), and pueblos (towns) were established. The Franciscan missionary friars established 21 missions in Alta California (the area north of Baja California) beginning with Mission San Diego in 1769 and ending with the mission in Sonoma established in 1823. The nearest missions to the Project Site were in the vicinity of San Francisco Bay and included Mission San Francisco de Asis (Dolores) established in 1776 on the San Francisco peninsula, Mission Santa Clara de Asis at the south end of San Francisco Bay in 1777, Mission San Jose in 1797, Mission San Rafael, established as an *asistencia* in 1817 and a full mission in 1823, and Mission San Francisco Solano in Sonoma in 1823. Presidios were established at San Francisco and Monterey.

After Mexico became independent from Spain in 1821, what is now California became the Mexican province of Alta California with its capital at Monterey. The Mexican government closed the missions in the 1830s and former mission lands, as well as previously unoccupied areas, were granted to retired soldiers and other Mexican citizens for use as cattle ranches. Much of the land along the coast and in the interior valleys became part of Mexican land grants or ranchos. There were small towns at San Francisco (then known as Yerba Buena) and Monterey during the Mexican period. The Mexican Period includes the years 1821 to 1848.

John Sutter, a European immigrant, built a fort at the confluence of the Sacramento and American rivers in 1839 and petitioned the Mexican governor of Alta California for a land grant, which he received in 1841. Sutter built a flour mill and grew wheat near the fort. Gold was discovered in the flume of Sutter's lumber mill at Coloma on the South Fork of the American River in January 1848. The discovery of gold initiated the 1849 California Gold Rush, which brought thousands of miners and settlers to the Sierra foothills east and southeast of Sacramento.

The American Period began when the Treaty of Guadalupe Hidalgo was signed between Mexico and the United States in 1848. As a result of the treaty, Alta California became part of the United States as the territory of California. Rapid population increase occasioned by the Gold Rush of 1849 allowed California to become a state in 1850.

4.5.2.5 Project Area History

The Project Site is located in the northeastern portion of Glenn County. The Sacramento River creates the eastern border of Glenn County. The county was organized in 1891 and is named after Dr. Hugh James Glenn. Dr. Glenn was a businessman, politician, and farmer who was born in Virginia in 1824. Glenn began raising stock on Stony Creek beginning in 1851 and permanently settled with his family in what became Glenn County in 1853. The Granville Perry Swift adobe house was 1.0 mile north of Orland on Hambright Creek. Swift was a pioneer settler who crossed the plains in 1843. Swift's adobe, built in 1847 at the confluence of Hambright and Stony creeks, was the headquarters for cattle operations as far south as Woodland. The site of the Swift Adobe is recognized as California Historical Landmark (CHL) #345 and is the first known structure built in Glenn County. Swift made a fortune during the Gold Rush by placer mining along the Feather River and then relocated to Sonoma County in 1854.

The City of Orland was founded in 1878 as a supply and shipping center for grain. The Northern Railway Company, a subsidiary of the Central Pacific Railroad, completed its route from Oakland to Tehama via Willows and Orland in 1882. The city was named after one of the first settler's hometown in England. The

town site for Orland was surveyed in 1878, followed by the sale of town lots. Orland College was opened in the 1880s but was closed in 1890 when the Northern Branch State Normal School opened in Chico (now California State University, Chico).

After the passage of the Wright Act in 1887, which authorized the formation of local irrigation districts, the Stony Creek Irrigation Company was formed, and a few miles of canals were dug to bring water from Stony Creek to provide irrigation for 150 acres of land south of the creek near Orland. The Lemon Home Water Company provided water to land north of the creek. These two companies built 15 miles of ditches and irrigated almost 500 acres of land around Orland. However, the water provided by these companies was insufficient and in the late 19th century the Orland area was mostly used for wheat farming and ranching on large tracts owned by a few individuals.

After the formation of the U.S. Bureau of Reclamation (USBR) in 1902, Orland farmers began to ask the Bureau to initiate an irrigation project for the Orland area. In February 1906, local farmers formed the Orland Water Users' Association and petitioned the Secretary of the Interior to complete surveys to find a suitable location for a reservoir. The USBR authorized the Orland Project in 1907 and the East Park Dam was completed in 1910. The East Park Dam and Reservoir were located 33 miles southwest of Orland on upper Stony Creek in Colusa County. The reservoir provided a stable supply of water for irrigation of farmland around Orland. Two canal systems provided water to Orland area farms. The North Side Canal provided water for land on the north side of Stony Creek while the South Side Canal provided water for land on the south side of Stony Creek. Small diversion dams near Black Butte diverted water from Stony Creek into the canals. The South Side Canal, completed in 1916, travels 9.6 miles along Stony Creek southeast to Orland. The system delivered water directly to every 40-acre parcel of farmland (totaling more than 8,000 acres) through 139 miles of canals and laterals and approximately 2,000 concrete control structures of various kinds.

After 1910, when irrigation water for farming became available, greatly increasing the number of farms in the area, wooden buildings in Orland were replaced with reinforced concrete structures and over 100 new homes were built. In 1910, the population of Orland was 600 and by 1912 the population had reached 2,000.

The irrigation system greatly increased the value of the land it supplied. Prior to the completion of the Orland Project, the value of the land around Orland totaled \$605,000. In 1921, the land value had risen to \$6.1 million. This led to a significant economic growth for the town of Orland, which served as a supply center for the surrounding agricultural area. Orland farmers during the 1920s suffered from a series of drought years, which led to the depletion of the East Park Reservoir in 1924. As a result, the USBR, at the request of the Orland Water Users' Association, constructed the Stony Gorge Dam and Reservoir. In the decades that followed, the Orland Project fell into disrepair due to the lack of funding for maintenance during the Great Depression and Second World War. However, USBR completed a 3-year rehabilitation project in 1951 that restored the lining of the canal system.

The U.S. Army Corps of Engineers (USACE) completed the Black Butte Dam and Reservoir, an additional storage facility closer to Orland. The USACE operates and maintains the reservoir and the diversion dam that delivers water into the South Side Canal.

Alfalfa was the primary crop in the area around Orland prior to the completion of the irrigation project. The consistent supply of water from the Orland Project also allowed for cultivation of tree crops. In 1923, the region was home to 1,100 acres of almond trees. The 1930s saw the peak production for citrus in the region, with 900 acres dedicated to the cultivation of oranges. The construction of an olive oil processing plant in 1939 was a response to the increasing acreage dedicated to olive production. In 1991, more than 1,000 acres were dedicated to olives, with nearly all of them being grown for table consumption. The Orland Project canal system still supplies the region with irrigation water.

4.5.3 Cultural Resources (V) 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 historical resource pursuant to §15064.5?	☐	☒	☐	☐

Less than significant with mitigation incorporated.

The Project Site consists of a flat field with abandoned furrows trending north south, with the surface covered in low-lying vegetation. No pre-contact or historic-era resources were identified on the site during the September 15, 2021 field survey or as a part of the Cultural Resources Inventory. However, ground disturbance associated with development of the Project Site has the potential to impact previously unknown, subsurface historic resources should any be present. Mitigation measure **CUL-1** is provided to reduce potential impacts to a level that is considered less than significant.

Would the Project:	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?	☐	☒	☐	☐

Less than significant with mitigation incorporated.

No pre-contact or historic-era resources were identified on the site during the September 15, 2021, field survey or as a part of the Cultural Resources Inventory. While the Project Site was surveyed for archaeological resources, there remains the possibility that unknown sub-surface archaeological resources may be discovered during Project construction. Therefore, mitigation measure **CUL-1** is provided 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.

Would the Project:	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?	☐	☒	☐	☐

Less than significant with mitigation incorporated.

As discussed above, 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. Therefore, mitigation measure **CUL-1** is provided to reduce potential impacts to a level that is considered less than significant.

4.5.4 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 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 National Register of Historic Places (NRHP) or California Register of Historical Resources (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 Glenn County Coroner (in accordance with § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 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 NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 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 (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 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 Orland Planning Department and construction lead.

4.6 Energy

This section describes the environmental and regulatory setting for energy, including applicable plans, policies, regulations, and/or laws. This section also describes the potential for energy impacts that would result from the Proposed Project.

4.6.1 Environmental Setting

Energy relates directly to environmental quality. Energy use can adversely affect air quality and other natural resources. The vast majority of California's air pollution is caused by burning fossil fuels. Consumption of fossil fuels is linked to changes in global climate and depletion of stratospheric ozone. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes (e.g., auto, carpool, and public transit); vehicle speeds; and miles traveled by these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy. In addition, residential, commercial, and industrial land uses consume energy, typically through the usage of natural gas and electricity.

4.6.1.1 Energy Types and Sources

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear (California Energy Commissions [CEC] 2018a). Pacific Gas and Electric Company (PG&E) provides electricity and natural gas to the Project Site. It generates or buys electricity from hydroelectric, nuclear, renewable, natural gas, and coal facilities. PG&E provides natural gas and electricity to most of the northern two-thirds of California, from Bakersfield and Barstow to near the Oregon, Nevada and Arizona state lines. It provides 5.2 million people with electricity and natural gas across 70,000 square miles. In 2017, PG&E announced that 80 percent of the company's

delivered electricity comes from greenhouse gas (GHG) emission-free sources, including renewables, nuclear, and hydropower.

The California Public Utilities Commission (CPUC) regulates PG&E. The CPUC has developed energy-efficiency programs such as smart meters, low-income programs, distribution generation programs, self-generation incentive programs, and a California solar initiative. Additionally, the CEC maintains a power plant data base that describes all of the operating power plants in the state by county. Glenn County contains three power plants generating electricity, of which one is solar-powered, and two are hydro-powered (CEC 2021).

4.6.1.2 Existing Transmission and Distribution Facilities

The components of transmission and distribution systems include the generating facility, switching yards and stations, primary substation, distribution substations, distribution transformers, various sized transmission lines, and the customers. The United States contains over 250,000 miles of transmission lines, most of them capable of handling voltages between 115 kilovolts (kv) and 345 kv, and a handful of systems of up to 500 kv and 765 kv capacity. Transmission lines are rated according to the amount of power they can carry, the product of the current (rate of flow), and the voltage (electrical pressure). Generally, transmission is more efficient at higher voltages. Generating facilities, hydro-electric dams, and power plants usually produce electrical energy at fairly low voltages, which is increased by transformers in substations. From there, the energy proceeds through switching facilities to the transmission lines. At various points in the system, the energy is *stepped down* to lower voltages for distribution to customers. Power lines are either high voltage (115 kv, 230 kv, 500 kv, and 765 kv) transmission lines or low voltage (12 kv, 24 kv, and 60 kv) distribution lines. Overhead transmission lines consist of the wires carrying the electrical energy (conductors), insulators, support towers, and grounded wires to protect the lines from lightning (called shield wires). Towers must meet the structural requirements of the system in several ways. They must be able to support both the electrical wires, the conductors, and the shield wires under varying weather conditions, including wind and ice loading, as well as a possible unbalanced pull caused by one or two wires breaking on one side of a tower. Every mile or so, a *dead-end* tower must be able to take the strain resulting if all the wires on one side of a tower break. Every change in direction requires a special tower design. In addition, the number of towers required per mile varies depending on the electrical standards, weather conditions, and the terrain. All towers must have appropriate foundations and be available at a fairly regular spacing along a continuous route accessible for both construction and maintenance. A right-of-way is a fundamental requirement for all transmission lines. A right-of-way must be kept clear of vegetation that could obstruct the lines or towers by falling limbs or interfering with the sag or wind sway of the overhead lines. If necessary, land acquisition and maintenance requirements can be substantial. The dimensions of a right-of-way depends on the voltage and number of circuits carried and the tower design. Typically, transmission line rights-of-way range from 100 feet to 300 feet in width. The electric power supply grid within Glenn County is part of a larger supply network operated and maintained by PG&E that encompasses a large portion of the Northern and Central California regions. This system ties into yet a larger grid known as the California Power Pool that connects with the San Diego Gas and Electric and Southern California Edison Companies. These companies coordinate the development and operation, as well as purchase, sale, and exchange of power throughout the State of

California. Within Glenn County, PG&E owns most of the transmission and distribution facilities. Three 60-kv transmission lines pass through the County and two major 230-kv lines (one owned by PG&E and the other by Western Area Power Administration), connecting Glenn County to the national power grid, allowing for the wheeling of power to locations where power is in demand (CEC 2021).

The California Independent System Operator (CAISO) manages the flow of electricity across the high-voltage, long-distance power lines (high-voltage transmissions system) that make up 80 percent of California's and a small part of Nevada's grid. This nonprofit public benefit corporation keeps power moving to and throughout California by operating a competitive wholesale electricity market, designed to promote a broad range of resources at lower prices, and managing the reliability of the electrical transmission grid. In managing the grid, CAISO centrally dispatches generation and coordinates the movement of wholesale electricity in California. As the only independent grid operator in the western U.S., CAISO grants equal access to 26,000 circuit miles of transmission lines and coordinates competing and diverse energy resources into the grid where it is distributed to consumers. Every five minutes, CAISO forecasts electrical demand and dispatches the lowest cost generator to meet demand while ensuring enough transmission capacity for delivery of power.

CAISO conducts an annual transmission planning process that uses engineering tools to identify any grid expansions necessary to maintain reliability, lower costs, or meet future infrastructure needs based on public policies. CAISO engineers design, run and analyze complex formulas and models that simulate grid use under wide-ranging scenarios, such as high demand days coupled with wildfires. This process includes evaluating power plant proposals submitted for study into the interconnection queue to determine viability and impact to the grid. The long-term comprehensive transmission plan, completed every 15 months, maps future growth in electricity demand and the need to meet state energy and environmental goals that require the CAISO grid to connect to renewable-rich, but remote areas of the western landscape. CAISO promotes energy efficiency through resource sharing. CAISO electricity distribution management strategy designed so that an area with surplus electricity can benefit by sharing megawatts with another region via the open market. This allows the dispatch of electricity as efficiently as possible. By maximizing megawatts as the demand for electricity increases, CAISO helps keep electricity flowing during peak periods.

4.6.1.3 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 non-residential uses in Glenn County from 2016 to 2020 is shown in Table 4.6-1. As indicated, the demand has increased since 2016.

Table 4.6-1. Non-Residential Electricity Consumption in Glenn County 2016-2020

Year	Electricity Consumption (kilowatt hours)
2020	325,776,814
2019	302,124,603
2018	316,187,980
2017	298,064,085
2016	277,666,833

Source: CEC 2020

The natural gas consumption associated with all non-residential uses in Glenn County from 2015 to 2019 is shown in Table 4.6-2. As indicated, the demand has fluctuated since 2016.

Table 4.6-2. Non-Residential Natural Gas Consumption in Glenn County 2016-2020

Year	Natural Gas Consumption (therms)
2020	5,366,716
2019	6,174,769
2018	5,790,626
2017	6,057,323
2016	5,838,224

Source: CEC 2020

Automotive fuel consumption in Glenn County from 2016 to 2020 is shown in Table 4.6-3. Fuel consumption has decreased between 2016 and 2020 for all on- and off-road vehicles.

Table 4.6-3. Automotive Fuel Consumption in Glenn County 2016-2020

Year	Total Fuel Consumption (gallons)	
	On-Road	Off-Road
2020	33,636,609	8,328,921
2019	37,652,656	8,358,531
2018	37,590,737	8,381,483
2017	37,722,047	9,628,012
2016	36,647,589	9,606,018

Source: CARB 2021

4.6.2 Regulatory Setting

4.6.2.1 State

California Energy Efficiency Standards for Residential & Nonresidential Buildings (Title 24)

Title 24, California's energy efficiency standards for residential and nonresidential buildings, were established by the CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and provide energy efficiency standards for residential and nonresidential buildings. California's energy efficiency standards are updated on an approximate three-year cycle. These standards are a unique California asset that have placed the state on the forefront of energy efficiency, sustainability, energy independence and climate change issues. The *2019 Building Energy Efficiency 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 *Building Energy Efficiency Standards* focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The 2019 standards are a major step toward meeting Zero Net Energy. According to the CEC, single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards and nonresidential buildings will use about 30 percent less energy (due mainly to lighting upgrades) (CEC 2018b). The most significant efficiency improvement to the residential standards includes the introduction of photovoltaic into the prospective package, improvements for attics, walls, water heating, and lighting. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. These new standards apply only to certain nonresidential building types, as specified in the requirements.

California Green Building Standards

The California Green Building Standards Code (CCR, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. CALGreen also has voluntary tiers and measures that local governments may adopt, which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code was adopted in 2016 and went into effect January 1, 2017.

Senate Bill 1368

On September 29, 2006, Governor Arnold Schwarzenegger signed into law Senate Bill (SB)1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the state's utilities to those power plants that meet an emissions performance standard jointly established by the CEC and the CPUC.

The CEC has designed regulations that:

- Establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds carbon dioxide per MWh. This would encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of greenhouse gas emissions;
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This would facilitate public awareness of utility efforts to meet customer needs for energy over the long-term while meeting the state's standards for environmental impact; and
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard (Perata, Chapter 598, Statutes of 2006).

Executive Order B-55-18

In September 2018, Governor Edmund Gerald (Jerry) Brown, Jr. 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 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. 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.

Senate Bill X1-2 of 2011, Senate Bill 350 of 2015, and Senate Bill 100 of 2018

SB X1-2 of 2011 required that all California electric utilities generate 33 percent of their electricity from renewables by the end of 2020. SB X1-2 also required the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California.

In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly owned electric utilities to procure 50 percent of their electricity from renewable resources by 2030. In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

4.6.3 Energy (VI) 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 potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐

Less than significant.

The impact analysis focuses on the three sources of energy that are relevant to the Proposed Project: electricity, 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 estimated to be consumed by the Project is quantified and compared to that consumed by all non-residential land uses in Glenn County. Similarly, the amount of fuel necessary for Project construction and long-term operations is calculated and compared to that consumed in Glenn County.

The analysis of electricity gas usage is based on CalEEMod modeling conducted by ECORP (*Attachment 4.3*), 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 Glenn County. 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. (Climate Registry 2016).

Table 4.6-4. Proposed Project Energy and Fuel Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Electricity Consumption	74,002 kilowatt-hours	0.023 percent
Natural Gas Consumption	971.56 therms	0.018 percent
Automotive Fuel Consumption		
Project Construction Year One	19,507 gallons	0.234 percent
Project Construction Year Two	10,246 gallons	0.123 percent
Project Operations	701,246 gallons	2.084 percent

Source: ECORP 2021c; Refer to *Attachments 4.3 and 4.6* for calculation outputs.

Notes: The Project increases in electricity consumption are compared with all of the non-residential buildings in Glenn County in 2019, the latest data available. The Project increases in construction and operations automotive fuel consumption are compared with the countywide fuel consumption in 2020, the most recent full year of data, for all off- and on-road vehicles, respectively.

Operations of the Proposed Project would include electricity and usage from lighting, space and water heating, and landscape maintenance activities. As shown in Table 4.6-4, the annual electricity consumption due to operations would be 74,002 kWh resulting in an approximate 0.023 percent increase in the typical annual electricity consumption attributable to all non-residential uses in Glenn County. However, this is potentially a conservative estimate. In September 2018 Governor Brown signed 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 (CO₂) 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 Brown’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.” For these reasons, and the required compliance with state building code regulations including Energy Efficiency Standards such as Title 24 for all Residential and Nonresidential buildings, 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 first and second year of construction is estimated to be 19,507 and 10,246 gallons of fuel, respectively. This would increase the annual countywide gasoline fuel use in the County by 0.234 percent in the first year and 0.123 percent in the second year. 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.

According to information provided in the Traffic Impact Analysis Memorandum (KD Anderson & Associates, Inc 2021), the Project is estimated to generate approximately 1,994 net new primary daily trips. As indicated in Table 4.6-4, this would estimate to a consumption of approximately 701,246 gallons of automotive fuel per year, which would increase the annual countywide automotive fuel consumption by 2.084 percent. The amount of operational fuel use was estimated using CARB's EMFAC2021 computer program, which provides projections for typical daily fuel usage in Glenn County. This analysis conservatively assumes that all of the automobile trips projected to arrive at the Project during operations would be new to Glenn County. 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.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

The Project would be designed in a manner that is consistent with relevant energy conservation plans designed to encourage development that results in the efficient use of energy resources. The Project will be built to the *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 three 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. Furthermore, the Project would also be consistent with the City's General Plan, which strives to promote development that is sustainable in its use of land and limits impacts on natural resources, energy, air and water.

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

4.6.4 Mitigation Measures

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

4.7 Geology and Soils

4.7.1 Environmental Setting

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-south and 60 miles east-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. (California Geological Survey [CGS] 2002).

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 [20km] 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, which 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 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 (CGS 2010).

According to the Orland General Plan Update EIR (City of Orland 2010b), the primary seismic hazard associated with the Orland planning area is minor ground shaking. The Project Site is not located within an Alquist-Priolo earthquake hazard zone. The closest active fault system is the 40-mile-long Willows fault, located about 10 miles west of Orland.

4.7.1.4 Soils

According to the U.S. Department of Agriculture's (USDA) NRCS via the Web Soil Survey database, the Project Site is composed of three soil units: Cortina gravelly fine sandy loam, shallow, Wyo loam, deep over gravel, and Wyo gravelly loam, moderately deep over gravel, 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 moderately well drained and poorly drained, have a high runoff potential, and have no or rare potential for flooding or frost action. The Project Site soils also have a slight erosion potential and moderate to very high linear extensibility (shrink-swell) (USDA 2021).

Table 4.7-1. Project Site Soil Characteristics

Soil (Map Unit Symbol, Map Unit Name)	Percentage of Site	Drainage	Flooding Frequency Class	Frost Action¹
Czk, Cortina gravelly fine sandy loam, shallow	51.0%	Somewhat excessively drained	Occasional	None
Wg, Wyo loam, deep over gravel	10.1%	Well drained	None	None
Wh, Wyo gravelly loam, moderately deep over gravel	39.0%	Well drained	None	None
	Runoff Potential²	Linear Extensibility³	Erosion Hazard⁴	Plasticity Rating⁵
Czk, Cortina gravelly fine sandy loam, shallow	A (low)	1.5%, low	Slight	0.4%
Wg, Wyo loam, deep over gravel	B (moderate)	1.5%, low	Slight	5.0%
Wh, Wyo gravelly loam, moderately deep over gravel	B (moderate)	1.5%, low	Slight	3.3%

Source: NRCS 2021

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.
- 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 requested from the University of California Museum of Paleontology (UCMP) on February 22, 2019. The search included a review of the institution's paleontology specimen collection records for Glenn County, including the Project Area and vicinity. The purpose of the assessment was to determine the sensitivity of the Project Area, whether known occurrences of paleontological resources are present within or immediately adjacent to the Project area, and whether implementation of the Project could result in significant impacts to paleontological resources. Paleontological resources include mineralized (fossilized) or unmineralized bones, teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains.

The results of the search of the UCMP indicated that 239 paleontological specimens were recorded from 27 identified localities and 76 unidentified localities in Glenn County. Paleontological resources include fossilized remains of birds, mammals, reptiles and amphibians. No paleontological resources have been previously recorded within or near the Proposed Project Site (UCMP 2019).

4.7.2 Geology and Soils (VII) Environmental Checklist and Discussion

Would the Project:	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:	☐	☐	☒	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒

Less than significant.

- i) The Proposed Project Site is not located within an Alquist-Priolo Earthquake Zone (CGS 2011, 2015). 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 that is distant from known, active faults and will experience lower levels of

ground shaking less frequently. In most earthquakes, only weaker masonry buildings would be damaged. However, very infrequent earthquakes could still cause strong shaking in the area (CGS 2016). The Proposed Project includes the development of a truck service center. The truck wash would be required to comply with the *City of Orland Improvement Standards*, including any required seismic mitigation standards. Because of the required compliance and the distance from active faults, the Proposed Project would have a less than significant impact related to strong ground shaking.

iii) Liquefaction occurs when loose sand and silt saturated with water behaves like a liquid when shaken by an earthquake. 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. DOC provides mapping for area susceptible to liquefaction in California. According to this mapping, the Project Site is not located in an area identified for the risk of liquefaction (CGS 2021a). Additionally, all structures would be required to comply with the CBC, including any required liquefaction analysis. As such, the Proposed Project would result in less than significant impacts with regard to seismic-related ground failure, including liquefaction.

i) The Project Site is of minimal elevation gain and the site does not have steep hillsides or other formations susceptible to landslides during a seismic event. As such, the Project would have no impact with regard to the potential for landslides.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

As shown in Table 4.6-1, the Project soil has a slight erosion potential. 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.

A predominant instigator of erosion on construction sites are storm events and the resulting stormwater runoff. Erosion from stormwater runoff is controlled through adherence to City of Orland General Plan Policy 5.6.A, which requires the preparation of a stormwater pollution prevention plan (SWPPP) in order to comply with the Regional Water Quality Control Board's General Construction Storm Water Permit. The SWPPP will identify best management practices (BMPs) to be implemented on the Project Site to minimize soil erosion. 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; and
- Regular maintenance and storm event monitoring.

Note that the SWPPP is a *living* document and should 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. This impact is less than significant.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

As discussed previously, the Project Site has no potential for landslides due to the flat topography of the site.

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. One indicator of potential lateral expansion is frost action. 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 Web Soil Survey identifies the Project Site as having soils with no frost action potential. 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.¹ 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 2018). 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 and foundations. Because of the required compliance with the City's Improvement Standards, the California Building Code (CBC) seismic mitigation standards and the distance from active faults the potential for that settlement/collapse at the site is considered unlikely. As such, the potential for impacts due to collapse would be less than significant.

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

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

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 three percent, moderate if three to six percent, high if six to nine percent, and very high if more than nine 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 1.5 percent. Soils with linear extensibility at this range correlate to having a low expansion potential. As such, 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
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

No impact.

The Proposed Project would connect to the City wastewater sewer system and would not require the construction of septic tanks or alternative wastewater disposal systems. Thus, there is no impact associated with Project Site soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.

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?	☐	☒	☐	☐

Less than significant with mitigation incorporated.

A search of the UCMP failed to indicate the presence of paleontological resources on the Project Site (UCMP 2021). Although paleontological resources sites were not identified in the Project Site, there is a possibility that unanticipated paleontological resources will be encountered during future projects and related ground-disturbing activities. Therefore, impacts to unknown paleontological resources would be less than significant with incorporation of Mitigation Measure **GEO-1**.

4.7.3 Mitigation Measures

GEO-1: Paleontological or Sensitive Geologic Resource Discovery.

If paleontological or other geologically sensitive resources are identified during any phase of development including roadway development and future developments on the Project Site, the applicant shall cease operation at the site of the discovery and immediately notify the City. The future Project proponent shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less than significant level. In considering any suggested mitigation proposed by the qualified paleontologist, the City shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the development site while mitigation for paleontological resources is carried out.

Timing/Implementation: During construction

Monitoring/Enforcement: The City of Orland and construction lead.

4.8 Greenhouse Gas Emissions

4.8.1 Environmental Setting

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 carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), 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. CH₄ traps over 25 times more heat per molecule than CO₂, and N₂O absorbs 298 times more heat per molecule than CO₂. Estimates of GHG emissions are often presented in carbon dioxide equivalents (CO₂e). Expressing GHG emissions in CO₂e 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 CO₂ were being emitted.

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?	☐	☐	☒	☐

Less than significant.

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.

Table 4.8-1. Construction Related Greenhouse Gas Emissions	
Description	CO ₂ e Emissions (Metric Tons/Year)
Construction in Year One	220
Construction in Year Two	113
Project Construction Total	333

Sources: CalEEMod 2020.0.4.0

As shown in Table 4.8-1, Project construction would result in the generation of approximately 333 metric tons of CO₂e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. Furthermore, GHG emissions generated by the construction sector have been declining in recent years. For instance, construction equipment engine efficiency has continued to improve year after year. The first federal standards (Tier 1) for new off-road diesel engines were adopted in 1994 for engines over 50 horsepower (hp) and were phased in from 1996 to 2000. In 1996, a Statement of Principles pertaining to off-road diesel engines was signed between the USEPA, CARB, and engine makers (including Caterpillar, Cummins, Deere, Detroit Diesel, Deutz, Isuzu, Komatsu, Kubota, Mitsubishi, Navistar, New Holland, Wis- Con, and Yanmar). On August 27, 1998, the USEPA signed the final rule reflecting the provisions of the Statement of Principles. The 1998 regulation introduced Tier 1 standards

for equipment under 50 hp and increasingly more stringent Tier 2 and Tier 3 standards for all equipment with phase-in schedules from 2000 to 2008. As a result, all off-road, diesel-fueled construction equipment manufactured in 2006 or later has been manufactured to Tier 3 standards. Tier 3 engine standards reduce precursor and subset GHG emissions such as nitrogen oxide by as much as 60 percent. On May 11, 2004, the USEPA signed the final rule introducing Tier 4 emission standards, which were phased in over the period of 2008-2015. The Tier 4 standards require that emissions of nitrogen oxide be further reduced by about 90 percent. All off-road, diesel-fueled construction equipment manufactured in 2015 or later must be manufactured to Tier 4 standards.

In addition, the CEC recently released the 2019 Building Energy Efficiency Standards contained in the California Code of Regulations, Title 24, Part 6 (also known as the California Energy Code). The 2019 updates to the Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions, and alterations to existing buildings. For instance, effective January 1, 2017, owners/builders of construction projects have been required to divert (recycle) 65 percent of construction waste materials generated during the project construction phase. This requirement greatly reduces the generation of GHG emissions by reducing decomposition at landfills, which is a source of CH₄, and reducing demand for natural resources.

Long-term operational GHG emissions attributable to the Project are identified in Table 4.8-2.

Table 4.8-2. Operational-Related Greenhouse Gas Emissions	
Description	CO₂e Emissions (Metric Tons/Year)
Area Source Emissions	0
Energy Emissions	12
Mobile Source Emissions	2,905
Waste Emissions	14
Water Emissions	1
Project Operations Total	2,932

Sources: CalEEMod 2020.0.4.0

Notes: Emission projections are predominantly based on CalEEMod model defaults for Glenn County. On road source emissions data used in CalEEMod is based on ADT data from KD Anderson & Associates, Inc. (2021)

As shown in Table 4.8-2 Project operations would result in the generation of 2,932 metric tons of CO₂e annually. A large majority of these emissions would be generated by mobile sources, which is an emission source that cannot be regulated by the City. Additionally, GHG are global pollutants. They can be carried miles away from the original source and have long atmospheric lifetimes compared to that of local pollutants. GHG Emissions do not directly pose a threat to human health but can have numerous indirect effects. As previously stated, GHG emissions have been directly correlate to climate change. This can lead to events such as droughts, heat waves, increased intensity in storm events and rising sea levels. These can result in decrease precipitation, increased wildfires, saltwater infiltration of groundwater tables and decreased crop yields. A reduction of vehicle trips to and from the Proposed Project Site would reduce the

amount of mobile emissions. Methods of reducing vehicle trips include carpooling, transit, cycling, and pedestrian connections. However, this Project is proposing a fueling center and convenience store. The reduction of vehicle trips is only feasible for the employees working in the facilities, though the majority of traffic trips instigated by the Project would be related to haul truck trips transporting freight.

As stated above, the State of California has implemented numerous strategies pertaining to trucks and the reduction of emissions that directly apply to the Project. Urban goods delivery is an essential component of the greater freight system and vital to the urban economy. While urban goods delivery represents a small share of urban traffic, it generates a disproportionate amount of GHG emissions. The State of California promulgates policies designed and implemented to improve the efficiency and environmental footprint of the urban freight system, including the introduction of zero and near-zero emission vehicles - a strategy embedded in the Governor's Sustainable Freight Action Plan as well as CARB's AB 32 Scoping Plan and Mobile Source Strategy.

Additionally, the Project Site is located approximately 925 feet west of the I-5 freeway, a major regional freeway corridor. Further, I-5 has been identified as a *Major International Trade Highway Route* in the California State Goods Movement Action Plan (2007) and therefore serves to accommodate existing truck trips along the interstate. The Goods Movement Action Plan is a statewide initiative to improve and expand California's goods movement industry and infrastructure in a manner which will increase mobility and relieve traffic congestion as well as reduce GHG emissions.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

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 *City of Orland General Plan* (2010a) acknowledges the necessity to quantify, manage, and reduce its contributions to GHG emissions in order to help protect the health of the community, ecosystems, and biodiversity from the effects of climate change. Specifically, Policy 5.5.A aims to comply with the AB 32 Scoping Plan and its governing regulations to the full extent of the City's abilities, and Policy 5.5.G plans to continue to monitor the efforts of CARB and other organizations responsible for the preparation of GHG-reducing standards. However, neither the City of Orland nor the GCAPCD promulgate GHG emission thresholds. Therefore, the Project will be assessed for consistency with regulations or requirements adopted by the *2020 Glenn County Regional Transportation Plan*, which establishes an overall GHG target for the Project region, and the California AB 32 Scoping Plan and subsequent updates.

Consistency with Glenn County's 2020 Regional Transportation Plan

The Project is also assessed for consistency with the GHG-reducing provisions contained in the 2020 Regional Transportation Plan (RTP), which establishes an overall GHG target for the Project region consistent with California's 2030 GHG reduction goals of SB 32. Due to the relatively small size of Glenn County and low number of major transportation facilities, the regional transportation-related GHG target is to maintain current levels of emission without increase. The City of Orland is a member city of the Glenn County Transportation Commission (GCTC), which is the designated Regional Transportation Planning Agency for the County. GCTC's RTP, adopted February 20, 2020, is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The RTP serves as the planning blueprint to guide transportation investments in Glenn County involving local, state, and federal funding over the next 20 years. Transportation improvements in the RTP are identified as short-term (2020-2030) or long-term (2031-2040). The coordination focus brings the County, Caltrans, cities of Orland and Willows, the Tribal Advisory Committee Grindstone Rancheria of Wintun-Wailaki Indians of California (Grindstone Indian Rancheria), governmental resource agencies, commercial and agricultural interests, and citizens into the planning process (Glenn County 2020).

The RTP establishes GHG emissions goals for automobiles and light-duty trucks for 2020 and 2035 and establishes an overall GHG target for the region consistent with both the statewide GHG-reduction targets for 2020 and the post-2020 statewide GHG reduction goals. During development of the 2020 RTP update, existing plans, documents and studies addressing transportation in Glenn County were reviewed to ensure the RTP's consistency with other planning documents. In addition, the RTP is supported by a combination of transportation and land use strategies that help the region achieve state GHG emission reduction goals and federal Clean Air Act (CAA) requirements, preserve open space areas, improve public health and roadway safety, support the vital goods movement industry, and use resources more efficiently. The effectiveness of efforts by the RTP Authority to provide transportation alternatives and to implement policies and strategies consistent with state and national goals of reducing GHG emissions can be measured in terms of reductions in vehicle miles traveled (VMT) or expected growth in VMT. VMT reductions correlate directly with reductions in GHG emissions. The Proposed Project's consistency with the RTP goals is analyzed in detail in *Attachment 4.3*.

Implementing GCTC's RTP will maintain existing regional GHG emission rates from transportation, helping to achieve statewide emission reduction targets. As shown, the Proposed Project would in no way conflict with the stated goals of the RTP; therefore, the Proposed Project would not interfere with GCTC's ability to achieve the region's post-2020 mobile source GHG reduction measures outlined in the 2020 RTP, and it can be assumed that regional mobile emissions will be maintained in line with the goals of the RTP. Furthermore, the Proposed Project is not regionally significant per CEQA Guidelines Section 15206 and as such, it would not conflict with the GCTC's RTP goals and policies since those were established and are applicable on a regional level.

Consistency with CARB's Scoping Plan

The Scoping Plan was approved by CARB in 2008 and updated in 2014 and 2017 and provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is neither directly applicable

to specific projects, nor intended to be used for project-level evaluations. It does not provide recommendations for lead agencies to develop evidence-based numeric thresholds consistent with the Scoping Plan, the state's long-term GHG goals, and climate change science. Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-Global Warming Potential GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of the AB 32 Scoping Plan and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 3-5 of *Attachment 4.3* highlights measures that have been, or will be, developed under the Scoping Plan and presents the Project's consistency with Scoping Plan measures. The Project would comply with all regulations adopted in furtherance of the Scoping Plan to the extent required by law and to the extent that they are applicable to the Project.

Based on the analysis provide in *Attachment 4.3*, the Project would be consistent with the applicable strategies and measures in the Scoping Plan.

The Project would not impede the attainment of the GHG reduction goals for 2030 or 2050 identified in EO S-03-05 and SB 32. EO S-03-05 establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. SB 32 establishes for a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40 percent below 1990 levels by December 31, 2030. While there are no established protocols or thresholds of significance for that future year analysis, CARB forecasts that compliance with the current Scoping Plan puts the state on a trajectory toward meeting these long-term GHG goals, although the specific path to compliance is unknown (CARB 2014).

To begin, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the *First Update to the Climate Change Scoping Plan* that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80 percent below 1990 levels, the *First Update to the Climate Change Scoping Plan* states the following (CARB 2014):

This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80 percent below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in SB 32 and EO S-03-05. This is confirmed in the Second Update, which states:

The Proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Proposed Plan is developed to be consistent with requirements set forth in AB 32, SB 32, and AB 197. (CARB 2017)

As discussed previously, the Project is consistent with the GHG emission reduction measures in the Scoping Plan and would not conflict with the state's trajectory toward future GHG reductions. In addition, since the specific path to compliance for the state in regard to the long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the Project would be speculative and cannot be identified at this time. The Project's consistency would assist in meeting the City's contribution to GHG emission reduction targets in California. With respect to future GHG targets under SB 32 and EO S-03-05, CARB has also made clear its legal interpretation is that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet SB 32's 40 percent reduction target by 2030 and EO S-03-05's 80 percent reduction target by 2050; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its trajectory toward meeting these future GHG targets. The Project would not interfere with implementation of any of the previously described GHG reduction goals for 2030 or 2050 or impede the state's trajectory toward the previously described statewide GHG reduction goals for 2030 or 2050.

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, § 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 § 65962.5, both the Department of Toxic Substances Control (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 (2021) and SWRCB (2021) lists identified no open cases of hazardous waste violations on, or within ½ mile of 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 CAA stationary sources; Clean Water Act facilities with direct discharge permits, under the National Pollutant Discharge Elimination System (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 2021).

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?	☐	☐	☒	☐

Less than significant.

The Proposed Project would allow for the development of a fueling center and associated commercial uses on 5.56 acres of land. This development may result in the storage of hazardous materials typically sold or stored in stores such as antifreeze, oil and lubricants for vehicle maintenance as well as household cleaning chemicals. The development of fueling stations would permit fuel storage on the site. Typical

incidents that could result in accidental release of hazardous materials involve leaking storage tanks, spills during transport, inappropriate storage, inappropriate use, and/or natural disasters. If not remediated immediately and completely, these and other types of incidents could cause toxic fumes and contamination of soil, surface water, and groundwater. Depending on the nature and extent of the contamination, groundwater supplies could become unsuitable for use as a domestic water source. Human exposure to contaminated soil or water could have potential health effects depending on a variety of factors, including the nature of the contaminant and the degree of exposure.

Hazardous materials must be stored in designated areas designed to prevent accidental release to the environment. CBC requirements prescribe safe accommodations for materials that present a moderate explosion hazard, high fire or physical hazard, or health hazards.

Hazardous materials regulations, which are codified in CCR Titles 8, 22, and 26, and their enabling legislation set forth in Chapter 6.95 of the California Health and Safety Code, were established at the state level to ensure compliance with federal regulations and to reduce the risk to human health and the environment from the routine use of hazardous substances. Protection against accidental spills and releases provided by this legislation includes physical and mechanical controls of fueling operations, including automatic shutoff valves; requirements that fueling operations are contained on impervious surface areas; oil/water separators or physical barriers in catch basins or storm drains; vapor emissions controls; leak detection systems; and regular testing and inspection of fueling stations.

Businesses that sell and store hazardous materials are subject to the County's reporting program. The program requires the preparation of a Hazardous Material Business Plan that provides an inventory of hazardous materials onsite, emergency plans and procedures in the event of an accidental release, and training for employees on safety procedures for handling hazardous materials and what to do in the event of a release or threatened release. These plans are routine documents that are intended to disclose the presence of hazardous materials and provide information on actions to be taken if materials are inadvertently released.

The Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. These materials would be required to be used, stored, and disposed in accordance with existing regulations and product labeling and would not create a significant hazard to the public or to the environment. 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
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

Less than significant.

As discussed in Issue a), the Project 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. Potential construction-related hazards could be created during the course of Project construction at the site, given that construction activities involve the use of heavy equipment, which uses small and incidental amounts of oils and fuels and other potentially flammable substances. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials used during construction. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, state, and federal law.

All hazardous materials on the Project Site would be handled in accordance with city and state regulations. Long-term impacts associated with handling, storing, and disposing of hazardous materials from project operation would be less than significant because any hazardous materials used for operations would be in small quantities.

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?	☐	☐	☐	☒

No impact.

The nearest public school to the Project Site is Orland High School, approximately 1 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?	☐	☐	☐	☒

No impact.

Under Government Code § 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 and the Proposed Project are not on a parcel included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 (DTSC 2021 SWRCB 2019). 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?	☐	☐	☐	☒

No impact.

The Orland Haigh Field Airport is approximately 4 miles southeast of the Project Site. The Project Site is not located in the airport's safety areas as shown on Map 2 of the Comprehensive Airport Land Use Plan for the Orland Haigh Field Airport (Glenn County Airport Land Use Commission 1991). Furthermore, the Project does not propose any new structures which may impede aircraft operations. Thus, no impact would occur.

Would the Project:	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?	☐	☐	☐	☒

No impact.

Standard evacuation routes have not been designated in Glenn County or Orland. However, the Glenn County Sheriff's Office Office of Emergency Services has an online link to an emergency preparedness web page stating that in the event of mandatory evacuation, residents will be advised of safe routes to follow, locations of shelters, and other actions that may need to be taken.

According to the Orland General Plan DEIR, it is likely that Caltrans facilities such as SR 32 and I-5 would be used to evacuate the community in an emergency. Major county roads such as Sixth Street (County Road 99W) and South Street are also suited to evacuation, depending on the location of the emergency (City of Orland 2010b).

The Proposed Project does not include any actions that would impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. All construction activities would not impede the use of surrounding roadways in an emergency evacuation. The Project involves the construction of a truck service center and would not interfere with any emergency response or evacuation plans. Implementation of the Proposed Project would result in no impact in this area.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

The Project Site is not in an area designated by California Department of Forestry and Fire Protection (CAL FIRE, 2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. Finally, the location of the Project Site makes it readily accessible by emergency personnel and vehicles in the event of a wildland fire. For these reasons, this impact would be less than significant.

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 Orland is located in the greater Sacramento River hydrologic region. The Sacramento River hydrologic region covers approximately 17.4 million acres (27,200 square miles). The region includes all or large portions of Butte, Colusa, El Dorado, Glenn, Glenn, Lake, Lassen, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Solano, Sutter, Tehama, Yolo, Yuba counties. Small areas of Alpine and Amador counties are also within the region. Geographically, the region extends south from the Modoc Plateau and Cascade Range at the Oregon border to the Sacramento-San Joaquin Delta (California Department of Water Resources (DWR 2006).

The City of Orland and the Project Site are located within the boundaries of the Stony Creek watershed. The Stony Creek watershed encompasses approximately 700 square miles and is the second largest Sacramento River tributary on the west side of the Sacramento Valley (City of Orland 2010b). There are three major impoundments on Stony Creek: Black Butte, East Park, and Stony Gorge reservoirs.

Groundwater

The Project Site is underlain by the Sacramento Valley Groundwater Basin and the Colusa Subbasin (DWR 2021a). The City of Orland uses groundwater as the source for potable water in the city. This groundwater is extracted from the Colusa Groundwater Subbasin. According to the California DWR, the Colusa Subbasin covers an area of approximately 1,434 square miles (918,380 acres) (DWR 2006). The storage capacity of the subbasin was projected based on estimates of specific yield for the Sacramento Valley as developed in DWR Bulletin 118 (DWR 2006). The estimated storage capacity to a depth of 200 feet is approximately 13,025,887 acre-feet or 4.24 trillion gallons. Estimates of groundwater extraction for the Colusa Subbasin are based on surveys conducted by the California DWR during 1993, 1994, and 1999. Surveys included land use and sources of water. Estimates of groundwater extraction for agricultural, municipal, and industrial, and environmental wetland uses are 310,000 acre-feet (AF), 14,000 AF, and 22,000 AF, respectively. Deep percolation from applied water is estimated to be 64,000 AF. The DWR has not identified the Colusa Subbasin as overdrafted in its DWR Bulletin 118. Also, there has been no indication of any existing or anticipated overdraft condition in studies prepared by other entities (DWR 2006).

The DWR Sustainable Groundwater Management Act (SGMA) provides groundwater levels throughout the state. Among other things, this interactive online tool can illustrate the change in groundwater depth of a certain time period for a particular location, such as the City of Orland. According to the SGMA information, the distance from groundwater to ground surface in the Project area has increased by approximately 120 feet between spring 2011 and spring 2021. In other words, the groundwater water surface was 30 feet below ground surface (bgs) in 2008 and was approximately 150 feet below ground surface in 2021 (DWR 2021b).

Table 4.10-1. Depth to Groundwater		
Year	Season	
	Spring (ft bgs¹)	Fall (ft bgs¹)
2011	30	n/a
2012	40	n/a
2013	40	90
2014	90	90
2015	100	100
2016	100	100
2017	90	100
2018	100	110
2019	100	80
2020	80	120
2021	150	N/A

Source: DWR 2021b

Note: 1) ft bgs = feet below ground surface

The SGMA directs DWR to identify groundwater basins and subbasins in conditions of critical overdraft. As defined in the SGMA, “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.” The Colusa groundwater subbasin is not listed as a critically overdrafted basin (DWR 2018a). DWR is currently working on an update to the Bulletin 118 groundwater report. However, more up-to-date information of the Colusa subbasin is not available at this time.

4.10.1.2 Site Hydrology and On-Site Drainage

There are no existing natural hydrological features on the 5.56-acre Project Site. There is an irrigation ditch adjacent to the northern boundary of the Project Site. As shown in the Project’s Paving Plan, shown as Figure 4b, development of the proposed truck service center would result in the undergrounding of the drainage swale and a driveway and culvert and undergrounding of the irrigation ditch along County Road 13 adjacent to the Project Site.

The topography of the Site is flat with little elevation change, varying from approximately 260 feet to 265 feet AMSL over the 5.56-acre site. Upon completion of the Proposed Project, the Project Site topography would be the same of pre-Project conditions.

Orland experiences extreme seasonal variation in monthly rainfall. The rainy period of the year lasts for 8.9 months, from September 17 to June 15, with a sliding 31-day rainfall of at least 0.5 inch. The most rain falls during the 31 days centered around February 16, with an average total accumulation of 5.9

inches. The rainless period of the year lasts for 3.1 months, from June 15 to September 17. The least rain falls around July 31, with an average total accumulation of 0.0 inches (Weather Atlas 2021).

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the Project Area (Map No. 06021C0400D) shows that the Project Site is in unshaded Zone X, meaning that the area is outside of the 0.2 percent annual chance (500-year) floodplain (FEMA 2011).

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?	☐	☐	☒	☐

Less than significant.

In accordance with NPDES regulations, the State of California requires that any construction activity affecting 1 acre or more obtain a General Construction Activity Stormwater Permit (General Permit) to minimize the potential effects of construction runoff on receiving water quality. Performance standards for obtaining and complying with the General Permit are described in NPDES General Permit No. CAS000002, Waste Discharge Requirements, Order No. 2009-0009-DWQ.

Figure 4b. Site Paving Plan

General Permit applicants are required to submit to the appropriate regional board Permit Registration Documents for the Project, which include a Notice of Intent (NOI), risk assessment, site map, signed certification statement, an annual fee, and a SWPPP. The SWPPP includes pollution prevention measures (i.e., erosion and sediment control measures and measures to control non-stormwater discharges and hazardous spills), demonstration of compliance with all applicable local and regional erosion and sediment control standards, identification of responsible parties, and a detailed construction timeline. The SWPPP must also include implementation of BMPs to reduce construction effects on receiving water quality by implementing erosion control measures and reducing or eliminating non-stormwater discharges.

Examples of typical construction BMPs included in SWPPPs include, but are not limited to, using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; and installing sediment control devices such as gravel bags, inlet filters, fiber rolls, or silt fences to reduce or eliminate sediment and other pollutants from discharging to the drainage system or receiving waters. SWPPP BMPs are recognized as effective methods to prevent or minimize the potential releases of pollutants into drainages, surface water, or groundwater. Strict SWPPP compliance, coupled with the use of appropriate BMPs, would reduce potential water quality impacts during construction activities.

While there are no creeks, streams or rivers existing on the Project Site, there is an irrigation ditch on the northern perimeter of the Project Site to deliver water to adjacent agricultural fields when necessary (the ditches are predominately dry year-round). The proposed Maverik Fueling Center would be required to prepare and comply with an approved SWPPP. Compliance with this requirement would reduce the potential water quality impacts to less than significant.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

The City of Orland uses groundwater as the source for potable water in the city. This groundwater is extracted from the Colusa Groundwater Subbasin, part of the Sacramento Valley Groundwater Basin.

The Proposed Project would increase the demand for groundwater in the City. The City provides water use estimates based on housing unit equivalent (HUE), the amount of water a single-family home would use on a monthly basis. The average daily water demand per HUE is 571 gallons. The commercial HUE is 3,985 gallons per day (gpd), while the high-density residential HUE is 255 gpd (City of Orland 2015). Using this factor, the Proposed Project has the potential to result in a commercial water demand of 3,985 gpd. Based on these numbers, a total new groundwater demand for the Proposed Project would be 3,985 gpd or 1.45

million gallons per year. The Project's annual water demand represents 0.00003 percent² of the available groundwater in the Colusa Groundwater Subbasin. Therefore, the project would have a less than significant impact on groundwater supply.

Additionally, the Proposed Project would have the potential to remove a portion of the 5.56-acre site's potential groundwater recharge area due to the development of this area with impervious surfaces. However, according to the *Orland General Plan Update EIR* (City of Orland 2010b), the majority of groundwater recharge in the city comes from Stony Creek. Development of this area would not affect the recharge ability of Stony Creek. Therefore, the Project would have a less than significant impact on groundwater recharge.

Would the Project:	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;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
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	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☐	☒

Less than significant.

- i) No creeks, streams or rivers exist on or nearby the Project Site. As such, siltation of on- or offsite waterways would not occur.

The fueling center project construction activities would result in soil disturbances of at least one acre of total land area. As such, an NPDES Construction General Permit would be required prior to the start of construction. Excavation and grading activities associated with the Proposed Project will reduce vegetative cover and expose bare soil surfaces making these surfaces more

² 1.45 million gallons of project annual water demand/4.24 trillion gallons of water in the Colusa Groundwater Subbasin = 0.00003 percent.

susceptible to erosion. To comply with the requirements of the NPDES Construction General Permit, the Project applicant will be required to file an NOI with the State of California and 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. SWPPP 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; and
- Regular maintenance and storm event monitoring.

Note that the SWPPP is a *living* document and should 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 sediment transport offsite. This will reduce potential runoff, erosion, and siltation associated with construction and operation of the Proposed Project. The effects of the Proposed Project on onsite and offsite erosion and siltation, therefore, would be less than significant.

- ii) Implementation of the Proposed Project would alter the existing drainage patterns on the Site by adding an impermeable surface to portions of the Project Site. Impervious surfaces will allow stormwater to move more quickly through the Project Site, increasing the rate of runoff. However, all new development would be required to comply with city storm drainage regulations, including Policy 4.2.A.2 of the General Plan which requires that all new development projects be designed to avoid increases in peak storm runoff levels. Therefore, the Proposed Project would have a less than significant impact on causing flooding on- or offsite.

- iii) See discussion of Issues i) and ii), above. The nearest existing stormwater drainage facilities are located at the intersection of Commerce Lane/County Road HH and Ide Street/County Road 13 at the northeast corner of the Project Site. The Truck Service Center Site improvements include the construction of curbs, gutters and sidewalks along County Road HH and County Road 13 adjacent to the Project Site and the conversion of the existing canal at the northeast corner of the Project Site to an underground storm drainage facility. The Project Site would be graded to direct stormwater flows to existing and proposed drainage facilities. All future commercial development would be required to provide curbs, gutters and sidewalks along their street frontage as required by City code. Runoff from the Project Site is not expected to be of sufficient quantity to overwhelm existing and proposed stormwater drainage facilities. As such, this impact would be considered less than significant.

Activities associated with operation of the Proposed Project are not expected to generate substances that can degrade the quality of water runoff. While potential impacts could result from vehicles and other users at the Proposed Project Site during operation, all potential impacts to water quality would be reduced by stormwater pollution control measures and wastewater discharge BMPs required at the Project Site as a part of Project development and operation. Therefore, impacts during operation would be considered less than significant.

- iv) FEMA flood hazard maps (Map 06021C0400D) show that the 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

Would the Project:	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?	☐	☐	☐	☒

No impact.

The Project Site is not protected by levees from any flood hazard. There are no natural waterways on or near the Project Site. No large bodies of water exist near the Proposed Project Site. The Project Site is not located within a potential tsunami or seiche inundation area. Damage due to a seiche, a seismic-induced wave generated in a restricted body of water would not occur.

Dam failure, the collapse or failure of an impoundment that causes significant downstream flooding, is a potential hazard for Orland. Flooding of the area below the dam may occur as a result of structural failure of the dam or overtopping. The collapse and structural failure of a dam may be caused by a severe storm, earthquakes, or internal erosion of piping caused by embankment and foundation leakage. Larger dams whose waters could inundate significant portions of the City include the Shasta Dam in Shasta County and Black Butte Dam on Stony Creek. Black Butte Dam is subject to flooding the City of Orland Planning Area in approximately two hours as a result of a dam failure.

Black Butte Dam is a federal dam project and is owned, operated, and maintained by the USACE. USACE's dam safety professionals carry out a dam safety program which provides continuous assessment of the dam structure and operation. Therefore, an event such as the failure of Black Butte Dam has an extremely low probability of occurring and is not considered to be a reasonably foreseeable event. Based on the discussion above, there would be no impact in this area.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

The City of Orland is a participating member of the Glenn Groundwater Authority formed in 2017. However, the Groundwater Sustainability Plan is not anticipated to be completed until 2022 (Glenn County 2019). As such, the Project would have no impact to the groundwater management plan.

The Project Site is also located within the Water Quality Control Plan (Basin Plan) for the Central Valley Region - Sacramento River Basin (DWR 2018b). However, as stated under Item C) above, the Project is obliged to comply with water quality protection requirements of the NPDES Construction General Permit BMPs for construction and post-construction-related control of the Proposed Project Site runoff and sediment transport. Compliance with these requirements would eliminate the potential for conflicts with the water quality control plan. As such, the Project would have a less than significant impact in this area.

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 5.56-acre Site is within the Orland General Plan Commercial land use designation and identified for Highway Service Commercial uses in the General Plan. While the Proposed Project would result in a change in use from vacant land to commercial, this change has been considered by the City in the General Plan. Surrounding uses include a single-family home and Eagles Hall, Neville Road, a gas station, the Black Butte mobile home park, and rural residential uses to the north of the Project Site. To the east is Commerce Lane, the Pilot/Flying J truck stop, a gas station, RV park, a fast-food restaurant and other commercial uses, and rural residential uses and vacant land. To the west of the Project Site is rural residential uses and agricultural uses vacant land and to the south is vacant land, a portion of which is approved for development as a truck wash/truck service center and commercial use. See Figure 3 for surrounding uses.

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

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒

No impact.

The Project Site is located on the outer edge of the City limits and therefore would not divide an existing community. The Project would be accommodated by existing roadways and would not require construction of new roadways that would preclude access to the surrounding area. The Project would be consistent with the surrounding commercial development and with the C land use designation of the Project Site. As such, the Proposed Project would not physically divide an established community, and no impact would occur.

Would the Project:	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?	☐	☐	☐	☒

No impact.

As explained above, the Project is consistent with the City of Orland General Plan land use designations. The Project would rely on the General Plan policies and actions, especially those adopted to assist in the protection of the environment. As analyzed in each section of this IS/MND, the Project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. 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.

Stony Creek is located on the northern border of the City. Lower Stony Creek traverses its alluvial fan from Black Butte Dam to the Sacramento River, following one of three major fingers of gravelly soil that represent former channel courses. In-stream gravel mining has been particularly intensive in Lower Stony Creek. Generally, Stony Creek aggregates consist of stream channel deposits, including flood and over bank deposits in the upper reaches, and are classified as MRZ-2a (marginal reserves) (City of Orland 2010b). However, there is currently no mining activity occurring within, nor is it allowed in, the Project vicinity. Furthermore, the Orland General Plan does not identify any mineral resource zones within the City of Orland (City of Orland 2010a).

4.12.2 Mineral Resources (XII) 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 the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

No impact.

As discussed above, the City's existing General Plan does not identify any mineral resources in the Project vicinity, including on the Project Site. Therefore, no impacts would occur to mineral resources.

Would the Project:	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?	☐	☐	☐	☒

No impact.

The Project Site is not identified as a mineral resource recovery site in the Orland General Plan. 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.

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 six 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).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about five dBA (A-weighted decibels) (FHWA 2006), while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2011). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. [WEAL] 2000). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the *line of sight* between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the *line of sight* between the source and the receiver.

For more detailed information regarding the fundamentals of noise, see the Noise Assessment prepared for this IS/MND (*Attachment 4.13*).

4.13.1.2 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, southwestern, and northwestern Project Site boundary with the closest being approximately 50 feet distant.

4.13.1.3 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.

4.13.1.4 Existing Ambient Noise Environment

The most common and significant source of noise in the City of Orland is mobile noise generated by transportation-related sources. Other sources of noise are the various land uses (i.e., industrial facilities, agricultural uses, residential and commercial) that generate stationary-source noise. The Project Site is bound by residences and Newville Road to the north, Commerce Lane and the Pilot Travel Center truck stop to the east, undeveloped land to the south, and agricultural land to the west. As shown in Table 3-1 of *Attachment 4.13*, the ambient recorded noise levels range from 52.4 dBA to 66.7 dBA L_{eq} near the Project Site. See *Attachment 4.13* for further details regarding baseline noise measurement sites.

4.13.2 Noise (XIII) 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 generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐

Less than significant with mitigation incorporated.

4.13.2.1 Project 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 3-4 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.

Nearby noise-sensitive land uses consist of residences adjacent to the northern, southwestern, and northwestern Project Site boundary with the closest being approximately 50 feet distant. The residences located on the northern Project Site boundary are located within the City limits while the remaining nearby noise-sensitive land uses are located within the unincorporated County. The City and County both limit the time that construction can take place but do not promulgate numeric thresholds pertaining to the noise associated with construction. Specifically, Policy 6.1.I of *Orland General Plan* states that noise associated with construction activities shall be exempt from the City's noise standards. Further, Policy 6.1.J states that construction activities shall be limited to the hours of 7:00 a.m. to 5:00 p.m. unless an exemption is received from the City to cover special circumstances. Similarly, Chapter 15.560.100 of Glenn County's Municipal Code exempts construction noise as long as it takes place between 7:00 a.m. and 7:00 p.m. Due to the fact that construction of the Proposed Project will be occurring in the City of Orland and the City's limit on construction timing is more stringent, the City's construction noise standard is the most applicable to the Project. It is typical to regulate construction noise with time limits as opposed to numeric noise thresholds since construction noise is temporary, short term, intermittent in nature, and would cease on completion of the Project. Furthermore, the City of Orland is a developing urban community and construction noise is generally accepted as a reality within the urban environment.

Additionally, construction would occur through the Project site and would not be concentrated at one point.

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 (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 US 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 site preparation, grading, building construction, vapor recovery tank installation, 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 250 feet distant from the nearest sensitive receptor. The anticipated short-term construction noise levels generated for the necessary equipment is presented in Table 4.13-1.

Table 4.13-1. Construction Average (dBA) Noise Levels at Nearest Receptor - Project Site			
Equipment	Estimated Exterior Construction Noise Level at Nearest Residences	Construction Noise Standards (dBA L_{eq})	Exceeds Standards?
Site Preparation			
Tractors/Loaders/Backhoes (2)	66.0 (each)	85	No
Combined Site Preparation Equipment	69.1	85	No
Grading			
Excavators (1)	62.8	85	No
Graders (2)	67.0 (each)	85	No
Combined Grading Equipment	70.8	85	No
Building Construction			

Table 4.13-1. Construction Average (dBA) Noise Levels at Nearest Receptor - Project Site			
Equipment	Estimated Exterior Construction Noise Level at Nearest Residences	Construction Noise Standards (dBA L_{eq})	Exceeds Standards?
Tractors/Loaders/Backhoes (2)	66.0 (each)	85	No
Rough Terrain Forklifts (2)	65.4 (each)	85	No
Other Construction Equipment (4)	68.0 (each)	85	No
Combined Building Construction Equipment	76.1	85	No
Vapor Recovery Instillation			
Crane (1)	58.6	85	No
Other Construction Equipment (1)	68.0	85	No
Tractors/Loaders/Backhoes (3)	66.0 (each)	85	No
Excavators (1)	62.8	85	No
Trenchers (1)	58.2	85	No
Combined Vapor Recovery Instillation Equipment	73.4	85	No
Paving			
Pavers (1)	60.2	85	No
Paving Equipment (2)	68.5 (each)	85	No
Surfacing Equipment (2)	68.5 (each)	85	No
Tractors/Loaders/Backhoes (2)	66.0 (each)	85	No
Combined Paving Equipment	75.8	85	No
Painting			
Other Painting Equipment (2)	68.0 (each)	85	No
Combined Painting Equipment	71.0	85	No

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Attachment 4.13 for Model Data Outputs.

Notes: Construction equipment used during construction derived from the Project applicant. Consistent with FTA recommendations for calculating construction noise, construction noise was measured from the center of the Project Site (FTA 2018), which is 250 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 4.13-1, during construction activities no individual or cumulative piece of construction equipment would exceed the NIOSH threshold of 85 dBA L_{eq} at the nearest potential receptors to onsite construction 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 as well as at the point closest to residences.

4.13.2.2 Project Operations Noise

As previously described, noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise-sensitive and may warrant unique measures for protection from intruding noise. The nearest existing noise-sensitive land uses to the Project Site are residential properties adjacent to the northern, southwestern, and northwestern Project Site boundary with the closest being approximately 50 feet distant.

Operational noise sources associated with the Proposed Project include mobile and stationary (i.e., truck loading and idling, internal circulation, drive thru activity, gas station activity and traffic) sources.

Operational Offsite Traffic Noise

Future traffic noise levels through the Project vicinity were modeled based on traffic volumes identified by KD Anderson & Associates, Inc (2021) to determine the noise levels along Project vicinity roadways. Table 4.13-2 shows the calculated offsite roadway noise levels under existing traffic levels compared to future traffic levels resulting from buildout of the Project. The calculated noise levels as a result of the Project at affected sensitive land uses are compared to the maximum allowable noise exposure for transportation noise sources as identified in the Glenn County General Plan (60 dBA L_{dn} at residences) or the City of Orland Noise Standards (60 – 65 dBA L_{dn} at residences), as applicable. For roadways that span both jurisdictions, the most stringent noise standard (60 dBA L_{dn} at residences) was applied.

Table 4.13-2. Existing Plus Project Conditions Predicted Traffic Noise Levels					
Roadway Segment	Surrounding Uses	L _{dn} 100 feet from Centerline of Roadway		Standard	Exceed Standard?
		Existing Conditions	Existing + Project Conditions		
Commerce Lane					
South of County Road 13	Residential and Undeveloped/Farmland (City of Orland & Unincorporated Glenn County)	47.1	47.9	60 dBA L _{dn}	No
North of Newville Road	Residential (City of Orland)	50.7	51.1	60 – 65 dBA L _{dn}	No
County Road 13					
West of Commerce Lane	Residential and undeveloped/farmland (Unincorporated Glenn County)	30.9	31.3	60 dBA L _{dn}	No
Newville Road					
West of Commerce Lane	Residential (City of Orland & Unincorporated Glenn County)	55.6	56.0	60 dBA L _{dn}	No

Source: Traffic noise levels were calculated by ECORP using the FHWA roadway noise prediction model in conjunction with the trip generation rate and fleet mix identified by KD Anderson & Associates, Inc. 2021. Refer to *Attachment 4.13* for traffic noise modeling assumptions and results.

Notes: A total of 8 intersections were analyzed in the Traffic Impact Study; however, only roadway segments that impact sensitive receptors were included for the purposes of this analysis. Interstate 5 traffic counts were not analyzed as a large majority of the trips generated by the Project are considered pass-by and would already be traversing the interstate. Additionally, due to the high number of vehicles on I-5 that currently traverse the Project Area, there would be no noise impact as a result of minimal increased traffic due to the Project.

As show in Table 4.13-2, predicted increases in traffic noise levels associated with the Project would be less than the thresholds for the City of Orland and Glenn County. Additionally, all roadways would experience noise level increases of less than a 3 dBA as a result of Project traffic. As previously stated, a 3-dBA increase is considered just-perceptible to the human ear. Thus, the increase in traffic noise as a result of Project traffic would be largely unnoticed on area roadways.

Operational Onsite Stationary Noise

The main stationary operational noise associated with the Project would be activities occurring on the Project Site. Such activity would include gas station operations (i.e., refueling, internal circulation, vehicle doors opening and closing, stereos), activity occurring at the convenience store and fast-food restaurant such as truck deliveries and parking lot activity, noise associated with the drive thru such as idling cars and the drive thru speaker, and other miscellaneous onsite noise-producing activity. Onsite Project operations have been calculated using the SoundPLAN 3D noise model. The results of this model can be found in

Attachment 4.13. Table 4.13-3 shows the predicted Project noise levels at six locations in the Project vicinity, as predicted by SoundPLAN. Two of these locations (Site Locations 1 & 6) correspond with the locations where existing baseline noise measurements were taken (see Table 3-1 of *Attachment 4.13*), while the additional four locations are receptors in close proximity to the Project Site, which will be affected by Project operations. Additionally, a noise contour graphic (Figure 5) has been prepared to provide a visual depiction of the predicted noise levels in the Project vicinity from Project operations.

Table 4.13-3. Unmitigated Modeled Operational Noise Levels				
Site Location	Location	Modeled Operational Noise Attributed to Project (L_{eq} dBA)	County/City Standard Day/Night (L_{eq} dBA)	Exceed Standard?
1	Approximately 295 feet west of the Commerce Lane/County Road 13 intersection	41.5	50/45	No/No
2	Residence southwest of Project Site	40.6	50/45	No/No
3	Residence northwest of Project Site	45.1	50/45	No/Yes
4	Residence North of Project Site	46.5	50/45	No/Yes
5	Moose Lodge North of Project Site	44.0	55/NA	No/No
6	40 feet west of address 6319 Newville Road and across from address 6371	40.1	50/45	No/No

Source: Stationary source noise levels were modeled by ECORP using SoundPLAN 3D noise model. Refer to *Attachment 4.13* for noise modeling assumptions and results.

As shown in Table 4.13-3, predicted Project noise levels would range from 40.1 to 46.5 dBA L_{eq} during Project operations. The loudest noise levels at a sensitive noise receptor, Site Location 5 located in the City of Orland, has the potential to be as high as 46.5 dBA L_{eq} during some Project activities. It is noted that the modeled noise levels identified are a worst-case scenario. Not all events taking place on the Project Site would generate as much noise as predicted. The City of Orland and Glenn County's Noise Level Standards for non-transportation related uses are 50 dBA L_{eq} during the daytime activities (7:00 a.m. to 10:00 p.m.) and 45 dBA L_{eq} during the nighttime activities (10:00 p.m. to 7:00 a.m.). Per information provided by the Project applicant, the facilities on the Project Site (i.e., gas station, convince store and fast-food restaurant with drive thru) are anticipated to operate 24-hours a day. Thus, noise as a result of Project operations would exceed the nighttime noise standard for residential uses at Site Location 3, located in the City of Orland, and Site Location 4, located in Glenn County.

As such, the construction of a sound wall on the northern and western Project Site boundary, presented as Mitigation Measure **NOI-1**, is necessary to reduce noise as a result of Project operations, specifically for nighttime noise standards. Mitigation Measure **NOI-1** is described in detail below:

Figure 5. Unmitigated Modeled Operational Noise Levels

4.13.3 Mitigation Measure

NOI-1: The Project improvement and building plans shall include the following requirements for operational activities:

The required sound wall shall span the northern and western Project Site boundary and must be at least 6 feet in height in order to break the *line of sight* between the Project Site and adjacent residents. The wall shall be constructed of CMU block, mortared masonry, stucco, gypsum board, or material of similar density, use or comparable acoustic ratings. All walls shall be sealed airtight, free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces.

Timing/Implementation: Prior to the issuance of Occupancy Permits

Enforcement/Monitoring: City of Orland Planning Department

Table 4.13-4 shows the predicted Project mitigated noise levels at all six locations listed in Table 4.13-3 with the construction of a 6-foot sound wall encompassing the northern and western Project Site boundary. Additionally, a noise contour graphic (Figure 6) has been prepared to provide a visual depiction of the predicted noise levels in the Project vicinity from Project operations with Mitigation Measure **NOI-1** imposed.

Table 4.13-4. Mitigated Modeled Operational Noise Levels				
Site Location	Location (Jurisdiction Noise Standard)	Mitigated Modeled Operational Noise Attributed to Project (L_{eq} dBA)	County/City Standard Day/Night (L_{eq} dBA)	Exceed Standard?
1	Approximately 295 feet west of the Commerce Lane/County Road 13 intersection	41.5	50/45	No/No
2	Residence southwest of Project Site	40.3	50/45	No/No
3	Residence northwest of Project Site	42.5	50/45	No/No
4	Residence North of Project Site	44.6	50/45	No/No
5	Moose Lodge North of Project Site	44.9	55/n/a	No/No
6	40 feet west of address 6319 Newville Road and across from address 6371	39.6	50/45	No/No

Source: Stationary source noise levels were modeled by ECRP Consulting using SoundPLAN 3D noise model. Refer to Attachment D for noise modeling assumptions and results.

As shown in Table 4.13-4, with the implementation of Mitigation Measure **NOI-1**, noise as a result of Project operations would be below the City and County daytime and nighttime noise standards.

Figure 6. Mitigated Modeled Operational Noise Levels

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

4.13.3.1 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 4-2 of Attachment 4.13.

The City does not regulate vibrations associated with construction. The Glenn County Municipal Code, Section 15.560.130, states that vibration associated with construction are exempt from the County's standards (Glenn County 2021). However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2020b) recommended standard of 0.2 inches per second PPV with respect to the prevention of structural damage for older residential 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 250 feet west of the Project Site center.

Based on the representative vibration levels presented for various construction equipment types in Table 5-5 of Attachment 4.13 and the construction vibration assessment methodology published by the FTA (2018), it is possible to estimate the potential Project construction vibration levels. The FTA provides the following equation:

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

Table 4.13-5 Construction Vibration Levels at 250 Feet							
Receiver PPV Levels (in/sec)¹					Peak Vibration	Threshold	Exceed Threshold
Large Bulldozer, Caisson Drilling, & Hoe Ram	Loaded Trucks	Jackhammer	Small Bulldozer	Vibratory Roller			
0.00281	0.00240	0.00110	0.00009	0.00664	0.00664	0.2	No

Notes: ¹Based on the Vibration Source Levels of Construction Equipment included on Table 5-5 of Attachment 4.13 (FTA 2018). Distance to the nearest structure of concern is approximately 315 feet measured from Project Site center.

As shown in Table 4.13-5, 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.

4.13.3.2 Operational Groundborne Vibration

Project operations would not include the use of any stationary equipment that would result in excessive groundborne vibration levels. A less than significant impact would occur.

Would the Project:	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?	☐	☐	☐	☒

No impact.

The Project Site is located approximately four miles northwest of the Haigh Field Airport. According to Figure 6-1 of the City's General Plan, *Orland Haigh Field Airport Noise Contour Lines*, the Project Site is located outside of the 55 CNEL Noise Contour. Thus, the Proposed Project would not expose people working on the Project Site to excess airport noise levels. No impact would occur.

4.13.4 Mitigation Measures

NOI-1: The Project improvement and building plans shall include the following requirements for operational activities:

The required sound wall shall span the northern and western Project Site boundary and must be at least 6-feet in height in order to break the “line of sight” between the Project Site and adjacent residents. The wall shall be constructed of concrete masonry unit block, mortared masonry, stucco, gypsum board, or material of similar density, use or comparable acoustic ratings. All walls shall be sealed airtight, free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces.

Timing/Implementation: Prior to the issuance of Occupancy Permits

Enforcement/Monitoring: City of Orland Planning Department

4.14 Population and Housing

4.14.1 Environmental Setting

According to the California Department of Finance (DOF), which provides estimated population and housing unit demographics by year throughout the state, the City’s population increased 17.0 percent between 2010 and 2021, from 7,291 to 8,527. DOF estimates that there were 3,122 total housing units in the City, and a 4.7 percent vacancy rate as of January 1, 2021. The average household size was estimated to be 2.86 persons per household during the same time period. (DOF 2021).

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)?	☐	☐	☐	☒

No impact.

No new roads or extensions of existing roads are proposed. The Project does not include the construction of any new homes and only a slight increase of employment opportunities. Therefore, direct or indirect increases in population growth would not occur as a result of the Proposed Project.

Would the Project:	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?	☐	☐	☐	☒

No impact.

The Project Site is a vacant lot. No residences would be removed as a result of the Proposed Project. The Project would not result in the displacing of any persons. The Project would have no impact on persons or housing.

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 a response time. For example, the Orland General Plan Policy PFS-8.11 provides a Police Department staffing ratio of 1.9 officers per 1,000 population. Further, in 2003, the Orland City Council set the park dedication standard at 8.4 acres per 1,000 residents. Finally, the average response time for fire protection and emergency medical services in Orland is 3-5 minutes for arrival at the station, approximately one minute to prepare and leave the station, and an additional two to three minutes to the actual call site (City of Orland 2010b).

4.15.1.1 Fire Services

The City of Orland Volunteer Fire Department (OVFD) provides fire protection and emergency medical response to the Project Site. OVFD responds to various emergency and non-emergency incidents including, but not limited to, all types of fire; medical emergencies; public assists and hazardous situations. As of January 2021, the OVFD has 46 volunteers along with a part-time office assistant that is shared with the police department (OVFD 2019). There were 582 calls, 285 within the city limits and 29 mutual aid calls in 2020. (City of Orland 2021a). The City's Fire Station is located at 810 Fifth Street, approximately 0.8 mile east of the Project Site.

4.15.1.2 Police Services

The Orland Police Department (OPD) provides law enforcement services to the Project Site. OPD reported total calls for service was 2,686 in 2018 and arrests had increased to 458; 33 were Driving-Under-the-

Influence-related and 1/3 were a combination of drugs and alcohol (City of Orland 2018a). The OPD has patrol service 24 hours a day. The Police Department also offer the following services: certified child seat installation, free bike helmets, Alice Training (Active Shooter Training), and Volunteers in Polices Services Program. The OPD hired two additional patrol officers in 2018, however two new additional officers, one Community Service Officer, a Lieutenant or additional Sergeant position, a full-time Narcotics Task Force officer and a full-time School Resource Officer are planned for the future (City of Orland 2018a). As of January 2021, there are 11 officers, two full-time non-sworn and one part-time non-sworn staff members (City of Orland 2021b). The City's police station is located at 817 Fourth Street, approximately 0.9 mile east of the Project Site.

4.15.1.3 Schools

The Orland Unified School District (OUSD) provides educational services for the City of Orland. The District has two elementary schools (one for grades K-2 and one for grades K-5), one middle schools (grades 6-8), one high school (grades 9-12), and one continuation high school, one community day school (OUSD 2021a). The District had 2,231 students in the 2019-2020 school year (OUSD 2021b). According to the California Department of Education, (DOE), the City also has one private school, the Providence Christian School (DOE 2021).

4.15.1.4 Parks

The City of Orland has six parks ranging in size from 0.26 to 23 acres for a total acreage of 47.35 acres (City of Orland 2021c). Based on the DOF 2021 estimated City population of 8,527, the City's parkland to population ratio is 5.6 acres of parks/1,000 population³.

4.15.1.5 Other Public Facilities

Other public facilities include Orland City Hall, the Orland Free Library, and the Orland Recreation Center which is located in Lely Park. Orland City Hall, located at 815 Fourth Street, accommodates the city administration, building, planning and public works departments and City Council chambers. The Orland Free Library, located at 333 Mill Street, is part of the Glenn County Public Library system and is open Monday through Saturday. The Recreation Center features a full-size indoor gym and offers many different programs year-round such as basketball games, summer camps, tiny tots tumbling, volleyball, pickleball, and exercise classes.

³ 47.35 acres of parks/(8,527/1,000) population = 5.59 acres of parks/1,000 population.

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:	☐	☐	☒	☐
Fire Protection?	☐	☐	☒	☐
Police Protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other Public Facilities?	☐	☐	☐	☒

Less than significant.

4.15.2.1 Fire Protection

The Project Site is located approximately 0.6 mile from the City's fire station. The Project Site is currently served by the City for fire protection and the devolvement of the truck service center or future commercial endeavors would not increase the response time required for the OVFD. While additional OVFD oversight may be required for future commercial uses at the Project Site, the Project would not require additional fire facilities to serve the commercial uses. The Proposed Project would not require any additional OVFD facilities and is not anticipated to create an additional burden on existing fire facilities. Therefore, the Project would have a less than significant impact in this area.

4.15.2.2 Police Services

The Proposed Project would not result in a significant increase in demand for police protection resulting in new or expanded police facilities. Police facilities and the need for expanded facilities are based on the staffing levels these facilities must accommodate. Police staffing levels are generally based on the population/police officer ratio, and an increase in population is usually the result of an increase in housing or employment. The proposed truck service center would result in minimal employment opportunities. Because of the limited square footage possible for future commercial uses on the adjacent parcels, development of these uses would also result in would result in minimal employment opportunities.

Because the Proposed Project would neither increase the population nor result in substantial employment gains, the Proposed Project would not result in the need for increase in police protection or police facilities. Therefore, the Proposed Project would have a less than significant impact in this area.

4.15.2.3 Schools

The Proposed Project is the development of a fueling center, fast food restaurant and convenience store. Because the Proposed Project would not increase the population or result in substantial employment gains, an increase of student population in Orland would not occur nor would require additional educational facilities. Therefore, the Proposed Project would have no impact in this area.

4.15.2.4 Parks

As stated previously, the need for additional parkland is primarily based on an increase in population to an area. Given that the Proposed Project would not increase the City's population, the Project would not burden any parks in the surrounding area beyond capacity by generating additional recreational users. Therefore, the Proposed Project would not require the construction or expansion of park and recreational facilities and would also not result in an increase in demand for parks and recreation facilities in the surrounding area. There would be no impact to parks from construction of the Proposed Project.

4.15.2.5 Other Public Facilities

The Proposed Project does not result in an increase in housing or population in the city resulting in an increased use of other public facilities such as the Orland Free Library, the Recreation Center, or City Hall. Therefore, the Project would have no impacts on other public facilities.

4.15.3 Mitigation Measures

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

4.16 Recreation

4.16.1 Environmental Setting

As stated previously, the City has 47.35 acres of parkland and a community recreation center. Additionally, the City also provides recreational programs, such as adult and youth sports leagues for the enjoyment of city residents. Regional recreation areas in the city or within 10 miles of the city include the Glenn County Fairgrounds, the Sacramento River, and the Black Butte Lake Recreation Area.

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?	☐	☐	☐	☒

No impact.

As stated previously, the need for additional parkland is primarily based on an increase in population to an area. Given that the Proposed Project would not increase the City's population, the Project would not burden any parks in the surrounding area beyond capacity by generating additional recreational users. Therefore, the Proposed Project would not increase the use of park and recreational facilities resulting in substantial physical deterioration of the facility. There would be no impact to recreational facilities from construction of the Proposed Project.

Would the Project:	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?	☐	☐	☐	☒

No impact.

The Proposed Project is a commercial development. No recreational facilities are a part of the Project. The Proposed Project would have a no impact in this area.

4.16.3 Mitigation Measures

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

4.17 Transportation

4.17.1 Environmental Setting

A traffic impact analysis memorandum (TIA) was prepared for the Proposed Project on October 20, 2021, by KD Anderson & Associates, Inc. This TIA is included as *Attachment 4.17* of this IS/MND and provides information for the following sections. The TIA indicates that the Proposed Project would be expected to generate 4,708 daily trips with 391 a.m. peak hour trips and 417 p.m. peak hour trips (gross). However, a share of the trips associated with retail uses are typically drawn from the stream of traffic already near the

Project Site by customers who stop on their way as part of another trip. Excluding pass-by trips, the Project would yield 1,994 net new daily Project trips with 159 a.m. and 189 p.m. peak hour net new primary trips.

4.17.2 Regulatory Setting

4.17.2.1 City of Orland 2010 General Plan

The Proposed Project will be served by several major roadways. Regional access is provided by I-5 and SR 32, which link the Project Site with the other Northern California communities to the north and south and with the City of Orland to the east. Local access to the Project Site is provided via Newville Road and County Road HH. The City of Orland General Plan contains the following transportation goals and policies related to construction and operation of commercial development, which may result from the Proposed Project:

Goal 3.2. Establish a system of safe and efficient local, collector, and arterial roads to reduce travel time and improve traffic safety that is consistent with the land use patterns of the City.

Policy 3.2.E: New development shall be required to mitigate traffic impacts associated with the project.

- *Program 3.2.E.1: Traffic studies of affected streets may be required as part of the environmental assessment of proposed projects to assure citywide traffic service levels are maintained.*
- *Program 3.2.E.2: Traffic studies shall include level-of-service forecasts to account for individual and cumulative major land use changes in the City. Level-of-service forecasts shall be used to identify deficient roadways and update street improvement plans and priorities.*

Policy 3.2.F: The City shall promote an active policy of consolidating driveways, access points and curb cuts along existing developed Arterial streets when a zone change to a greater density or intensity, division of property, or new development or a major remodeling occurs. The use of common driveways may be required as a condition for obtaining an encroachment onto a City dedicated road.

Policy 3.2.J: The City shall work with commercial and industrial uses to improve access to road and rail service to facilitate economic development activities.

Goal 3.2: Formulate and adopt circulation design and improvement standards that require a level of service consistent with the demands generated by proposed development, public safety, and the efficient use of public and private resources and which are uniformly applied in the Orland Planning Area.

Policy 3.3.A: The City shall construct street and highway improvements to maintain an overall daily roadway level of service of "C" with an a.m. and p.m. peak-hour roadway and intersection level of service of "D" or better, unless other public health, safety, or welfare factors determine otherwise.

Goal 3.4: *Achieve a coordinated regional and local transportation system that minimizes traffic congestion and efficiently serves users.*

- *Program Cl.4.F: New development shall provide improvements as needed to avoid creating significant traffic impacts on streets surrounding the proposed project.*

Traffic impacts are considered significant if they result in traffic that exceeds the Level of Service (LOS) thresholds (LOS C) for roadway segments based on maximum daily traffic volume, as defined below:

- Local: Greater than 3,600 ADT;
- Minor Collector: Greater than 6,400 ADT
- Major Collector: Greater than 10,160 (15,240 with the inclusion of future second eastbound lane promulgated from Flying J DEIR or by adding a second southbound lane on Commerce Street)
- Arterial: Greater than 12,000 ADT for two lanes; greater than 18,000 for two lanes (with the inclusion of future second eastbound lane promulgated from Flying J DEIR or by adding a second southbound lane on Commerce Street; and greater than 24,000 for four lanes.

Consistent with the City's policies, the TIA considered LOS C as the standard threshold acceptable operations for any roadway under the City of Orland jurisdiction.

4.17.2.2 Caltrans LOS Guidelines

The Caltrans guide *Preparation of Traffic Impact Studies* (dated December 2002) states the following:

Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not be always feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.

Therefore, the TIA considered LOS C and better to be an acceptable standard threshold, and LOS D and worse is considered unacceptable at intersections along SR 32. The *Guide for the Preparation of Traffic Impact Studies* specifies application of these criteria to signalized intersections. The document does not specify a minimum acceptable LOS for unsignalized intersections. However, for the purpose of this analysis, the TIA has applied the aforementioned criteria to unsignalized intersections as well.

4.17.2.3 Transit Service

Public transportation bus service is provided to the City of Orland through Glenn Ride, a transit service provided by Glenn County. It is a fixed-route bus system with seven round trips every weekday and three round trips on Saturday from Willows to Chico. There are currently eight bus stops in Orland serviced by Glenn Ride, which conducts seven runs daily from 5:46 a.m. to 5:48 p.m. Monday thru Friday, with three

runs on Saturday. The stop closest to the Proposed Project is across I-5 at the 9th Street/Newville Road intersection (i.e., CVS Pharmacy & Burger King).

4.17.2.4 Pedestrian and Bicycle Facilities

City standards require sidewalks along all improved streets except in the industrial areas. The City has several plans and projects underway to increase pedestrian facilities throughout the city including a multi-use path along Stony Creek and within the rights-of-way of underground canals for pedestrian and bicycle use. There are presently no formally designated bicycle lanes or bicycle facilities in the vicinity of the Project Site. However, bike lanes have been installed elsewhere in the City of Orland, and the City acknowledges the need to move people throughout the community. The *Glenn County Active Transportation Plan* (Glenn County 2019) does not identify the need for future bicycle facilities across or west of I-5.

4.17.3 Transportation (XVII) Environmental Checklist and Discussion

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

4.17.3.1 Traffic Operations Analysis

Traffic volumes associated with the Proposed Project were estimated by superimposing Project trips onto current background traffic. Figure 5 of the TIA presents Existing Plus Project a.m. and p.m. peak hour traffic volumes at study locations. SR 32, particularly the roadway segment within the City and the vicinity of the Project (also known as Newville Road), is identified in the City's General Plan as a two lane/four lane arterial roadway. The TIA indicates that the Proposed Project would be expected to generate 4,702 daily external trips, of which 2,708 were either pass-by or diverted linked trips, leaving a total of 1,994 primary trips. Based on the 2019 Caltrans Highway Volume data, the segment of Newville Road (SR 32 east of the I-5 interchange) has average ADT traffic volumes of 9,700 vehicles. The *State Route 32 Transportation Concept Report* identified the current daily traffic volume east of I-5 at 9,752 trips, which is in line with recent peak hour counts.

Based on its location, many of the trips associated with these highway commercial uses will be drawn from the stream of traffic passing the Project Site on I-5 or SR 32. Trips would be expected to be drawn from existing traffic on state highways, but a share of the Project's automobile traffic may originate in Orland. Some trips could also be drawn from the traffic already visiting the Flying J. The Project would create few new *primary* trips on I-5. However, as shown in Figure 5 of the TIA, the addition of Project-generated traffic results in longer delays at the study intersections on Newville Road and SR 32. As

indicated in Table 11 of the TIA, the LOS at one study area intersection will be changed to an unacceptable level by the Proposed Project. While LOS D at the SR 32/I-5 SB ramps intersection exceeds Caltrans goal, it satisfies the Orland General Plan standard. However, under current CEQA guidelines, exceeding the LOS standard is no longer considered to result in a traffic impact.

Improvements to deliver LOS C were identified. At the SR 32/I-5 SB ramps intersection widening the off ramp to provide a separate right-turn lane would not deliver LOS C, and a traffic signal would be needed. Both of these improvements have been identified in other traffic studies as being needed under cumulative conditions and included in the City's traffic impact fee program. Installation would produce conditions that satisfy minimum City General Plan LOS standards. Therefore, this impact is less than significant.

Traffic Signal Warrants

Projected traffic volumes at the Newville Road/Commerce Lane intersection and at the SR 32/I-5 SB ramps intersection would satisfy peak hour traffic signal warrants with the addition of Project traffic. A traffic signal is needed at the Newville Road/Commerce Lane intersection. However, at the I-5 SB ramps intersection, adding a southbound right-turn lane would result in a combination of major and minor street approach volumes that did not satisfy warrants.

Transit Service and Facilities

Glenn Ride operates on Newville Road across I-5 from the Proposed Project. The Proposed Project neither physically disrupts an existing transit service or facility nor interferes with implementation of a planned transit service or facility. The traffic operational analysis indicates that the Proposed Project's traffic contribution to roads that are used by Glenn Ride would increase delays at intersections slightly but would be too small to result in increased travel time for busses that adversely effect on-time performance. Some customers and employees of the Proposed Project could elect to use Glenn Ride, and as the closest stop is 2,500 feet away, the Project would not likely result in increased transit ridership demands that result in passenger loads that exceed vehicle loading standards. As the Project access is not adjacent to any transit facility, the Project does not result in increased potential for safety conflicts involving transit vehicles and other modes of travel. Therefore, the Proposed Project's impacts to transit service and facilities is not significant.

Bicycle Facilities

The Proposed Project does not interfere with use of any existing bicycle facility. The Proposed Project does not interfere with implementation of a bicycle facility identified in the *Glenn County Active Transportation Plan* (2019). Some Project employees and customers might elect to ride bicycles to the Project Site; those cyclists would share local roads with automobiles. Based on current observed use, this would not result in a significant increase in bicyclists on a facility that does not have adequate bicycle facilities, such that conflicts between bicyclists and other travel modes are likely to increase. Therefore, the Project's impact to Bicycle Facilities is not significant.

Pedestrian Facilities

It is possible employees or customers of this Proposed Project will elect to walk to and from the Project Site to the other businesses and residences, either across Commerce Lane or across I-5. There are sidewalks on the east side of Commerce Lane and a route is available across I-5 to sidewalks in Orland. The Project is required to provide sidewalks along the Project Site frontage. Additionally, crosswalks will be installed as a part of future signalization of the Commerce Lane/Newville Road intersection. The Proposed Project does not physically disrupt an existing pedestrian facility nor interfere with implementation of a planned pedestrian facility. The Proposed Project does not result in an increased presence of vehicles and/or pedestrians on a facility that does not have adequate pedestrian facilities, such that conflicts between pedestrians and other travel modes are likely to increase. Therefore, with regard to the identified crossings, the Proposed Project's impact to Pedestrian Facilities is not significant.

Impacts to Safety on State Highways

According to the TIA, the Proposed Project will add traffic to I-5 and its ramps onto SR 32. As shown in Table 12 of the TIA, Proposed Project traffic would not result in queues that extend back along the ramps to mainline I-5. However, Proposed Project traffic would result in satisfaction of peak hour traffic signal warrants at the I-5 SB ramps/SR 32 intersection, and therefore the Proposed Project's impact with regard to safety of state facilities is significant. However, improvements to the SR 32/I-5 SB ramp intersection are included in the City of Orland's Traffic Impact Fee program. In order to maintain and improve traffic circulation at the I-5 SB ramp/SR 32 intersection a separate right-turn lane may be constructed on the off-ramp; projected traffic volumes would no longer satisfy peak hour traffic signal warrants with this improvement. Turn lane construction should accommodate truck turning requirements at the Newville Road connection, and if possible that work should incorporate lengthening of the westbound left-turn lane approaching Commerce Lane. The Project is currently in discussions with Caltrans for these improvements as they are state facilities. However, as stated previously, under current CEQA guidelines, roadway impacts as a result of a project's traffic is no longer considered a CEQA impact.

Traffic Safety Effects

The adequacy of the study area circulation system has been evaluated with regard to the need for left-turn lane channelization on Commerce Lane (County Road HH) at the new Project Site access and the adequacy of truck circulation and safety impacts.

Commerce Lane Left Turn Channelization. The Project will result in automobiles turning into and out of the Project Site via access on Commerce Lane. The City of Orland required that the Flying J respond to that activity on Commerce Lane by widening the road to provide a separate southbound left-turn lane at the County Road 13 intersection and by constructing its frontage improvements at a location that would permit the future development of a continuous Two-Way Left-Turn (TWLT) lane on Commerce Lane.

Development of the Project will create similar turning movements, and projected traffic volumes create the need for a continuous TWLT lane on Commerce Lane from Newville Road to County Road 13. This lane can be provided with the standard frontage widening to the planned ultimate section that will be required by the City of Orland.

Truck Entrance Location/Design. The primary truck entrance is located immediately adjacent to the Newville Road intersection. This position permits large trucks to proceed directly into the Project Site as they leave the westbound left-turn lane at the intersection. When final improvements plans are completed, it will be necessary to review the paths of entering trucks and following automobiles headed to other destinations to ensure that following vehicles can quickly pass trucks proceeding slowly into the Project Site and widening of Commerce Lane in the area of the access may be needed. This work would be consistent with the improvement needed under cumulative conditions (i.e., second SB travel lane from Newville Road to point opposite the northern Flying J access).

The primary truck entrance is intended to provide in and out right-turn only access. This limitation will be important due to the proximity to the Newville Road intersection and due to potential conflicts between Project Site traffic and motorists accessing the nearby Flying J driveway. A physical barrier to enforce the left-turn prohibition will be needed. This feature may be installed in the center left-turn lane on Commerce Lane, but the extent to which this feature affects access to the north Flying J driveway will need to be determined.

Westbound left-turn lane on Newville Road at Commerce Lane. The westbound left-turn lane approaching the Commerce Lane intersection is roughly 160 feet long. With the implementation of a traffic signal, the lane will need to be lengthened. This can be accomplished with minor widening on the north side of Newville Road by moving the striped bay taper and transition area to the east.

I-5 Off Ramp Queues. Table 12 of the TIA identifies the length of queues on the I-5 off ramps. As indicated, the Proposed Project does not cause the queues to extend to the point at which traffic would reach mainline I-5 and cause a safety impact.

In regard to the cumulative impacts associated with operations of the Proposed Project and future development in the area west of I-5, including the construction of an approved 80-room hotel immediately south of the Project Site, the Project is anticipated to maintain the City's minimum LOS D standard at all but one of the Project study intersections. The Newville Road/I-5 SB ramp intersection is projected to operate at LOS E. Adding the southbound right-turn lane would yield LOS E. A traffic signal with the right-turn lane would yield LOS C. However, as stated previously, under current CEQA guidelines, roadway impacts as a result of a project's traffic is no longer considered a CEQA impact.

In conclusion, the Project developer is required to pay the appropriate impact fees under the City of Orland Municipal Code Chapter 56 Part I, which will help in offsetting traffic impacts associated with the Proposed Project. Additionally, the Project developer should work with the City of Orland to construct the aforementioned recommended improvements, as the City deems necessary for Project approval. Implementation of these improvements would reduce this impact to a less than significant level.

Would the Project:	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)?	☐	☐	☒	☐

Less than significant.

SB 743 was signed into law in 2013, with the intent to better align CEQA practices with statewide sustainability goals related to efficient land use, greater multimodal choices, and greenhouse gas reductions. The provisions of SB 743 became effective statewide on July 1, 2020. Under SB 743, impacts will be determined by changes to VMT. VMT measures the number and length of vehicle trips made on a daily basis. VMT is a useful indicator of overall land use and transportation efficiency, where the most efficient system is one that minimizes VMT by encouraging shorter vehicle trip lengths, more walking and biking, or increased carpooling and transit.

Because of SB 743, for a CEQA analysis, determining the potential for exceeding a city's LOS thresholds transportation/traffic impacts is no longer valid and VMT thresholds are used instead. However, the City of Orland has not yet established VMT thresholds. In order to assist in this type of circumstance, in December 2018, the California Governor's Office of Planning and Research (OPR) released its final *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR 2018). Generally, the OPR recommends that a reduction of 15 percent or more in existing VMT should be the target. Following is a summary of OPR's recommended VMT impact thresholds and methodologies for land use projects:

- The extent to which the Proposed Project's VMT impacts can be presumed to be less than significant has been determined based on review of the OPR directive's screening criteria and general guidance.
- The OPR Small Project criteria is not applicable to this Project. The Project is projected to generate 2,283 primary daily vehicle trips. As the 110 ADT threshold for automobile trips is exceeded, the Project's VMT impacts cannot be presumed to be less than significant.
- The Project is not an Affordable Housing Project, and this OPR screening criteria does not apply.

Retail Projects. OPR provides the following direction.

- Generally, lead agencies should analyze the effects of a retail project by assessing the change in total VMT because retail projects typically reroute travel from other retail destinations. A retail project might lead to increases or decreases in VMT, depending on previously existing retail travel patterns.

The OPR also provides guidance regarding Screening Thresholds that would allow agencies to quickly identify when a project should be expected to cause a less-than significant impact without conducting as detailed study. The OPR states:

"By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact. Where such development decreases VMT, lead agencies should consider the impact to be less-than-significant.

Many cities and counties define local-serving and regional-serving retail in their zoning codes. Lead agencies may refer to those local definitions when available, but should also consider any project-specific information, such as market studies or economic impacts analyses that might bear on customers' travel behavior. Because lead agencies will best understand their own communities and the likely travel behaviors of future project users, they are likely in the best position to decide when a project will likely be local-serving. Generally, however, retail development including stores larger than 50,000 square feet might be considered regional-serving, and so lead agencies should undertake an analysis to determine whether the project might increase or decrease VMT."

The Maverik Store will attract customers residing in Orland, but its primary customer base will be travelers already on I-5. The Project will provide fuel, convenience items and food service to travelers who simply drive off of and back to nearby I-5 to reach the Project. The Project's impacts on regional VMT would not be significant.

This conclusion is consistent with the OPR presumption that the VMT effects of locally serving retail uses of 50,000 square feet or less may be considered to be less than significant. The Maverik C-Store/Fuel Sales/Quick Service Restaurant's impact on regional VMT can be presumed to be less than significant under the OPR Locally Serving Retail criteria.

Orland has not identified Low VMT-generating areas of the community, and the Project's VMT impact cannot be presumed to be less than significant under these criteria.

Would the Project:	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)?	☐	☐	☒	☐

Less than significant.

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 will 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 not significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in inadequate emergency access?	☐	☐	☒	☐

Less than significant.

Access to the Project Site is provided via Commerce Lane via Newville Road (SR 32), that would provide adequate emergency access upon Project completion. Development of the Project Site would include the construction two driveway entrances/exits to satisfy the City's General Plan Policy 3.2.I. These entrances/exists would provide adequate emergency access. A less than significant impact would occur.

4.17.4 Mitigation Measures

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

4.18 Tribal Cultural Resources

A Cultural Resources Inventory Report was prepared by ECORP (2021b) for the Proposed Project to determine if cultural resources, including tribal cultural resources, 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.

The analysis of cultural resources was based on a records and literature search conducted at the NEIC of the CHRIS at California State University-Sacramento on August 27, 2021, a literature review, historical maps and photographs review, and a field survey on September 15, 2021. The literature search included the results of previous surveys within a 0.5-mile radius of the Proposed Project location.

In addition to the record search, ECORP contacted the NAHC on August 27, 2021, to request a search of the Sacred Lands File for the APE. A search of the Sacred Lands File by the NAHC on October 11, 2021, failed to indicate the presence of Native American cultural resources in the Project Area.

4.18.1 Environmental Setting

Ethnographically, the Project area is located in a region known to have been occupied by the Nomlaki, who spoke a Wintuan language which was part of the Penutian language family and was closely related to Wintu and Patwin. Nomlaki territory encompassed portions of present-day Tehama and Glenn counties. The territory is bounded on the north by Cottonwood Creek and occupied the foothill land extending from the Coast Range in western Glenn and Tehama counties. There are two distinct Nomlaki Indian groups: Hill Nomlaki and River Nomlaki. The Nomlaki hunted deer, grizzly bears, fish, quails, rabbits, rats, squirrels and birds. family units would collect acorns, roots, wild seeds, and fruit.

Little evidence is provided in the archaeological record for the Nomlaki; however, studies on neighboring tribes to the south suggest that the Nomlaki may have been part of the latter end of a developmental

sequence characterized with flexed burials containing offerings of clamshell disk beds, bird-bone whistles, stone pipes, and other funerary gifts signifying wealth.

Village structures included headman houses, dance houses, and menstrual huts. Houses were built near water sources, with the Chief houses facing toward the stream. Men would plunge into the stream after participating in sweating ceremonials. Dance houses were a post-contact addition to the village structure and were placed away from the village. Menstrual huts were built at the opposite end of the village, away from the water supply.

The Nomlaki population prior to contact with Europeans is estimated to have been more than 2,000. A malaria epidemic swept through the Central and Upper Sacramento Valley from 1830-1833, killing 75 percent of the indigenous population and severely hampering the ability of the Nomlaki to resist settlers' incursions into their territory. As settlers moved into the region, the Nomlaki faced the destruction of vital resources by livestock, the pollution of fishing areas by gold miners, and violent conflict with settlers. These factors further diminished the Nomlaki population and, by 1910, the Wintu population is estimated to have been 1,000.

4.18.2 Tribal Consultation

As discussed in Section 2.3 above, 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. The City of Orland has not received any formal notification requests by any California Native American tribes.

In addition to the record search, ECORP contacted the NAHC on August 27, 2021, to request a search of the Sacred Lands File for the APE. A search of the Sacred Lands File by the NAHC on October 11, 2021, failed to indicate the presence of Native American cultural resources in the Project Area.

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. This Project does not require an adoption or amendment to the Orland General Plan.

4.18.3 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	☐	☒	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☐	☒	☐	☐

Less than significant with mitigation incorporated.

As conveyed in the *Cultural Resources Inventory Report* conducted by ECORP Consulting, Inc., no known tribal cultural resources were identified at the Project Site or within a 0.5-mile radius during the records search and literature review performed. On September 15, 2021, ECORP performed a field investigation of the Project Site and APE, which concluded that no cultural resources were observed onsite. Additionally, on October 11, 2021, the NAHC responded to ECORP stating that through a record search of the NAHC Sacred Lands File was completed for the Proposed Project revealing a negative search result for sacred lands within the Project Site.

No known tribal cultural resources 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 tribal cultural resources 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 tribal cultural resources to a less than significant level.

4.18.4 Mitigation Measures

Implement mitigation measure **CUL-1** (Section 4.5.4).

4.19 Utilities and Service Systems

4.19.1 Environmental Setting

The City of Orland Public Works Department is responsible for water, wastewater, and storm drainage for the City. The City contracts with Waste Management to provide solid waste collection services in the City.

4.19.1.1 Water Service

The source of water supply for Orland is groundwater pumped from six wells that produce between 350 and 1,090 gallons per minute (gpm). The wells are located throughout the City and range in depth from 150 feet to 400 feet. Gravity flow from an 80,000-gallon elevated storage tank provides the water pressure in the City. The water transmission and distribution systems consist of approximately 34 miles of pipeline ranging in diameter from 4 inches to 10 inches. The water system is operated at 50 pounds per square inch (psi) to 65 psi pressure under normal demand. The six wells are capable of producing 5,130 gpm at 55 psi system pressure. The average daily water demand per HUE is 571 gallons. The commercial HUE is 3,985 gpd, while the high-density residential HUE is 255 gpd (City of Orland 2015).

City water is obtained from the Colusa Groundwater Subbasin. There is not a regulated limit to the amount of groundwater that can be pumped by the various groundwater users, including the City of Orland, in this subbasin. The only limitation to groundwater extraction, and consequently the City's water supply, would be the pumping capacity of the six wells and the availability of future groundwater. As discussed in Section 4.10, the estimated storage capacity of the groundwater subbasin to a depth of 200 feet is approximately 13,025,887 AF or 4,244.5 trillion gallons. Estimates of groundwater extraction for the Colusa Subbasin are based on surveys conducted by the California DWR during 1993, 1994, and 1999. Surveys included land use and water sources. Estimates of groundwater extraction for agricultural, municipal, and industrial, and environmental wetland uses are 310,000, 14,000, and 22,000 AF, respectively. Deep percolation from applied water is estimated to be 64,000 AF. The DWR has not identified the Colusa Subbasin as overdrafted in DWR Bulletin 118. Also, there has been no indication of any existing or anticipated overdraft condition in studies prepared by other entities (DWR 2006).

The DWR SGMA provides groundwater levels throughout the state. Among other things, this interactive online tool can illustrate the change in groundwater depth of a certain time period for a particular location, such as the City of Orland. According to the SGMA information, the distance from groundwater to ground surface in the Project area has increased by approximately 120 feet between spring 2011 and spring 2021. In other words, the groundwater water surface was 30 feet bgs in 2008 and was approximately 150 feet bgs in 2021 (DWR 2021b).

However, the depth to groundwater varies by location and rainfall. For example, at the end of 2019, when the National Drought Mitigation Center (NDMC) indicated that only 0.01 percent of the entire state of California was in *D2 – Severe Drought*-level conditions, the groundwater-to-ground surface depth was approximately 200 feet below the surface in the Project vicinity, while it was 160 feet below the surface in the southern parts of Orland (DWR 2021b). Although the SGMA interactive map does not have data for fall 2021, the U.S. Drought Monitor indicates that up to 45 percent of the state is in *D4 - Exceptional Drought* conditions (NDMC 2021), and therefore groundwater levels are expected to be substantially lower than 2019 levels. The City is currently exploring options to address the increase in private wells running dry within the current City limits, and surrounding areas, as the gap between the surface and groundwater levels within the subbasin increases.

4.19.1.2 Wastewater

All sewage is collected and processed by the Orland Wastewater Facility. The facility utilizes a primary treatment process consisting of a bar-screen located at the headworks building with screened effluent disposed into a rotating series of four sewage disposal ponds located west of the airport. These four primary settling ponds, along with two specially lined and isolated brine ponds, are located on a 50-acre, City-owned land parcel.

The wastewater facility is currently operating under Waste Discharge Requirements Order No. 96-129, which was adopted by the Central Valley Regional Water Quality Control Board on May 3, 1996. The City's Waste Discharge Requirements indicate that the design capacity in 1996 for the four stabilization ponds and disposal field was 2.1 million gallons per day (mgd), with an average domestic wastewater flow of 1.3 mgd (City of Orland 2010b). The City has recently updated the wastewater facility by adding the Blue Frog Aeration System to the facility's aeration ponds. The addition of the Blue Frog Aeration System allows for better wastewater processing.

According to the City's Public Works Department (City of Orland 2021c), during the last quarter, the City reported receiving approximately 0.66 mgd at the treatment plant. The City also received an average of approximately 0.65 mgd over the past year. The treatment plant capacity is 2.1 mgd. The City completed improvements to the headworks and domestic ponds in 2016. The improvements help the City obtain better measurements of the inflow into the plant, help digest and process the sludge in the ponds, and help with wastewater transfer between ponds. The City has certified operators in charge of the treatment facility and has to sample and test various parameters for quarterly reporting to the state.

4.19.1.3 Storm Drainage

The City of Orland stormwater drainage system consists primarily of surface water conveyance utilizing curbs and gutters that lead to underground drainage pipes that eventually discharge into the Lely Aquatic Pond, the Stony Creek Basin Tributary Area, or onsite retention basin and leach field systems.

Approximately 80 percent of the City's area is served by, and discharges into, the Lely Aquatic Pond. The City Engineer estimates that this pond is capable of accommodating all storm events up to and including a 50-year storm (City of Orland 2010b). Storm events that exceed this return interval will cause some localized ponding of runoff throughout the City within street roadbeds. Should the groundwater table

become elevated due to cumulative stormwater runoff and percolation (likely occurring in late winter through early spring), the Lely Aquatic Pond capacity decreases, thereby resulting in a situation where larger storm events may cause the pond to exceed its capacity. When this occurs, runoff flows southeasterly along East South Street (County Road 200) until it reaches the Tehama-Colusa Canal, which thereafter becomes a dike preventing further street flow (City of Orland 2010b).

4.19.1.4 Solid Waste

The City of Orland is a member of the Glenn County Waste Management Regional Agency (GCWMRA). The California Department of Resources Recycling and Recovery (CalRecycle) provides solid waste disposal and recycling information for jurisdictions in the state, including the GCWMRA.

As shown in Table 4.19-1, in 2019 (the most recent year with available data) the majority of GCWMRA's solid waste was disposed of at the Anderson Landfill. According to the figures published by the CalRecycle (2021a), in 2019, the Anderson Landfill received approximately 68.6 percent of GCWMRA's solid waste, or 19,999 tons (CalRecycle 2021a). Also as noted in Table 4.19-1, prior to 2019, the Glenn County Landfill was the main disposal site for GCWMRA. However, this facility is now closed.

Table 4.19-1. Solid Waste Disposal Facilities Used by the Glenn County Waste Management Regional Agency						
Destination Facility	Solid Waste Disposal (tons/year)			Landfill Information		
	2017	2018	2019¹	Remaining Capacity (cubic yards)	Remaining Capacity Date	Cease Operation Date
Anderson Landfill, Inc	1	36	55,942	10,409,132	1/1/2015	1/1/2093
Clean Harbors Buttonwillow LLC	-	15	-	10,500 max throughput	Co-disposal facility	1/1/2040
Foothill Sanitary Landfill	2	-	-	125,000,000	6/10/2010	12/31/2082
Forward Landfill, Inc.	103	22	5	24,720,669	1/31/2020	1/1/2036
Glenn County Landfill	19,759	22,763	20,608	866,521	2/28/2015	Closed
Neal Road Recycling and Waste Facility	22	7	11	20,847,970	7/1/2009	1/1/2048

Table 4.19-1. Solid Waste Disposal Facilities Used by the Glenn County Waste Management Regional Agency						
Destination Facility	Solid Waste Disposal (tons/year)			Landfill Information		
	2017	2018	2019¹	Remaining Capacity (cubic yards)	Remaining Capacity Date	Cease Operation Date
Potrero Hills Landfill	83	5	12	13,872,000	1/1/2006	2/14/2048
Recology Hay Road	20	28	372	30,433,000	7/28/2010	1/1/2077
Recology Ostrom Road LF Inc.	-	27	4,623	39,223,000	6/1/2007	12/31/2066
West Central Landfill	-	4	1	6,589,044	12/1/2013	3/1/2032
Yolo County Central Landfill	4	-	-	33,800,218	6/1/2021	2/21/2124
Yearly Total	19,999	22,908	81,574 ¹			
Average per Resident (lbs./day)	3.8	4.3	5.2			
Average per Employee (lbs./day)	12.3	13.9	16.3			

Source: CalRecycle 2021a, 2021b, and 2021c

Note: 1) Yearly totals provided in CalRecycle's Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility report appear to be in error as the Jurisdiction Diversion/Disposal Rate Detail for GCWMRA indicates that the total disposal amount is 27,619.42 tons. This number would be more consistent with past reporting.

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

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

4.19.2.1 Water

The City provides water use estimates based on HUE, the amount of water a single-family home would use on a monthly basis. The average daily water demand per HUE is 571 gallons. The commercial HUE is 3,985 gpd per acre, while the high-density residential HUE is 255 gpd (City of Orland 2015). Using this factor, the Proposed Project has the potential to result in a commercial water demand of 22,157 gpd or 8.09 million gallons per year. The Project's annual water demand represents 0.00019 percent⁴ of the available groundwater in the Colusa Groundwater Subbasin. Therefore, the Project would have a less than significant impact on groundwater supply.

Based on the City's existing groundwater pumping ability and the fact that currently there is not a regulated limit on the amount of groundwater that can be extracted for the Colusa Groundwater Subbasin, the future commercial water demand of 3,985 gpd would not result in the need for additional City's water treatment or conveyance facilities. As such, the future commercial uses would have a less than significant impact to the City's water treatment or conveyance facilities.

4.19.2.2 Wastewater

According to the Orland Sewer Master Plan, commercial uses are equal to 5.4 housing equivalents per acre. A housing equivalent is defined as an "area that will produce the same amount of wastewater flow as one single family home within a low-density location" (City of Orland 2009). According to the City's Public Works Department, the average single-family home produces approximately 431 gpd of wastewater (City of Orland 2015). Based on this information, the future commercial uses of the Proposed Project would account for 30.0 HUEs or 12,930 gpd of wastewater.⁵ This increased demand would represent 0.89 percent of the 1.45 mgd remaining plant capacity. Since there is adequate capacity remaining at the Wastewater

⁴ 8.09 million gallons of Project annual water demand/4.24 trillion gallons of water in the Colusa Groundwater Subbasin = 0.00019 percent.

⁵ Wastewater demand: 5.56 acres (as shown in Table 2.1-2) X 5.4 HE/acre = 30.0 HEs. 30.0 X 431 gpd of wastewater = 12,930 gpd of wastewater

Facility to serve future commercial uses at the Project Site, the Proposed Project would not result in the need for new or expanded facilities.

Wastewater generated by the Fueling Center would be conveyed to the City's Wastewater Facility for processing via an existing 10-inch main sewer collection facilities located in Commerce Lane, adjacent to the Project Site (City of Orland 2009. As described previously, the current capacity of the plant is limited to 2.1 mgd; the Wastewater Facility treats an average 1.0 mgd of wastewater and is capable of treating up to 3.4 mgd during peak wet weather flow. Therefore, the addition of 12,930 gpd of fueling center-generated wastewater would not exceed the wastewater facility's capacity and would have a less than significant impact to the City's collection and treatment facilities.

Storm Drainage

The nearest existing stormwater drainage facilities are located within the intersection of Commerce Lane/County Road HH and Ide Street/County Road 13 at the southeast corner of the Project Site. The Project Site improvements include the construction of curbs, gutters and sidewalks along Commerce Lane adjacent to the Project Site. Additionally, the existing drainage canal on the northern Project Site boundary is requested for either abandonment or other actions required by the City and/or Orland Unit Water User's Association because it terminates at the adjacent Pilot/Flying J gas station and currently is not in use for any agricultural needs. The Project Site would be graded to direct stormwater flows to existing and proposed drainage facilities. As such, the Proposed Project would not result in the need for new or expanded stormwater facilities. This impact would be considered less than significant.

Electric Power

See section 4.6.

Natural Gas

See section 4.6.

Telecommunications

Existing phone lines are located adjacent to the Project Site. Telecommunication will be through existing company and personal cell phones. No new telecommunication facilities will be required to serve the Project.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

Refer to Item a) above.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

Refer to Item a) above.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

According to CalRecycle (2021b), the estimated solid waste generation rates for employees is 15.4 pounds per employee per day. Based on this information and an anticipated maximum of 20 employees at full operation of the fueling center project, the Project Site would produce approximately 308 pounds per day (lbs/day) or 56.21 tons annually.⁶

As shown in Table 4.19-1, the Glenn County Landfill, the City's main disposal site for solid waste disposal, has a cease operation date of July 1, 2016. According to the Glenn County Public Works Agency, that date was extended to 2020, at which point the site was capped and transitioned to a transfer station where solid waste is then transferred to the Corning Disposal site at 3281 Highway 99 West in Corning,

⁶ 308 lbs/day X 365 days/2000 lbs/ ton = 56.2 tons per year.

California. The Proposed Project would not substantially increase solid waste in the City and existing landfills have sufficient capacity to accommodate the relatively minor amount of waste that would be generated by the Proposed Project. This is a less than significant impact.

Would the Project:	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?	☐	☐	☒	☐

Less than significant.

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 (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents), and topography (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 not in an area designated by CAL FIRE (2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. Finally, the location of the Project Site makes it readily accessible by emergency personnel and vehicles in the event of a wildland fire.

4.20.2 Wildfire (XX) Environmental Checklist and Discussion

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	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?	☐	☐	☐	☒

No impact.

The Project Site is not in an area designated by CAL FIRE (2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. Also, the Project Site is not located in a state responsibility area. The Project would have no impact in this area.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	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?	☐	☐	☐	☒

No impact.

The Project Site is not in an area designated by CAL FIRE (2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. Also, the Project Site is not located in a state responsibility area. The Project would have no impact in this area.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	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?	☐	☐	☐	☒

No impact.

The Project Site is not in an area designated by CAL FIRE (2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. Also, the Project Site is not located in a state responsibility area. The Project would have no impact in this area.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	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?	☐	☐	☐	☒

No impact.

The Project Site is not in an area designated by CAL FIRE (2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. Also, the Project Site is not located in a state responsibility area. 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?	☐	☒	☐	☐

Less than significant impact with mitigation incorporated.

Sections 4.5 *Cultural Resources* and 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. However, with the implementation of mitigation measure **CUL-1**, these potential impacts to biological resources will be reduced to a less than significant level.

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.

Does the Project:	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)?	☐	☐	☒	☐

Less than significant with mitigation incorporated.

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 Orland General Plan Policies and Programs, compliance with local, state, and federal rules and regulations, and implementation of BMPs where applicable and as proposed in the relevant subsections of this IS/MND.

Does the Project:	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?	☐	☒	☐	☐

Less than significant impact with mitigation incorporated.

Direct and indirect impacts to human beings related to noise would be less than significant with implementation of mitigation measure **NOI-1**. Mitigation measure **NOI-1** would reduce potential noise impacts to nearby sensitive receptors with the installation of a sound wall to a less than significant level. The Project has no other potentially significant impacts.

THIS PAGE INTENTIONALLY LEFT BLANK

5.0 LIST OF PREPARERS

5.1 Lead Agency - City of Orland

Lead Agency

Peter Carr, City Manager

5.2 ECORP Consulting, Inc.

CEQA Documentation/Air Quality/Biological Resources/Cultural Resources/Greenhouse Gas/Noise

Mike Martin, Project Manager, Senior Environmental Planner

Seth Myers, Air Quality/GHG & Noise Director

Collin Crawford-Martin, Assistant Environmental Planner

Thea Fuerstenberg, Senior Archeologist

Laura Hesse, Technical Editor

5.3 KD Anderson & Associates, Inc

Transportation Analysis

KD Anderson & Associates, Inc.

THIS PAGE INTENTIONALLY LEFT BLANK

6.0 BIBLIOGRAPHY

- _____. 1997. *Gasoline Service Station Industry Wide Risk Assessment Guidelines*
- California Air Resources Board (CARB). 2021. EMFAC2021 Web Database Emissions Inventory.
<https://www.arb.ca.gov/emfac/2021/>.
- _____. 2019. Maps of State and Federal Area Designations.
<https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>.
- _____. 2017. California's 2017 Climate Change Scoping Plan.
https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf
- _____. 2014. First Update to the Climate Change Scoping Plan: Building on the Framework. May 2014.
<http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>.
- California Department of Finance (DOF). 2021. E-5 City/County Population and Housing Estimates for Cities, Counties and the State – 1/1/2021. Sacramento, California, May 2021.
<http://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/>.
- California Department of Fish and Wildlife (CDFW). 2021. Rarefind 5. Online Version, commercial version dated September 3, 2021. California Natural Diversity Database. The Resources Agency, Sacramento.
- California Department of Forestry and Fire Protection (CAL FIRE). 2007. Fire Hazard Severity Zones in SRA. Adopted November 7, 2007. <https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>.
- California Department of Resources Recycling and Recovery (CalRecycle). 2021a. Disposal Reporting System (DRS): Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility.
<https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility>.
- _____. 2021b. Jurisdiction Diversion/Disposal Rate Summary.
<https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006>.
- California Department of Transportation (Caltrans). 2021. Scenic Highway System Lists. May 2021.
<https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>.
- California Energy Commission (CEC). 2021. Website: Annual Generation – County.
https://ww2.energy.ca.gov/almanac/electricity_data/web_qfer/Annual_Generation-County_cms.php
- _____. 2020. California Energy Consumption Database. <http://www.ecdms.energy.ca.gov/Default.aspx>.
- _____. 2018a. 2019 Building Energy Efficiency Standards: Frequently Asked Questions.
http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf

- _____. 2018b. 2019 Building Energy Efficiency Standards- Frequently Asked Questions.
- California Geological Survey (CGS). 2021a. Data Viewer. Liquefaction Zones .<https://maps.conservation.ca.gov/DataViewer/index.html>
- _____. 2016. Earthquake Shaking Potential for California [map].
<https://maps.conservation.ca.gov/geologichazards/#dataviewer>.
- _____. 2015. California Earthquake Hazard Zone. <https://maps.conservation.ca.gov/cgs/EQZApp/app/>. Accessed August 2021
- _____. 2011. Regional Geologic Hazards and Mapping Program - Table 4 Cities and Counties Affected by Alquist-Priolo Earthquake Fault Zones as of January 2010.
http://www.trpa.org/documents/rseis/3.7%20Geo%20soils/3.7_CGS%202010_Cities%20and%20Counties.pdf.
- _____. 2010. An Explanatory Text to Accompany the Fault Activity Map of California.
http://www.conservation.ca.gov/cgs/cgs_history/Documents/FAM_phamplet.pdf.
- _____. 2002. California Geomorphic Provinces Note 36.
<http://www.americangeosciences.org/sites/default/files/earthcomm-edg-ca-c1a6q2r1.doc>.
- City of Orland. 2021a. Minutes of the Orland City Council Regular Meeting Held January 19, 2021. B. Presentation: Fire Department Annual Review – Justin Chaney, Fire Chief.
<https://www.cityoforland.com/wp-content/uploads/2021/06/January-19-2021.pdf>
- _____. 2021b. Minutes of the Orland City Council Regular Meeting Held January 19, 2021. A. Presentation: Police Department Annual Review – Joe Vlach, Chief of Police. <https://www.cityoforland.com/wp-content/uploads/2021/06/January-19-2021.pdf>.
- _____. 2021c. Recreation Department, Facilities. <https://orlandrec.recdesk.com/Community/Facility?type=4>
- _____. 2018a. Orland Police Department, 2018 Summary.
http://cityoforland.com/_documents/2018OrlandPoliceDept.pdf.
- _____. 2015. Pilot Flying J Travel Center and Westside Annexation Area Project Draft Environmental Impact Report. State Clearinghouse No. 2014102084. March 2015.
- _____. 2010a. City of Orland General Plan 2008-2028.
<http://www.cityoforland.com/govt/dept/planning/forms.asp>.
- _____. 2010b. General Plan Update Draft Environmental Impact Report, SCH No. 2008102073.
http://www.cityoforland.com/_documents/OrlandGeneralPlanDEIR27-0153_FINAL6-25.pdf.
- _____. 2010c. General Plan Background Report.
- _____. 2009. City of Orland Sewer Master Plan.
http://cityoforland.com/_documents/SEWERMASTERPLAN.pdf.

City of Orland Unified School District (OUSD). 2021a. OUSD web site - Orland Schools.

<http://www.orlandusd.net/Schools/Orland-Schools/index.html>.

_____. 2021b. OUSD web site – Accountability – 2020 SARC Report.

<http://www.orlandusd.net/Schools/Accountability/index.html>

Climate Registry. 2016. General Reporting Protocol for the Voluntary Reporting Program version 2.1. January 2016.

Department of Conservation (DOC). 2021. Division of Land Resource Protection . Important Farmland Finder. Available at: <http://maps.conservation.ca.gov/ciff/ciff.html>.

_____. 1997. California Agricultural Land and Site Assessment Model Instruction Manual 1997.

<https://www.conservation.ca.gov/dlrp/Documents/lesamodl.pdf>

Department of Education (DOE). 2021. 2020- 2021 Private School Directory.

<https://www.cde.ca.gov/ds/si/ps/index.asp>.

Department of Toxic Substances Control (DTSC). 2021. Hazardous Waste and Substance Site List.

<https://www.envirostor.dtsc.ca.gov/public/>.

Department of Water Resources (DWR). 2021a. DWR Atlas, Hydrologic Regions. https://atlas-dwr.opendata.arcgis.com/datasets/2a572a181e094020bdaeb5203162de15_0/explore?location=35.740271%2C-119.618251%2C7.41

_____. 2021b. SGMA Data Viewer. <https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels>

_____. 2018a. Groundwater Basins Subject to Critical Conditions of Overdraft.

<https://www.water.ca.gov/Programs/Groundwater-Management/Bulletin-118/Critically-Overdrafted-Basins>.

_____. 2018b. The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region. May 2018.

https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf.

_____. 2006. California's Groundwater Bulletin 118 – Update 2006.

https://www.water.ca.gov/LegacyFiles/pubs/groundwater/bulletin_118/basindescriptions/5-21.52.pdf.

ECORP Consulting, Inc. 2021a. *Biological Resources Assessment, Maverik Fuel Center Project Butte County, California*. DRAFT.

_____. 2021b. *Cultural Resources Inventory Report, Maverik Fueling Center Glenn County, California*. October.

_____. 2021c. *Air Quality & Greenhouse Gas Assessment Maverik Fueling Station Project Orland, California*. November.

- Federal Emergency Management Agency (FEMA). 2011. FIRM Flood Insurance Rate Map. Map No. 06021C0165D.
<https://msc.fema.gov/portal/search?AddressQuery=orland%20ca#searchresultsanchor>
- Federal Highway Administration (FHWA). 2011. Effective Noise Control During Nighttime Construction.
http://ops.fhwa.dot.gov/wz/workshops/accessible/schexnayder_paper.htm.
- _____. 2006. Roadway Construction Noise Model.
- Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment.
https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.
- Glenn County. 2021a. Zoning and Land Use GIS Map.
<https://countyofglenn.maps.arcgis.com/home/index.html>.
- _____. 2021. Glenn County Code.
- _____. 2020. Glenn County 2020 Regional Transportation Plan.
- _____. 2019. Glenn County Active Transportation Plan
- Glenn County Airport Land Use Commission. 1991. Comprehensive Airport Land Use Plan Orland Haigh Field Airport.
https://www.countyofglenn.net/sites/default/files/Airports/Orland_Airport_Land_Use_Plan-1991.pdf.
- KD Anderson & Associates, Inc. 2021. *Traffic Impact Analysis for Maverik C-Store/ Fuel Sales/ QSR Orland, CA*. Prepared for Cartwright Nor Cal, Inc. October 20.
- National Oceanic and Atmospheric Administration (NOAA). 2021. Data Tools: 1981-2010 Climate Normals. Available Online: <https://www.ncdc.noaa.gov/cdoweb/datatools/normals>. Accessed August 2021.
- National Resources Conservation Services (NCRS). 2021. Custom Soil Resource Report for Glenn County, California. August 31, 2021. <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
- National Drought Mitigation Center. 2021. U.S. Drought Monitor.
<https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?West>
- Office of Planning and Research (OPR). 2018. CEQA Exemptions Outside of the CEQA Statute. June 2018.
- Orland Volunteer Fire Department (OVFD). 2019. Fire Department Annual Review. February 19, 2019 Oland City Council Minutes. http://www.cityoforland.com/_documents/190219.pdf.
- Rosenthal, Jeffrey, and Sam Willis. 2017. Geoarchaeological Investigation for the Sutter Basin Flood Risk Management Project, Cypress Avenue to Tudor Road, Feather River West Levee, Sutter County, California. DRAFT
- South Coast Air Quality Management District (SCAQMD). 1992. 1992 Federal Attainment Plan for Carbon Monoxide.

- State Water Resources Control Board (SWRCB). 2021. Geotracker. <http://geotracker.waterboards.ca.gov>.
- _____. 2014. General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems. https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2014/wqo2014_0153_dwq.pdf
- [BAPCC] Sacramento Valley Basin-wide Air Pollution Control Council. 2018. Northern Sacramento Valley Planning Area 2018 Triennial Air Quality Attainment Plan.
- University of California Museum of Paleontology (UCMP). 2019. UCMP Locality Search. Available online at: <https://ucmpdb.berkeley.edu/loc.html>.
- U.S. Department of Agriculture (USDA). 2021. National Resources Conservation Services Web Soil Survey. <http://websoilsurvey.nrcs.usda.gov/>.
- U.S. Environmental Protection Agency (USEPA). 2001. National Human Activity Pattern Survey.
- Weather Atlas. 2021. Monthly weather forecast and climate. Fairfield, CA. <https://www.weather-us.com/en/california-usa>
- Western Electro-Acoustic Laboratory (WEAL). 2000. *Sound Transmission Sound Test Laboratory Report No. TL 96-186*.
- U.S. Geological Survey (USGS). 2018. National Water Information System. Water Use Data for California. https://waterdata.usgs.gov/ca/nwis/water_use?format=html_table&rdb_compression=file&wu_area=County&wu_year=2015&wu_county=021&wu_county_nms=Glenn%2BCounty
- _____. 1958 "Kirkwood, California" 7.5-minute Quadrangle. Photo revised 1978. United States Department of the Interior, Geological Survey, Denver.

LIST OF ATTACHMENTS

Attachment 4.2 - California Agricultural Land Evaluation and Site Assessment (LESA) Model Calculation
Tables and Zone of Influence Map
City of Orland

Attachment 4.3 – Air Quality & Greenhouse Gas Assessment Maverik Fueling Station Project
ECORP Consulting, Inc.

Attachment 4.4 – Biological Resources Assessment Maverik Fuel Center Project
ECORP Consulting, Inc.

Attachment 4.13 – Noise Impact Assessment Maverik Fueling Center Project
ECORP Consulting, Inc.

Attachment 4.17 – Traffic Impact Analysis for Maverik C-Store/Fuel Sales/QSR
KD Anderson & Associates, Inc.