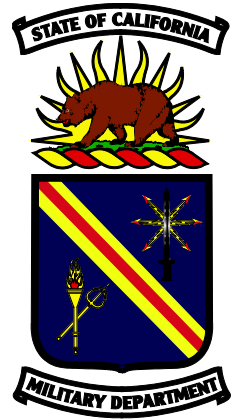


Draft Initial Study/Mitigated Negative Declaration Field Maintenance Shop Bakersfield Readiness Center



California Military Department

**Project No. 128331
SCH #:**

8/16/2022

Draft Initial Study/Mitigated Negative Declaration Field Maintenance Shop Bakersfield Readiness Center

prepared for

**California Military Department
Bakersfield, California**

Project No. 128331

**DRAFT
8/16/2022**

prepared by

**Burns & McDonnell Engineering Company, Inc.
Los Angeles, California**

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LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
3D	Three-dimensional
AB	Assembly Bill
AF	acre-feet
ALUCP	Airport Land Use Compatibility Plan
APE	Area of Potential Effect
BAU	business-as-usual
BMP	Best Management Practices
BPS	Best Performance Standards
BRPD	Bakersfield Recreation & Parks Department
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAARNG	California Army National Guard
CadnaA	Computer Aided Noise Abatement
Cal Water	California Water Service
CalEMA	California Emergency Management Agency
CalEPA	California Environmental Protection Agency
CalGreen	California Green Building Standards Code
Cal/OSHA	California Department of Industrial Relations - Division of Occupational Safety and Health
CARB	California Air Resources Board
CBC	California Building Code
CBD	Center for Biological Diversity
CCAP	Climate Change Action Plan
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	California Fire Code
CFR	Code of Federal Regulations
CGP	Construction General Permit
CGS	California Geological Survey
CH ₄	Methane
City	City of Bakersfield
CMD	California Military Department
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Exposure Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agency
dB	decibel
dBA	A-weighted decibels
DEIR	Draft Environmental Impact Report
DOC	California Department of Conservation
DPM	Diesel Particulate Matter
DTSC	California Department of Toxic Substance Control
EA	Environmental Assessment
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act
EOP	Emergency Operations Plan

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
EPA	Environmental Protection Agency
EQ Zapp	California Earthquake Hazards Zone Application
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FMMP	Farmland Mapping & Monitoring Program
FMS	Field Maintenance Shop
ft	feet
FTA	Federal Transit Administration
GHG	Greenhouse Gas
gpf	gallons per flush
gpm	gallons per minute
GSP	Groundwater Sustainability Plan
GWh	gigawatt hours
GWP	global warming potential
HEMTT	Heavy Expanded Mobility Tactical Truck
HEPA	High-Efficiency Particulate Air
HFC	hydrofluorocarbons
HMBP	Hazardous Materials Business Plan
Hz	hertz
ICRMP	Integrated Cultural Resources Management Plan
ICV	Infantry Carrier Vehicle
ID	Identification
IGP	Industrial General Permit
in/s	inches per second

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
IPaC	Information for Planning and Consultation Database
IS	Initial Study
ISO	International Organization of Standardization
IT	Information Technology
kBTU	Kilo-British Thermal Unit
KRGSA	Kern River Groundwater Sustainability Agency
kWh	kilowatt hours
L _{dn}	hourly equivalent sound levels
lbs/ft ³	pounds per cubic foot
LEED	Leadership in Energy and Environmental Design
LOS	Levels of Service
MBHCP	Metropolitan Bakersfield Habitat Conservation Plan
MBTA	Migratory Bird Treaty Act
µg/m ³	micrograms per cubic meter
MGD	million gallons per day
MND	Mitigated Negative Declaration
MRAP	Mine-Resistant Ambush Protected
MTCO ₂ e/year	metric tons carbon dioxide equivalents per year
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEC	No Exposure Certification
NEPA	National Environmental Protection Act
NIOSH	National Institute for Occupational Safety and Health
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

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
NWI	National Wetlands Inventory
PFC	perfluorocarbons
PG&E	Pacific Gas and Electric Company
PLS	Palletized Load System
PM	Particulate Matter
PM ₁₀	Particulate Matter with diameter less than 10 microns
PM _{2.5}	Particulate Matter with diameter less than 2.5 microns
POV	Privately Owned Vehicle
ppb	parts per billion
PPV	peak particle velocity
PRC	Public Resources Code
ROG	Reactive Organic Gases
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
sf	square foot
SF ₆	sulfur hexafluoride
SHPO	State Historic Preservation Office
SJKF	San Joaquin kit fox
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLOAPCD	San Luis Obispo Air Pollution Control District
SOP	Standard Operating Procedure
SPCC	Spill Prevention and Countermeasure Plan
SR14	State Route 14
SR58	State Route 58
SR99	State Route 99
SR184	State Route 184
SSURGO	Soil Survey Geographic Database

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
SWD	Solid Waste Division
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
UFC	Unified Facilities Code
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	Vehicle miles travelled
WBWG	Western Bat Working Group
WWTP	Wastewater Treatment Plant

1.0 INTRODUCTION

1.1 Introduction

The California Army National Guard (CAARNG) proposes to construct a new Field Maintenance Shop (FMS or Project) at the Bakersfield Readiness Center in the City of Bakersfield (City), California. The California Military Department (CMD) is the Lead Agency for all projects executed by CAARNG and would serve as the Lead Agency for this Project under the California Environmental Quality Act (CEQA). The CMD is also the Lead Federal Agency for all projects executed by CAARNG.

This document is an Initial Study/Mitigated Negative Declaration (IS/MND), which is prepared to evaluate the potential impacts of the Project. According to Section 15063 of the CEQA Guidelines (14, California Code of Regulations [CCR], 15000 et seq.), an IS is a preliminary environmental analysis used by the Lead Agency (the public agency principally responsible for approving or carrying out the proposed project) as a basis for determining whether a Negative Declaration, an MND, or an Environmental Impact Report (EIR) is required for a project. The CEQA Guidelines require that an IS contain a project description, a description of the environmental setting, identification of environmental effects by checklist or other similar form, explanation of environmental effects, discussion of mitigation for significant environmental effects, evaluation of the project's consistency with existing, applicable land use controls, and the name of the persons who prepared the IS.

Because the Project occurs on federally owned land, it is also subject to review under the National Environmental Policy Act (NEPA). The CMD/CAARNG has determined that the proposed action qualifies for NEPA Categorical Exclusions (c)(1) and (c)(2), "Construction and Demolition." This determination has been documented separately in a Record of Environmental Consideration.

1.2 Project Information

The following subsections provide basic Project information per CEQA Guidelines Appendix G.

1.1.1 Project Title

Field Maintenance Shop at the Bakersfield Readiness Center.

1.1.2 Lead Agency Name and Address

State of California Military Department - California Army National Guard
9800 Goethe Road
Sacramento, CA 95826-9101

1.1.3 Contact Person and Phone Number

Robert Fiore, Senior Environmental Planner
(916) 854-1482

1.1.4 Contact Address

State of California Military Department
9800 Goethe Road
Sacramento, CA 95826-9101

1.1.5 General Plan Designation

SI – Service Industrial

1.1.6 Zoning

M-2 General Manufacturing

1.1.7 Project Location

The Project is located on a vacant parcel owned by the CMD directly west of the existing Bakersfield Readiness Center in southwestern Bakersfield in central Kern County. The Project is situated directly south of California State Route 58 (SR58, also known as Bakersfield Tehachapi Highway) and west of the Mt. Vernon Avenue and Gateway Avenue intersection. The Project is approximately equidistant from California State Route 99 (SR99) to the west and California State Route 184 (SR184) to the east. The Project site is bounded by Gateway Avenue to the south (a dead-end road), Washington Street to the west, and SR58 to the north (Figure 2-1).

1.1.8 Surrounding Land Uses and Setting

Currently, the Project site contains no existing structures. The site is a previously disturbed undeveloped lot and consists of exposed dirt and sparse vegetation. Land immediately surrounding the Project site includes SR58 to the north, the Bakersfield Readiness Center to the east, existing residential properties to the west, and industrial and manufacture businesses to the south.

1.1.9 Bakersfield Readiness Center

The Project is located directly west of the existing Bakersfield Readiness Center. The Bakersfield Readiness Center covers approximately 20 acres and is situated directly south of SR58 in southwestern Bakersfield, with primarily residential, commercial, and industrial neighboring land uses. It supports up to ten full-time employees and trains approximately 212 soldiers on drill weekends, which occur once a month. Training activities conducted at the Bakersfield Readiness Center typically include administrative

activities (paperwork, personnel processing, recruiting), training of individual soldiers in their Military Occupation Specialty, operator-level maintenance of vehicles and equipment, and logistics (inventory, accounting, and control of equipment assigned to unit). The 50,413 square foot (sf) Bakersfield Readiness Center contains an assembly hall, classrooms, library, learning center, training aid storage, kitchen, break area, vending areas, toilets and showers, flammable materials storage, physical fitness area, and control waste handling facility. An Environmental Assessment pursuant to NEPA was prepared by the United States Army Corps of Engineers (USACE) in 2004 for the Construction and Operation of the Readiness Center in Bakersfield California (2004 EA) and the footprint also encompassed the Project.

2.0 PROJECT DESCRIPTION

The CAARNG proposes to construct a new FMS directly west of the Bakersfield Readiness Center in Bakersfield, California (Figure 2-1: Location Map). The land adjacent to the Bakersfield Readiness Center where the Project would be constructed is owned by the CMD. Conceptual site designs prepared for the Project include a 20,557-sf field maintenance shop (FMS building) and a standalone 1,600-sf wash rack. In addition, 150,000-sf of rigid pavement is planned for military equipment parking, sidewalks, and curbing. The FMS building would have administrative and technical support rooms in the south side of the building and three back-to-back general purpose vehicle work bays in the north section of the building. A standalone wash rack for vehicles would be located north of the FMS building. Along with the primary facility and paved areas, the Project would include fencing, a ditch and stormwater basin, and landscaping. Total ground disturbance for this Project would be approximately 5.80 acres.

Supporting facilities shall include security fencing, exterior security lighting, and loading ramp. The design of the FMS would also include utility services, information system, fire detection and alarm, overhead crane spanning one or multiple work bays, storm management infrastructure, parking for privately owned vehicles (POVs), and site improvements (Atkins 2022).

2.1 Project Objectives

The objectives of the Project are to:

- Support maintenance and repair of combat and tactical vehicles that would serve the vehicle maintenance needs of the adjacent Bakersfield Readiness Center and CAARNG.
- Provide an adequate facility to manage current staffing and operational requirements.
- Create programmed spaces, categorized by purpose for administrative and maintenance areas:
 - Administrative: General supervisor and administrative office, production control office, breakroom and training room, lactation room, restrooms and locker rooms, Information Technology (IT) server closet, janitor closet, and storage room.
 - Maintenance: General purpose work bays, wash rack, inspection library, supply/tool room, Battery room, Bulky equipment storage, Fluid distribution room, Fire riser room, Mechanical room, Electrical room, flammable storage, and controlled waste storage.

2.2 Project Facility

The Project facility would serve as a maintenance and repair facility for vehicles at the adjacent Bakersfield Readiness Center. The new FMS building would be permanent construction, with an

approximate total gross square footage 20,557-sf. Additionally, the Project facility would include a standalone 1,600-sf wash rack, where tactical vehicles would be washed on an as needed basis. There would be an additional 150,000-sf of rigid pavement for vehicle parking and sidewalks to provide access to the building from a new entrance on Gateway Avenue.

The Project would be designed to meet the Leadership in Energy and Environmental Design (LEED) Silver facility and constructed to achieve high performance and sustainable building requirements. The Project would be designed to meet Industry Standards as well as all local, State, and Federal building codes and as per Public Law 90-480. Construction would include utility services, information systems, fire detection and alarm systems, curbs, and site improvements. The FMS building would be designed to a minimum life of 50 years in accordance with the Departments of Defense's Unified Facilities Code (UFC 1-200-02) including energy efficiencies, building envelope, and integrated building systems performance as per the Army Sustainable Design and Development Policy Update Dec 2017. Access for individuals with disabilities would be included as part of the design (Atkins 2022).

The primary intended use of the facility is as a vehicle maintenance shop for tactical vehicles located at the adjacent Bakersfield Readiness Center. The FMS building is where CAARNG-owned vehicles including semi-truck and trailer, Mine-Resistant Ambush Protected (MRAP) vehicle, Palletized Load System (PLS), Heavy Expanded Mobility Tactical Truck (HEMTT) M984A4 Wrecker, and Infantry Carrier Vehicle (ICV) Stryker would receive preventative and corrective maintenance within the general purpose maintenance bays. South of these work bays would be offices, classrooms, and storage rooms for primary use by CAARNG personnel (Figure 2-3). These include tool and battery storage, electrical and mechanical rooms, physical fitness and break rooms, and offices for administration, IT, inspections, and general support. The open space north of the FMS building would be designated as the washing area and as overflow parking and portions would be unpaved to allow for stormwater infiltration. The conceptual three-dimensional (3D) simulation illustrates the appearance of the FMS building upon completion (Figure 2-4).

The Project site would be situated adjacent to the existing Bakersfield Readiness Center and would expand the controlled perimeter to the west of the existing facility. The site was selected due to the proximity to the existing CAARNG facilities, large open space for additional parking, and adjacency to the Bakersfield Readiness Center.

The Project would also include accessory parking, travel ways, enclosures, landscaping, and appropriate protection of electrical and mechanical equipment to comply with antiterrorism/force protection requirements as defined by the Department of Defense.

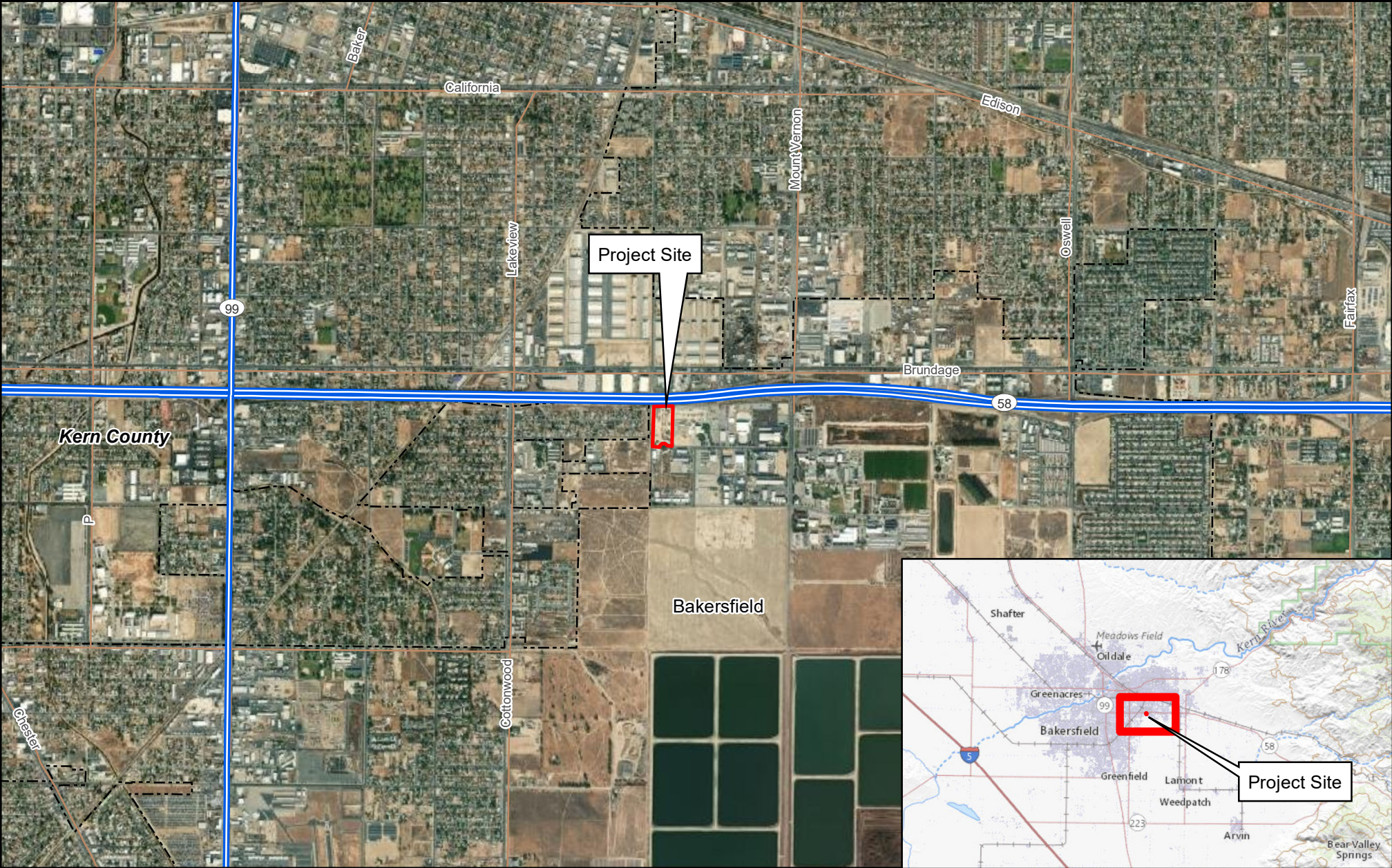
2.2.1 Access and Parking

The siting of the FMS building, and associated parking was developed to create easy access for CAARNG vehicles to enter the Project site from the adjacent Bakersfield Readiness Center. Personal vehicle access to the Project would be provided through the security fence gate just north of Gateway Avenue. Military vehicle access would be separate from personal vehicle access. Three new gates would be installed in the existing security fence for military vehicles: one just north of the personal vehicle parking area, a second at the end of Gateway Avenue, and a third north of the Project to provide access to the adjacent Bakersfield Readiness Center. Internal Project access roads to be used by military vehicles would either be concrete or heavy-duty asphalt. The military vehicle parking area would be constructed of concrete pavement and provide adequate space for 50 vehicles. The size of the military vehicle parking area would be designed to allow the turning movement of the expected vehicles to access the maintenance shop and separate wash rack, as well as to provide parking for vehicles to be maintained. The size of each parking spaces would be 70 feet by 10 feet which is based on a Palletized Load System vehicle with a trailer (Figure 2-3). There would be 20 personal vehicle parking spaces in the personal vehicle parking area south of the FMS building for civilian and military personnel.

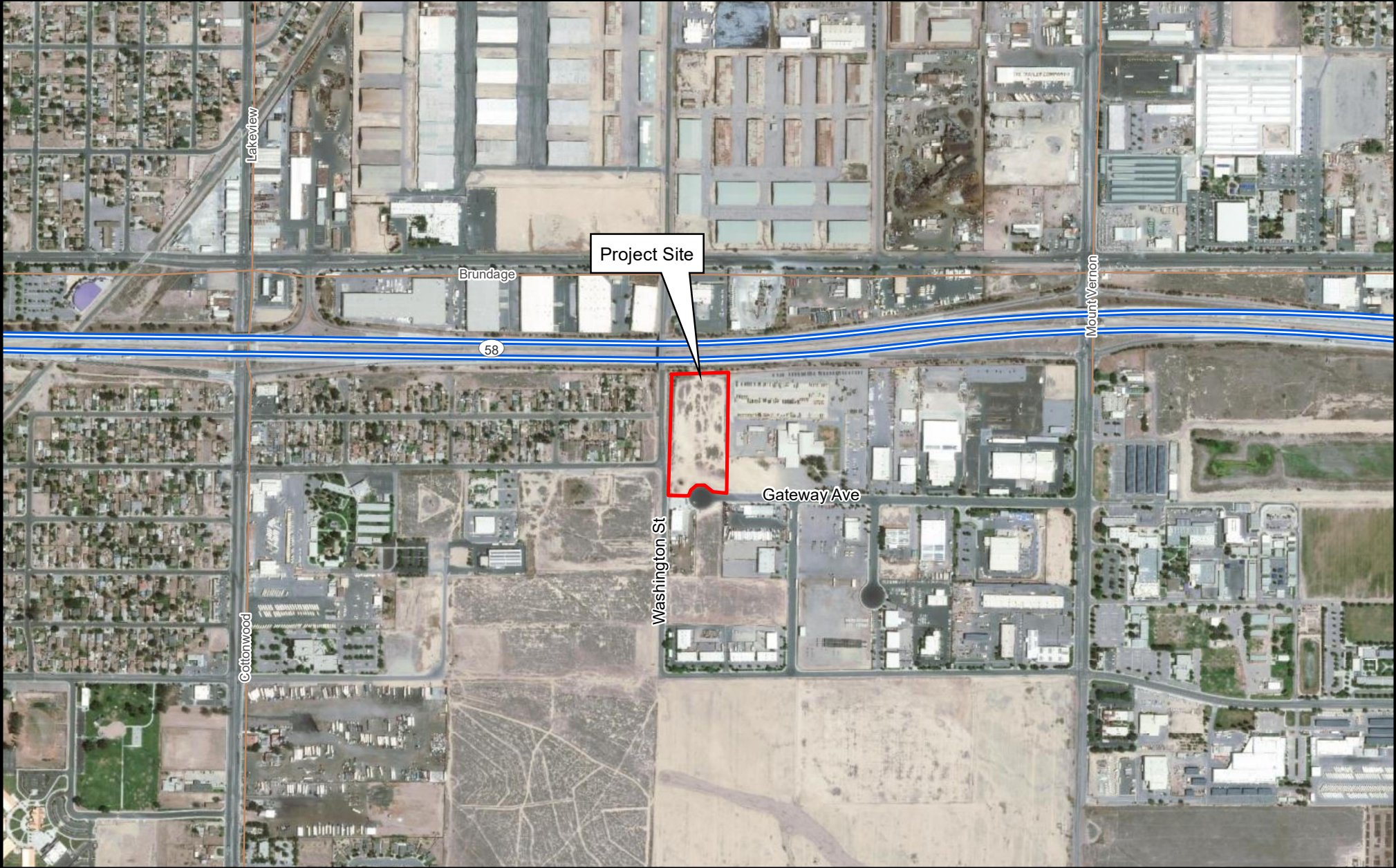
2.2.2 Landscaping



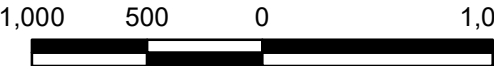

Landscaping would be comprised of drought-tolerant, low-maintenance plant materials with areas of grass or decorative mulch. A water-efficient irrigation system would be designed to provide for site landscaping and contribute to environmental efficiency goals established for the Project. There is no planned use of recycled water. Landscaping would include use of drought tolerant plants and occupy approximately 30,000-sf. The remainder of the landscaped area would remain unimproved/dirt.

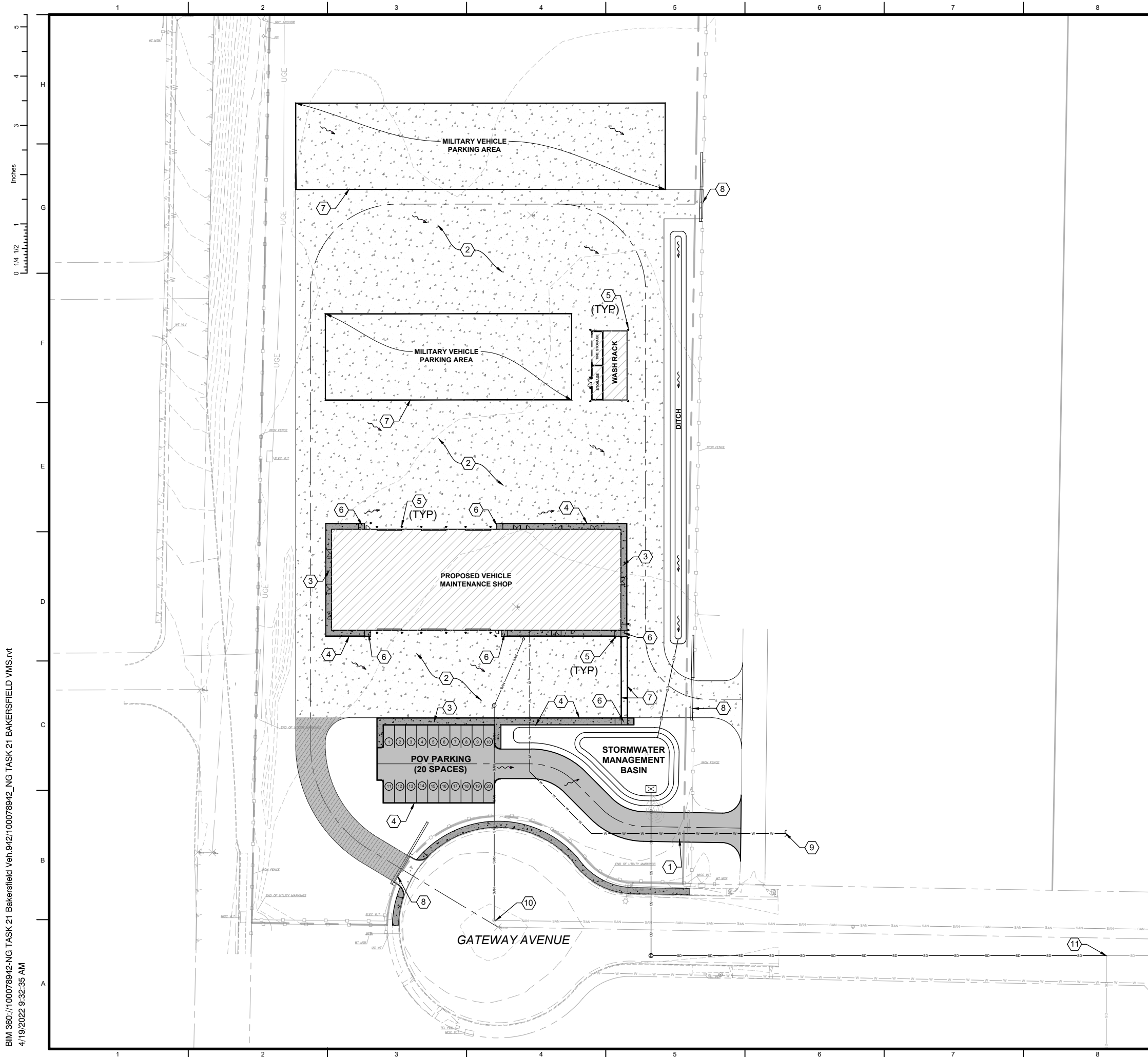
Stormwater management facilities would be designed for sediment and pollution control and to create no net increase in runoff volume or rate between preconstruction and post-construction. The storm drainage basin would be designed with a discharge outlet. Stormwater runoff from the FMS building and parking areas would be collected in below-grade piping or allowed to sheet flow to proposed stormwater management facilities, which would include a ditch along the eastern perimeter that flows south to the stormwater management basin. All stormwater management facilities would be designed to meet Section 438 of the Energy Independence and Security Act, the City of Bakersfield, and State requirements. More information on the stormwater facilities can be found in Section 3.10.



Vicinity Map
CMD Bakersfield CEQA
Kern County, CA
Figure 2-1



 Project Site	  Scale in Feet		<p>Project Location Map CMD Bakersfield CEQA Kern County, CA Figure 2-2</p>
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GENERAL NOTES

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM



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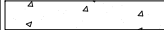




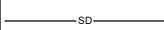




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SHEET KEY NOTES

- ① PROPOSED LIGHT DUTY ASPHALT PAVEMENT
- ② PROPOSED CONCRETE PAVEMENT
- ③ PROPOSED CONCRETE SIDEWALK
- ④ PROPOSED CONCRETE CURB
- ⑤ PROPOSED CONCRETE BOLLARD
- ⑥ PROPOSED RAMP
- ⑦ PROPOSED PAVEMENT MARKING
- ⑧ PROPOSED SLIDING GATE
- ⑨ CONNECT PROPOSED WATERLINE TO EXISTING WATERLINE
- ⑩ CONNECT PROPOSED SANITARY SEWER TO EXISTING SANITARY SEWER MANHOLE
- ⑪ CONNECT PROPOSED STORM DRAINAGE TO EXISTING STORM DRAINAGE SYSTEM

PROPOSED LEGEND

- | | |
|---|----------------------------------|
|  | PROPOSED CONCRETE SIDEWALK |
|  | PROP LIGHT DUTY ASPHALT PAVEMENT |
|  | PROP HEAVY DUTY ASPHALT PAVEMENT |
|  | PROPOSED CONCRETE PAVEMENT |
|  | PROPOSED BUILDING |
|  | PROPOSED PAVEMENT MARKING |
|  | PROPOSED WATERLINE |
|  | PROPOSED SANITARY SEWER |
|  | PROPOSED STORM DRAINAGE |
|  | PROPOSED STORMWATER STRUCTURE |
|  | PROPOSED SANITARY SEWER CLEANOUT |
|  | PROPOSED FLOW ARROW |
|  | NUMBER OF PARKING SPACES |



0 40'

SCALE: 1" = 40'

DO NOT SCALE

CONSULTANTS

CLIENT



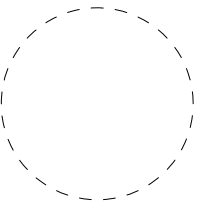
PROJECT TITLE

CA ARNG Bakersfield

2500 Gateway Ave,
Bakersfield, CA 93307

[illegible]

PROFESSIONAL SEAL



DRAWING TITLE

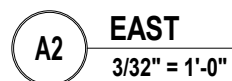
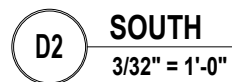
SITE PLAN

SCALE 1" = 40'	DESIGNED JVC	DRAWN JVC	CHECKED PC
ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE		REVISION NO.

ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE
ANSID22X34	10 MAY 2022

PROJECT STATUS
Type A 30% Conceptual Design

Fig. 2 - 3



ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

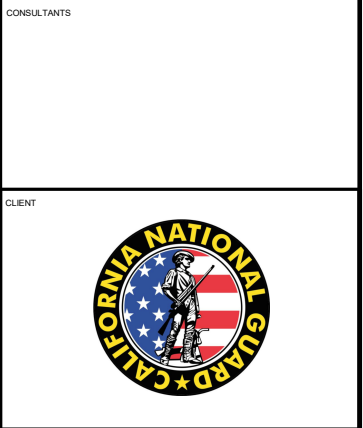
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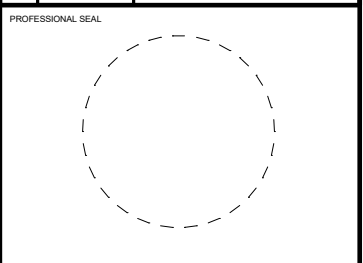
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PROJECT TITLE

CA ARNG Bakersfield

2500 Gateway Ave,
Bakersfield, CA 93307

[illegible]

DRAWING TITLE			
BUILDING ELEVATIONS			
SCALE 3/32" = 1'-0"	DESIGNED PK	DRAWN MT	CHECKED JH
ORIGINAL SHEET SIZE ANSI D22X34		ISSUE FOR CONSTRUCTION DATE REVISION NO.	
PROJECT STATUS			
Type A 30% Conceptual Design			

Fig. 2 - 4

2.3 Construction

Construction of the Project is expected to take approximately 15 months, with initial phases beginning in the third quarter of 2023. Site-specific geotechnical studies would be conducted for the Project prior to construction.

Construction would begin with rough grading of the site followed by foundation work that would last approximately one (1) month. The FMS building is assumed to be a tall one-story structure (Figure 2-4). The framing system for this structure would be pre-engineering steel columns and beams with girts and purlins as needed to satisfy the design loads for the site. The foundation system would be shallow isolated foundations designed to meet the soil conditions and bearing capacities on the site at the recommendations of the geotechnical report. Once grading and foundation work are complete, steel erection, completion of the building shell, and exterior and interior finishing of the building and structure would take place to enhance service and aesthetic qualities.

The FMS building envelope would be primarily metal panels as is typical of pre-engineered metal buildings. Exterior colors and materials would complement adjacent existing facilities. The FMS building roof structure would be a low-sloped standing seam metal. Exterior lighting would be coordinated with door locations and provided as needed for safety/security and would be controlled by photocell. The FMS building would have three work bays in a double-height space and an adjacent single story administration area. Consumable materials that are classified by the International Building Code (IBC) as hazardous would be in rooms on the west side of the work bays and would be separated as necessary based on occupancy classification. A detached wash rack with adjacent tire and equipment storage space is planned to the north of the FMS building. Site paving and landscaping would take place during the last phase of construction. During construction, it is anticipated that five full-time workers would be onsite throughout the various phases. These workers would generally consist of a superintendent, concrete workers, steel erectors, and welders (Atkins 2022) (Figure 2-4).

2.4 Summary of Project Design Features

The Project would incorporate design features during construction and operation, including:

- Construction Traffic: Hauling and delivery trips would be spread throughout the day; only construction worker commuter trips would typically occur during peak hour traffic conditions.
- Fugitive Dust Control Plan: Fugitive dust control measures would be implemented to limit the dust generated by earth-moving construction activities as well as track-out. Per the San Joaquin Valley Air Pollution Control District (SJVAPCD) Rule 8021, the Project shall implement dust

control measures pursuant to Table 8021-1 that may include watering, wind barriers, dust stabilizers/ suppressants, and vehicular access restriction.

- Stormwater Management, Construction: In accordance with the Construction General Permit, the Project would develop and implement a construction Stormwater Pollution Prevention Plan (SWPPP) to limit erosion and stormwater pollution during construction.
- Stormwater Management, Operations: Prior to operation, the Applicant shall obtain coverage (or conditional exclusion – No Exposure Certification [NEC]) under the Industrial General Permit (Order No. 2014-0057-DWQ). Per the requirements of the State Water Resources Control Board (SWRCB), the Applicant and facility operators would be required to prepare an industrial SWPPP, eliminate unauthorized non-stormwater discharges, and perform monitoring of stormwater discharges and authorized non-stormwater discharges as applicable. In addition, a stormwater management basin, ditch, and water-efficient irrigation practices would be implemented to limit stormwater runoff and pollution during operation.
- Seismic Design Standards: Although no active faults or fault systems are known to traverse the Project site, construction and design would follow California Building Code (CBC) seismic standards. In addition, temporary shoring measures would be implemented during excavation, if required, to protect workers from cave-ins during seismic events.
- Energy Standards: The facility would be designed to meet High Performance and Sustainable Building Requirements, including energy efficiencies, building envelope, and integrated building system performance in accordance with the Secretary of the Army for Installation, Energy and Environment. The FMS building design would be required to meet a minimum of LEED Silver standard and be registered/certified by the United States Green Building Council LEED Silver Standards.
- Light Minimization: Temporary and permanent lighting sources on the Project site would be shielded or screened to direct light downward and prevent light from spilling onto the adjacent properties. Appropriate construction and building materials would be used to prevent excessive glare that could adversely affect passing motorists or disturb adjacent residential areas.
- Hazardous Materials Business Plan (HMBP): The Applicant shall prepare a HMBP in accordance with California Health & Safety Code, Division 20, Chapter 6.95. The HMBP shall include inventory of any individual hazardous materials or mixtures that exceed any of the following quantities: 55 gallons (liquid); 500 pounds (solid); or 200 cubic feet (ft) (gases). The HMBP shall include measures for safe storage, transportation, use, and handling of hazardous materials. The HMBP shall also include a contingency plan that describes response procedures in the event of a hazardous materials release. The HMBP shall be submitted to Bakersfield City Fire Department

prior to occupancy and operation. The Applicant would provide documentation of submittal to the Certified Unified Program Agency (CUPA).

- Fire Safety Plan: A fire safety plan would be developed for the Project site and would include fire protection measures to reduce the risk of a fire, emergency access route maps, a description of fire extinguishing methods onsite (such as fire extinguisher locations and alarm systems), and other measures to minimize fire risks.
- Spill Prevention, Control, and Countermeasure (SPCC) Plan: A SPCC shall be prepared in accordance with Title 40 of the Code of Federal Regulations (CFR) part 112. The Applicant would develop and implement an SPCC Plan that describes oil handling operations, spill prevention practices, discharge or drainage controls, and the personnel, equipment, and resources at the facility that are used to prevent oil spills from reaching navigable waters or adjoining shorelines. The SPCC Plan must describe and include the following elements: (1) Operating procedures at the facility to prevent oil spills; (2) Control measures (such as secondary containment) installed to prevent oil spills from entering navigable waters or adjoining shorelines; and (3) Countermeasures to contain and cleanup the effects of an oil spill that has impacted navigable waters and adjoining shorelines. The SPCC shall be prepared prior to occupancy and operation.

These Project design features are incorporated into the Project description and, therefore, are considered part of the Project for the purposes of the environmental impact analysis in Section 3.0.

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

Determination (to be completed by the Lead Agency:)

On the basis of this initial study:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION would be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there would 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 would be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 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 proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

<u>Robert Fiore</u>	<u>17 AUG 2022</u>
Signature	Date
<u>Robert Fiore</u>	<u>Senior Environmental Planner</u>
Print Name	Title

As defined below, the following terms would be used to make the determination of whether the Project may have a significant effect on the environment. This determination is based on information in the record and, to the extent feasible, on scientific and factual data.

- a) **Potentially Significant Impact** is appropriate where there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries, an EIR is required.
- b) **Less Than Significant with Mitigation Incorporated** applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant.
- c) **Less Than Significant Impact** applies where the Project creates no significant impacts, only Less Than Significant Impacts.
- d) **No Impact** applies where a project does not create an impact in that category.

3.1 Aesthetics

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.1.1 Discussion

This Section describes the existing visual environment in and around the Project site. It assesses the potential for aesthetic, light, and glare impacts and identifies the type and degree of changes the Project would likely have on its surroundings. Visual impacts were evaluated through multiple approaches including a site reconnaissance and review of aerial and site photographs. The analyses presented below addresses four issue areas in accordance with CEQA Appendix G thresholds: scenic vistas/viewsheds; State scenic highways; visual character/quality; and light and glare.

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

Less Than Significant Impact. The visual character of Bakersfield (City) is mostly suburban, with neighborhoods generally consisting of small-scale residential uses or small-scale commercial, industrial, and institutional uses. The City has several scenic resources including viewsheds, recreational areas, and vantage points. One of the most significant scenic resources in metropolitan Bakersfield is the Kern

River, which provides prime habitat for many forms of wildlife that make up part of the visual resource. The Kern River is approximately 4.5 miles from the Project site. There are no scenic views from major highways or from neighboring communities that would be obstructed by the Project; therefore, construction and operation of the Project would not significantly impact any identified scenic resources including viewsheds, recreational areas, and vantage points.

The Project site is located south of SR58 and west of the Bakersfield Readiness Center on an undeveloped lot with residential, commercial, agricultural, and recreational neighboring land uses. The closest residential area is located approximately 300-ft west along Padre Street and Feliz Drive. Another residential area is located approximately 3,330-ft northwest of the Project site on the opposite side of SR58. California State Route 14 (SR14) is the closest eligible State Scenic Highway (approximately 55 miles east). SR14 is not visible from the Project site. Therefore, no state designated scenic highways are in the immediate vicinity of the Project site (Caltrans, 2021).

Construction

The temporary presence of construction-related equipment and vehicles would not constitute a significant impact to vistas. Construction work would be temporary and highly localized. Views of and through the Project site would be temporarily impacted during Project construction. However, there are no identified scenic vistas near the Project site; therefore, the impact would be Less Than Significant.

Operation

The existing viewshed from the Project site includes the existing Bakersfield Readiness Center to the East, nearby residential areas to the west and southwest, and commercial operations to the south. The Project site is currently an undeveloped lot. The new FMS building would be permanent construction of general-purpose office spaces and mechanical work bays. Conceptual site designs prepared for the Project represent a single-story facility with provisions including parking, paving, and civil improvement on approximately 5.80 acres (Figure 2-3 and Figure 2-4).

The residential area to the west would be unable to view the existing Bakersfield Readiness Center with the addition of the FMS building; however, the Bakersfield Readiness Center is not considered a scenic vista or viewshed. The existing view of the Bakersfield Readiness Center includes military facilities, structures, and armory vehicles. Construction of the Project would not constitute a substantial change to the existing viewshed for the residents. Because of the existing commercial and industrial facilities surrounding the Project to the south and east, impacts from the addition of the Project facility are considered to be Less Than Significant.

- b) 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?**

No Impact. The 2018 Making Downtown Bakersfield Project Draft Environmental Impact Report (2018 Metropolitan Bakersfield DEIR) states that “Some of the key facilities and corridors that are located in the [Bakersfield] area include the Metropolitan Recreation Center, Bakersfield Memorial Hospital, San Joaquin Community Hospital, Fox Theater, Bakersfield Museum of Art, Rabobank Arena and Convention Center, Kern County Superior Court, Beale Memorial Library, and Bakersfield Amtrak Station....and the Kern River” (2018 Metropolitan Bakersfield DEIR). These structures are generally north and west of the Project and are not in visual proximity to the Project site. Furthermore, there are no scenic trees, rock outcroppings, or historic buildings within or near the Project site. See Section 3.5, Section 3.7, and Section 3.11 for discussion of Cultural Resources, Geology, and Zoning in the Project vicinity. No State Scenic Highways, scenic trees, rock outcroppings, or historic buildings are located within or near the Project site; therefore, No Impact would occur.

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

Less than Significant Impact. The short-term construction phase would temporarily degrade the visual character and quality of the site by introducing construction equipment. Once the Project is complete, the undeveloped lot would be replaced by the Project and well-maintained landscaping.

Construction

The short-term construction phase would temporarily degrade the visual character and quality of the site by introducing construction equipment. Construction is anticipated to last 15 months and includes the use of excavators, loaders, motor graders, haul trucks, water trucks, forklifts, cranes, and asphalt pavers. Visibility of the Project site is limited to employees and visitors to the adjacent Bakersfield Readiness Center, Stanford Refrigerated Transport Services, H&E Roofing Supply, Valley Farm Transport, and the adjacent residential area to the west of the Project site. Views of the Project site from the adjacent residential area are limited and partially obscured by existing tree cover. Furthermore, construction is temporary and would not constitute a substantial degradation of the visual character of the neighborhood.

During construction, the Project would have Less Than Significant Impacts on the visual character and quality of the site and its surroundings.

Operation

Once constructed, the Project would replace the existing undeveloped lot with a new, single-story FMS building with surrounding pavement and landscaping (Figure 2-4). The visual character and quality of the site and its surroundings would be changed but not substantially degraded. The visual character of the new FMS building would be similar to the existing Bakersfield Readiness Center and exterior colors and materials shall complement adjacent existing facilities. Therefore, the Project would have Less Than Significant Impacts on the existing visual character or quality of the site and its surroundings.

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

Less Than Significant Impact. Security lighting and interior lighting would be installed and would likely be visible from surrounding areas. However, lighting would be installed consistent with CBC requirements to limit light visibility on nearby properties. Exterior lighting would be coordinated with door locations and provided as needed for safety/security and exterior lighting shall be controlled by photocell. Exterior lighting would be positioned to minimize light spillage from the Project. Temporary and permanent lighting sources would be screened or shielded to direct light downward and limit the spill of light onto adjacent properties. Blinds, shades, and curtains would also be used to minimize light impacts to adjacent properties. The Project would avoid the use of unusually high intensity or bright lighting fixtures unless required for security. Appropriate building and construction materials would be used to prevent glare from adversely affecting motorists on nearby roadways or disturbing nearby residential areas.

Construction

Security lighting would be installed and used during construction, which is temporary in nature and anticipated to last 15 months. Interior lights would also be installed during construction. Light and glare would likely increase at the Project site compared to existing levels; however, it is not anticipated that this would be a substantial increase. The Project would install additional lights consistent with CBC requirements and incorporate design features to minimize impacts to adjacent properties. In addition, construction is anticipated to occur during daylight hours. Therefore, the Project is anticipated to have Less Than Significant Impacts related to creating a new source of substantial light or glare during construction.

Operation

During operation, light and glare would slightly increase at the Project site compared to existing levels due to use of the new FMS building and illuminating work areas outside of the FMS building. During operation, required lighting fixtures would be incorporated as design features within the Project facility to minimize impacts to adjacent properties. Temporary and permanent lighting sources would be shielded or screened to direct light downward and prevent light from spilling onto adjacent properties. Therefore, the Project is anticipated to have Less Than Significant Impacts related to creating a new source of substantial light or glare during operation.

3.1.2 Mitigation Measures

No mitigation measures are recommended for aesthetics.

3.1.3 References

- Caltrans. (2021) *California State Scenic Highway System Map*. Retrieved 30 June 2021 from <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>.
- Bakersfield. (2018). *Making Downtown Bakersfield Project Draft Environmental Impact Report*. Retrieved 30 June 2021 from <https://content.civicplus.com/api/assets/301a0f81-3b53-4ebb-adf4-39151570ea8e?cache=1800>.

3.2 Agriculture and Forestry Resources

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

3.2.1 Discussion

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

No Impact. The California Department of Conservation (DOC) administers several programs (including those established in the Wouldiamson Act) designed to preserve and sustainably manage the conversion of agricultural land. The DOC Farmland Mapping and Monitoring Program (FMMP) compiles important farmland maps pursuant to the provisions of Section 65570 of the California Government Code.

The FMMP was established in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). The

FMMP creates maps used to analyze impacts to agricultural resources in the State of California. Land is rated and categorized based on physical and chemical soil properties, land use, and irrigation status. For the purposes of CEQA review, Important Farmland can be Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, or Grazing Land.

The Project site is in an area that is designated as Urban and Built-Up Land according to the FMMP (DOC, 2021). The closest designated agricultural land is located approximately 700 meters southeast of the Project site and is designated as Grazing Land. Farmland of Statewide Importance exists 1,000 meters east of the Project site. Neither of the identified Grazing Land or Farmland of Statewide Importance are in the vicinity of the Project site and neither would be converted to non-agricultural use by the Project; therefore, No Impact would occur during construction or operation of the Project.

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

No Impact. The Project site is designated as Urban and Built-Up Land and does not contain usable farmland. There are no Wouldiamson Act contracts on the Project site (DOC, 2021). Therefore, No Impacts to land with existing zoning for agricultural use or a Wouldiamson Act contract would occur during construction or operation of the Project.

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 zoned and would not cause rezoning as forest land, timberland, or timberland zoned Timberland Production. No Impact would occur.

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

No Impact. No forest land exists on the Project site or near the Project vicinity. The Project site is not zoned as agricultural or forest land, and the Project would not result in any forest land being converted to non-forest use. Therefore, No Impact would occur during construction and operation of the Project.

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

No Impact. The construction and operation of the Project would not involve other changes to the existing environment that would result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Therefore, No Impact would occur during construction and operation of the Project.

3.2.2 Mitigation Measures

No mitigation measures are recommended agriculture and forestry resources.

3.2.3 References

California Department of Conservation (DOC). 2021. *California Important Farmland Map*. Retrieved 2 June 2021 from <https://maps.conservation.ca.gov/DLRP/CIFF/>.

3.3 Air Quality

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.3.1 Discussion

The Project is located within the San Joaquin Valley Air Basin (SJVAB). A portion of Kern County (Project area included) lies within the SJVAB and the SJVAPCD. The SJVAB encompasses a 250-mile long, 80-mile-wide valley that is bordered by the Coast Mountain range to the west, the Sierra Nevada range to the east, and the Tehachapi Mountains to the south. The region has an inland Mediterranean climate which experiences hot, dry summers and cool, foggy winters.

Local to the Project area, criteria pollutants are measured throughout the SJVAB. Existing levels of ambient air concentrations and historical trends and projections in the Project area are best documented by measurements made by the California Air Resources Board (CARB). This data is used to track ambient air quality patterns throughout the County and is also used to determine attainment status when compared to the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). The portion of Kern County where the Project is located is classified as a nonattainment area for the Federal 8-hour ozone standard (2008 and 2015), 24-hour PM_{2.5} standard (1997, 2006, and 2012) and is classified as attainment or unclassified for all other criteria pollutants, based on the Federal standards. The Project area is classified as a nonattainment area for the State of California ozone, particulate matter less than 10 microns in diameter (PM₁₀), and particulate matter less than 2.5 microns in diameter (PM_{2.5}) and is classified as attainment or unclassified for all other criteria pollutants (Burns & McDonnell, 2021). Additional information on existing air quality within the

greater region can be found in the Burns & McDonnell Air Quality and Greenhouse Gas Technical Analysis in Appendix A.

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

Less Than Significant. The SJVAPCD has jurisdiction over air quality for the Project area and is primarily responsible for ensuring that NAAQS and CAAQS are not exceeded, and that air quality is maintained in the SJVAB. Responsibilities of the SJVAPCD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning air quality, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution for compliance with applicable regulations, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the Clean Air Act (CAA). All development projects within SJVAPCD are required to comply with existing SJVAPCD rules as they apply to each specific project.

The SJVAPCD has developed plans to attain State and Federal standards for ozone and particulate matter. These plans include conducting air emission inventories to measure sources of air pollutants and determine how emissions can be reduced. The plans also use computer modeling to estimate future levels of air pollution and make sure the SJVAB would meet air quality standards.

Ozone Attainment Demonstration Plans

Although the 1979 1-hour ozone standard was revoked in 2005, many of the planning requirements for the extreme nonattainment classification remain in place, and the SJVAB must still attain the standard before CAA Section 185 fees can be rescinded. The SJVAPCD's most recent 1-hour ozone plan, the *2013 Plan for the Revoked 1-hour Ozone Standard* (SJVAPCD, 2013), demonstrated attainment of the 1-hour ozone standard by 2017. The SJVAB now meets the 1-hour ozone standard based on the most recent three-year-period air monitoring data. On May 6, 2014, the SJVAPCD submitted a formal request that the Environmental Protection Agency (EPA) determine that the SJVAB has attained the Federal 1-hour ozone standard.

SJVAPCD adopted the 2007 8-Hour Ozone Plan in April 2007. This plan addresses the EPA's 8-hour ozone standard of 84 parts per billion (ppb), which was established by the EPA in 1997. The SJVAPCD's 2007 Ozone Plan demonstrates attainment of the EPA's 1997 8-hour ozone standard by 2023. The EPA approved the 2007 Ozone Plan effective April 30, 2012. The SJVAB is designated an extreme ozone nonattainment area for EPA's 2008 8-hour ozone standard of 75 ppb. The EPA Administrator signed the Final Rule revising the 8-hour ozone standard to 70 ppb on October 1, 2015. The SJVAPCD submitted

the plan to address the EPA's 2008 8-hour ozone standard on June 16, 2016. The CARB approved the attainment demonstration plan for SJVAB on July 21, 2016, and transmitted the plan to the EPA on August 24, 2016. The plan for areas designated as extreme nonattainment must demonstrate attainment of the standard by December 31, 2031. The 2016 Ozone Plan predicts attainment of the 2008 8-hour ozone standard by 2031.

PM₁₀ Attainment Demonstration Plan

Based on 2003 to 2006 monitoring data, the EPA found that the SJVAB had reached the Federal PM₁₀ standards. On September 21, 2007, the SJVAPCD's Governing Board adopted the 2007 PM₁₀ Maintenance Plan and Request for Redesignation. The EPA approved this document and on September 25, 2008, the SJVAB was redesignated to attainment/maintenance.

PM_{2.5} Attainment Demonstration Plans

The SJVAPCD Governing Board adopted the 2008 PM_{2.5} Plan on April 30, 2008. This plan is designed to assist the SJVAB in attaining all PM_{2.5} standards, including the 1997 Federal standards, the 2006 Federal standards, and the State standard, at the earliest possible date. The SJVAPCD's 2008 PM_{2.5} Plan demonstrated 2014 attainment of EPA's first PM_{2.5} standard, set in 1997. EPA lowered the PM_{2.5} standard in 2006, and the SJVAPCD's 2012 PM_{2.5} Plan showed attainment of this standard by 2019, with the majority of the SJVAB seeing attainment much sooner. On July 13, 2011, the EPA issued a rule partially disapproving the 2008 PM_{2.5} Plan. Subsequently, on November 9, 2011, the EPA issued a final rule approving most of the plan with an effective date of January 9, 2012. However, the EPA disapproved the plan's contingency measures because they would not provide sufficient emission reductions.

Approved by the SJVAPCD Governing Board on December 20, 2012, the 2012 PM_{2.5} Plan addresses attainment of EPA's 24-hour PM_{2.5} standard of 35 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) established in 2006. The 2012 PM_{2.5} Plan demonstrated that the SJVAB would achieve attainment of the Federal PM_{2.5} standard by the attainment deadline of 2019.

On April 16, 2015, the SJVAPCD Governing Board adopted the 2015 Plan for the 1997 PM_{2.5} Standard. This plan addresses the EPA's annual PM_{2.5} standard of 15 $\mu\text{g}/\text{m}^3$ and 24-hour PM_{2.5} standard of 65 $\mu\text{g}/\text{m}^3$ established in 1997. This plan includes a request for a one-time extension of the attainment deadline for the 24-hour standard to 2018 with an attainment date for the annual standard of 2020.

In September 2016, the SVAPCD Governing Board adopted the 2016 Moderate Area Plan for the 2012 PM_{2.5} Standard. This plan addresses the EPA Federal annual PM_{2.5} standard of 12 $\mu\text{g}/\text{m}^3$, established in

2012. This plan includes an attainment impracticability demonstration and request for reclassification of the SJVAB from moderate nonattainment to serious nonattainment.

The SJVAPCD Governing Board adopted the 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} standards on November 15, 2018. This plan addresses the EPA Federal 1997 annual PM_{2.5} standard of 15 µg/m³ and 24-hour PM_{2.5} standard of 65 µg/m³; the 2006 24-hour PM_{2.5} standard of 35 µg/m³; and the 2012 annual PM_{2.5} standard of 12 µg/m³.

The SJVAPCD significance thresholds are listed in the Guidance for Assessing and Mitigating Air Quality Impacts (SJVAPCD, 2015). The screening criteria within this handbook can be used to determine whether a project's total emissions would result in a significant impact as defined by CEQA.

To assist local jurisdiction in the evaluation of air quality impacts, the SJVAPCD guidance document (SJVAPCD, 2015) includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Table 3-1 shows the screening thresholds for construction and operational emissions.

Table 3-1: SJVAPCD Screening Thresholds for Criteria Pollutants

Pollutant ^a	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
	tons per year		
ROG	10	10	10
NO _x	10	10	10
CO	100	100	100
SO _x	27	27	27
PM ₁₀	15	15	15
PM _{2.5}	15	15	15

Source: SJVAPCD, 2015

(a) ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with diameter less than 10 microns; PM_{2.5} = particulate matter with diameter less than 2.5 microns

The following additional criteria are used to determine whether implementation of a project would result in a significant air quality impact:

- Due to the region's nonattainment status for ozone, PM₁₀, and PM_{2.5}, if project-generated emissions of ozone precursor pollutants [Nitrogen Oxides (NO_x) and Reactive Organic Gasses

(ROG)], or particulate matter (PM) would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the region's attainment plans.

- CO Hot Spot from Mobile Sources – Local mobile source impacts associated with a project would be considered significant if the project contributes to Carbon Monoxide (CO) concentrations in excess of the CAAQS.
- Toxic Air Contaminants (TAC) – Exposure to TAC would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 20 in 1 million or would result in a Hazard Index greater than 1.
- Odor impacts associated with a project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors.

The SJVAPCD also recommends a screening level of 100 pounds per day of any criteria pollutant from construction or operation activities after implementation of all enforceable mitigation measures. If this threshold is exceeded by any criteria pollutant, the SJVAPCD recommends that an ambient air quality analysis be performed.

The City has adopted the SJVAPCD screening thresholds for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts described in Appendix A.

Because no stationary sources of air pollution are being constructed as part of the Project, no air permits are required.

SJVAPCD is responsible for implementing control measures and regulating sources of air emissions in the county. SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (SJVAPCD, 2015) and air quality attainment plans were reviewed to determine whether the Project would conflict with applicable air quality plans. These SJVAPCD plans present strategies and control measures needed to continue the improvement of air quality in the county. As shown in Table 3-5 and Table 3-6, emissions from construction would not exceed any SJVAPCD thresholds of significance for construction. Disturbed surfaces that are not stabilized would be watered as needed for dust control to reduce PM emissions.

Per SJVAPCD Rule 8021, a Dust Control Plan would be developed to identify the dust sources and describe the dust control measures that would be implemented before, during, and after any dust generating activity for the duration of the Project. CMD would be required to submit plans to the District at least 30 days prior to commencing the work on non-residential developments of five (5) or more acres

of disturbed surface area. Operations may not commence until the District has approved the Dust Control Plan.

Project construction would be compatible with applicable air quality plans and short-term, construction-related emissions would not impact SJVAPCD's implementation of its adopted air quality plans.

No new stationary emission sources are expected for the operation of the Project except for cleaners and/or solvents used in the new maintenance shop. Operational emissions from consumer products, architectural coating products, landscape equipment, water usage, and solid waste generation would occur from operation of the Project. Default inputs were used for the calculations from these sources. Default inputs were also used for water usage and solid waste generation. Emissions from operation of the Project would be minimal and would not exceed any applicable thresholds (Appendix A). Therefore, operation of the Project would not conflict with adopted air quality plans and impacts are considered Less Than Significant.

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. The portion of Kern County where the Project is located is a non-attainment area for the 24-hour and annual PM_{2.5} NAAQS, the 8-hour ozone NAAQS, the 24-hour and annual PM₁₀ CAAQS, the annual PM_{2.5} CAAQS, and the 8-hour and 1-hour ozone CAAQS.

The cumulative baseline ambient air conditions include the emissions from existing sources in the Project region plus foreseeable changes to emissions associated with growth in the region. The generation of pollutant emissions by construction of other reasonably foreseeable projects could contribute to adverse impacts on ambient air quality, concurrent with those of the Project if the emissions occur at the same time. Based on current information, the region is nonattainment for the above-mentioned pollutants; however, there are plans in place to ensure that regional growth doesn't disrupt progress towards attainment. As identified in Table 3-5 to Table 3-8, the Project would not exceed SJVAPCD construction or operational significance thresholds for daily or annual emissions. Additionally, the Project would not conflict with any SJVAPCD air quality plans. Thus, the Project would result in Less Than Significant cumulative air quality impacts.

Air quality impacts related to construction and daily operations were calculated using the CalEEMod air quality model (Version 2020.4.0), which was developed for the South Coast Air Quality Management

District in 2013. CalEEMod is designed to quantify direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as greenhouse gas (GHG) emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. CalEEMod allows for the input of project-specific information, such as the number and types of equipment, hours of operations, duration of construction activities, and selection of emission control measures. The construction module in CalEEMod was used to calculate the emissions associated with the construction of the Project and uses methodologies presented in the EPA AP-42 document.

The majority of emissions for the Project would occur during construction, which is limited to a 15-month period, and emission would be greatest during the three (3) to four (4) months of heavy earthmoving and civil activities. The emissions would taper over time with reduced use of equipment as the level of activity transitions to operations and maintenance. The operations emissions would be substantially below thresholds. Cumulative impacts were assessed based on whether the Project would result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations. Results of the assessment can be found in Appendix A.

Construction

Construction emission calculations for the Project assume the implementation of standard dust control measures including watering during grading. The quantity, duration, and intensity of construction activity influences the amount of construction emissions and the related pollutant concentrations that occur at any one time. As such, the emission forecasts for the Project reflect a specific set of assumptions based on the expected construction scenario. If construction is delayed or occurs over a longer time period, daily emissions could be reduced because the Project could have a less intensive buildout schedule (i.e., fewer daily emissions spread over a longer time interval). The construction activities and overall size of the Project footprint is so small that cancer health risks from diesel particulate matter are not anticipated. Decommissioning emissions are assumed to be similar to construction emissions. The Project construction phases and timelines are shown in Table 3-2.

Table 3-2: Anticipated Construction Activities and Timelines

Construction Phase	Timeline
Site preparation	Month 1
Grading	Month 1
Building Construction	Month 1 through month 12
Paving	Month 13
Architectural Coating	Month 14 through month 15 ^a

(a) The technical studies for air quality and greenhouse gas and noise completed and analysis based on a more conservative/expedited construction period of 14 months.

The construction phases and timelines shown in Table 3-2 were used in CalEEMod using an eight (8)-hour workday and five (5)-day workweek. It is estimated that construction of the Project would take up to approximately 15 months to complete. Typical equipment would be used for site preparation (including grading), digging foundations, excavating trenches, and for conduit installation. Hours per day of operation for each type of construction equipment would vary based on the type of work being performed. The Project excavation area is anticipated to be approximately 5.8 acres. Final designs for land use type may decrease but shall not exceed the areas modeled for the Air Quality and GHG technical studies provide in Table 3-3. The land use subtypes in CalEEMod are broken down as shown in Table 3-3:

Table 3-3: Project Land Use Types

Project Area	Area (square ft)	Acreage ^a	CalEEMod Land Use Type	CalEEMod Land Use Subtype
Building (includes maintenance shop, wash rack)	25,000	0.57	Industrial	General light industry
Unpaved areas	70,850	1.63	Parking	Other non-asphalt surfaces ^b
Paved areas	156,800	3.6	Parking	Parking lot

(a) Total acreage sums to 5.8 acres

(b) This land use type was chosen based on a discussion with SJVAPCD staff for appropriately modeling unpaved surfaces such as stormwater basins or landscaped areas

Road surfaces for workers, vendors, and haulers commuting to and from Project locations were assumed to be paved. Approximately 98 percent of the surfaces surrounding the Project would be paved and this number was used in CalEEMod. Disturbed surfaces that are not stabilized would be watered as needed for dust control. The default CalEEMod worker trips per day and worker trip distance was used. The default CalEEMod vendor trips per day and vendor trip distance was used. A building footprint size of approximately 25,000-sf was used for architectural coatings emissions calculations. Anticipated equipment for each construction phase and equivalent equipment available in CalEEMod are provided in

Table 3-4. CalEEMod defaults were used for all other model inputs. All required construction data was used for the CalEEMod which was run to quantify Project-generated construction emissions.

Construction of the Project is anticipated to begin after receipt of all required approvals and would continue for approximately 15 months. The construction workers employed for the Project would consist of laborers, electricians, supervisory, support, and management personnel. The detailed construction emissions calculation output from CalEEMod is provided in Appendix A.

Table 3-4: Anticipated Equipment During Construction Phases

Construction Phase	Equipment	Power (horsepower)	Quantity
Site preparation	Grader	187	1
	Scraper	367	1
	Tractor/Loader/Backhoe	97	1
Grading	Grader	187	1
	Rubber tired dozer	247	1
	Tractor/Loader/Backhoe	97	2
Building Construction	Cranes	231	1
	Forklifts	89	3
	Generator set	84	1
	Tractor/Loader/Backhoe	97	3
	Welders	46	1
Paving	Cement and Mortar mixer	9	1
	Paver	130	2
	Paving equipment	132	2
	Roller	80	2
	Tractor/Loader/Backhoe	97	1
Architectural Coating	Air compressor	78	1

Table 3-5: Maximum Annual Expected Construction Emissions Summary

Pollutant ^a	Annual Emissions	SJVAPCD Threshold ^{1,a}	Threshold Exceeded?
	tons per year		
ROG	0.30	10	No
NO _x	1.29	10	No
CO	1.63	100	No
SO _x	352 x 10 ⁻³	27	No
PM ₁₀	3.17	15	No
PM _{2.5}	0.38	15	No

(1) SJVAPCD, 2015

(a) ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with diameter less than 10 microns; PM_{2.5} = particulate matter with diameter less than 2.5 microns; SJVAPCD = San Joaquin Valley Air Pollution Control District

Maximum daily construction emissions were also estimated using CalEEMod and are shown in Table 3-6. Because non-default values were used in CalEEMod, CalEEMod only outputs daily emissions on a winter and summer basis, as provided in Appendix A. Unless otherwise noted, the predicted emissions in

summer and winter are equal. As shown below, emissions from the Project do not exceed the screening guideline of 100 pounds per day for any criteria pollutant.

Table 3-6: Maximum Daily Expected Construction Emissions Summary

Pollutant ^a	Daily Emissions	SJVAPCD Threshold	Threshold Exceeded?
	pounds per day		
ROG	14.57 ^b	100	No
NO _x	16.52	100	No
CO	19.79 ^b	100	No
SO _x	0.04	100	No
PM ₁₀	44.57 ^b	100	No
PM _{2.5}	5.25	100	No

(a) ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with diameter less than 10 microns; PM_{2.5} = particulate matter with diameter less than 2.5 microns

(b) Maximum daily emissions occur in summer

Construction emissions from the Project would not exceed SJVAPCD thresholds as shown in Table 3-5 and Table 3-6. Mitigation measures are not required to meet the SJVAPCD thresholds; however, disturbed surfaces that are not stabilized would be watered as needed for dust control to reduce particulate matter emissions. Maximum annual expected construction emissions are presented in Table 3-5. As shown in Table 3-5, none of the Project construction emissions exceed the significance thresholds, including any criteria pollutants for which the Project region is in non-attainment and therefore, impacts are considered Less Than Significant.

Operation

CalEEMod was used to calculate operational emissions from the Project. The annual operational emissions are shown in Table 3-7.

Table 3-7: Maximum Annual Expected Operational Emissions Summary

Pollutant ^a	Annual Emissions	SJVAPCD Threshold	Threshold Exceeded?
	tons per year		
ROG	0.30	10	No
NO _x	0.15	10	No
CO	0.62	100	No
SO _x	1.58 x 10 ⁻³	27	No
PM ₁₀	0.13	15	No
PM _{2.5}	0.04	15	No

(a) ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with diameter less than 10 microns; PM_{2.5} = particulate matter with diameter less than 2.5 microns

As shown in Table 3-7, emissions from operation of the facility are below all SJVAPCD significance thresholds for operation. Detailed operational emissions calculations from CalEEMod are provided in Appendix A.

Daily operational emissions were also calculated using CalEEMod. Because non-default values were used in CalEEMod, daily emissions were calculated on a summer and winter basis, as shown in Appendix A. Unless otherwise noted, the predicted emissions in summer and winter are equal. As shown in Table 3-8, expected maximum daily emissions from operation are below the screening threshold of 100 pounds per day for all pollutants.

Table 3-8: Maximum Daily Expected Operational Emissions Summary

Pollutant ^a	Daily Emissions	SJVAPCD Threshold	Threshold Exceeded?
	pounds per day		
ROG	1.57 ^b	100	No
NO _x	0.93 ^c	100	No
CO	4.03 ^b	100	No
SO _x	0.01	100	No
PM ₁₀	0.79	100	No
PM _{2.5}	0.23	100	No

(a) ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with diameter less than 10 microns; PM_{2.5} = particulate matter with diameter less than 2.5 microns

(b) Maximum daily emissions occur in summer.

(c) Maximum daily emissions occur in winter.

No new stationary emission sources are expected for the operation of the Project except for cleaners and/or solvents used in the new FMS building. Default CalEEMod emission factors for consumer products, coating products, and landscape equipment were used for the calculations. Default inputs were also used for water usage and solid waste generation. Default CalEEMod vehicle trips to and from the

facility and around the facility were used to model emissions. Power for the facility would be provided by the Pacific Gas and Electric Company (PG&E) utility. To calculate emissions associated with operational electrical use, the site was classified as the “General Light Industry” category in CalEEMod. Default assumptions were used for all other operational categories in CalEEMod. Minimal emissions from operation of the Project are expected. As shown in Table 3-8, no SJVAPCD operational thresholds would be exceeded. Air quality impacts from operation of the Project would be Less Than Significant.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant. Air quality standards are set to protect populations who are sensitive to the adverse health effects of air pollutants. Sensitive receptor locations may include hospitals, schools, day care centers, parks, and other locations as the air district board or CARB may determine (California Health and Safety Code § 42705.5(a)(5)). While there are residences within 1,000 ft of the Project area, there are no sensitive receptors within 1,000 ft. Because construction emissions from the Project would be short-term and would not exceed SJVAPCD construction thresholds, no sensitive receptors or residential areas would be exposed to substantial pollutant concentrations.

Valley Fever Exposure

San Joaquin Valley Fever (Valley fever: formally known as *Coccidioidomycosis*) is an infectious disease caused by the fungus *Coccidioides immitis*. The areas in California where Valley Fever is considered highly endemic include the Central Valley region and coastal communities in Monterey and San Luis Obispo Counties. People can become infected with Valley Fever by inhaling microscopic spores of the fungus *Coccidioides* that lives in the soil. Exposure occurs when fungal spores become airborne and are inhaled either because of windy conditions that stir up loose topsoil, or when there is soil disruption (such as construction activities). Anyone who lives, works, or visits an area with Valley Fever can be infected. Valley Fever is not contagious and cannot be spread from one person or animal to another. Possible exposure reductions are discussed in the following paragraphs.

The California Department of Industrial Relations - Division of Occupational Safety and Health (Cal/OSHA) requires that employers develop and implement a respiratory protection program in accordance with Cal/OSHA’s Respiratory Protection standard [8 California Code of Regulations (CCR) 5144]. When exposure to dust is unavoidable, employers must provide to their workers National Institute for Occupational Safety and Health (NIOSH)-approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or High-Efficiency Particulate Air (HEPA) (Cal/OSHA 2017).

Furthermore, a new California state law, Assembly Bill (AB) 203, is an amendment to the California Labor Code and requires that employers in certain counties (including Kern County) must offer initial and annual training for all employees engaged in work expected to involve exposure to substantial dust disturbance. Employers must also provide training for new employees before assigning them to work sites. Employers must have offered initial existing worker training by May 1, 2020.

Construction of the Project is not expected to result in significant Valley Fever-related impacts because activities associated with construction of the Project are similar to other localized ground-disturbing activities that occur continually in the county. Further, employers in California are required to provide their workers training (pursuant to new law, AB 203) and respiratory protection (NIOSH-approved respiratory protection) when working in dust-prone areas. As a result, impacts associated with Valley Fever on sensitive receptors and construction workers would be less than significant. Implementation of fugitive dust measures as described above would further reduce this already Less Than Significant impact.

During operation, only small amounts cleaners and/or solvents would be used during vehicle maintenance. None of which would expose sensitive receptors to substantial pollutant concentrations. Therefore, impacts are considered Less Than Significant.

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

Less Than Significant. Localized concentrations of CO are typically associated with the idling of vehicles, particularly in highly congested areas. For this reason, the areas of primary concern are congested roadway intersections that experience high levels of vehicle traffic with degraded levels of service (LOS). Regarding potential increases in CO concentrations that could potentially exceed applicable ambient air quality standards, signalized intersections that are projected to operate at an unacceptable LOS E (unstable flow, operating at capacity) or F (forced breakdown of flow) are of particular concern.

While an increase in vehicle trips during the construction phase would occur, these trips are not expected to cause a significant degradation to the traffic at intersections. Additionally, worker and vendor trips associated with operation of the Project are not expected to adversely congest intersections. As a result, the Project is not expected to cause a substantial increase in localized CO concentrations that would exceed applicable ambient air quality standards during construction or operation.

Construction and operation of the Project may result in temporary increases in emissions of Diesel Particulate Matter (DPM) associated with the use of diesel-fueled equipment. Health impacts associated with DPM are primarily associated with long-term exposure to TACs and developing cancer. Cancer risk associated with exposure to TACs is typically calculated based on a long-term exposure period (e.g., 70-year). Construction activities are expected to occur over a 15-month period, which equates to roughly 1.5 percent of a 70-year exposure period.

Use of diesel-fueled equipment during operation of the Project would occur periodically and emissions from this activity are considered very low. Based on the emissions calculations performed for the construction and operation of the Project, emissions of particulate matter do not exceed SJVAPCD's significance thresholds for localized impacts (see Table 3-5, Table 3-6, and Table 3-7). As such, exposure to DPM because of the Project is not expected to exceed a 20 in 1 million risk of contracting cancer for the maximally exposed individual or result in a hazard index greater than 1. Therefore, this impact is considered Less Than Significant.

Construction of the Project may generate mild odor from the construction equipment exhaust. Any odors from construction would be periodic and temporary in nature since construction equipment would not be in any one area for longer than 15 months. The potential for odors affecting a "substantial number of people" is further reduced due to the industrial nature of the Project location. Therefore, impacts related to odors during construction would be Less Than Significant.

Operation and maintenance activities of the Project would not cause detectable odors. Vehicles used for maintenance may generate exhaust odors in the immediate vicinity, but because this would be temporary and would not affect a "substantial number of people", no operational odor impacts would occur.

No other emissions aside from those noted above are expected to occur during the construction and operation of this Project.

3.3.2 Mitigation Measures

No mitigation measures are recommended for Air Quality.

3.3.3 References

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3.4 Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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 Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.4.1 Discussion

McCormick Biological, Inc. conducted an evaluation of the Project site to determine if sensitive vegetation communities, potentially suitable habitat present for listed species, otherwise regulated plant and wildlife species, and potential jurisdictional features are present on the Project site. Results of the investigation are documented in a Biological Resources Evaluation dated December 2021, included as Appendix B. The following section is summarized from the Biological Resources Evaluation.

The evaluation consisted of a literature and database search as well as a reconnaissance-level biological field survey and habitat assessment for rare plants and wildlife within the Project site. The report also provided an evaluation of the potential direct and indirect impacts to biological resources associated with Project implementation and recommendations for additional biological studies.

Prior to visiting the Project site, McCormick Biological, Inc. reviewed the following electronic databases for species that could potentially occur in the vicinity of the Project site: California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants, U.S. Fish and Wildlife Service (USFWS) Designated and Proposed Critical Habitat Polygons, USFWS Information for Planning and Consultation Database (IPaC), and the Western Bat Working Group (WBWG) Bat Species Regional Priority Matrix. The following environmental documents and regulations were also analyzed for the Project site:

- Migratory Bird Treaty Act (MBTA)
- Federal Endangered Species Act (FESA)
- California Endangered Species Act (CESA)
- California Fish and Game Code (C.F.G.C. § 1580 et seq.)
- USDA NRCS Soil Survey Geographic Database (SSURGO) Soil Survey Geographic Database
- Metropolitan Bakersfield 2010 General Plan
- Metropolitan Bakersfield Habitat Conservation Plan (MBHCP) (City of Bakersfield 1994; CDFW 2014)
- USFWS National Wetlands Inventory (NWI) data
- U.S. Geological Survey (USGS) topographic maps

These sources were used to generate a list of special-status species considered in the field investigation and Biological Resources Evaluation. Refer to Appendix B for a complete list of these special-status biological resources, their respective conservation status, occurrence potential, and analysis of suitable habitat present. The evaluation was not limited to the special-status species list; however, any incidental

observations were recorded. Based on the results of the database searches and observed habitat conditions, McCormick Biological, Inc. identified the occurrence potential for each species.

The vegetation communities and land cover types identified during the survey include heavily disturbed annual grassland and ruderal vegetation and barren areas. The Project site is currently undeveloped with no existing permanent structures present. At the time of the survey, evidence of ongoing disturbance such as foot traffic, vehicle traffic, illegal dumping, and transient encampments were observed. No undisturbed natural lands were present on or in the vicinity of the Project site.

- 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 Game or U.S. Fish and Wildlife Service?**

Less Than Significant Impact with Mitigation Incorporated. A search of the USFWS National Wetlands Inventory resulted in no wetlands mapped on the Project site (USFWS 2021b). These results are consistent with the observed conditions within the survey area. No wetlands, riparian habitat, potential waters of the U.S., or potential waters of the State were observed. There is no USFWS-designated Critical Habitat within a 10-mile radius of the Project site.

A literature review and database queries identified 29 special-status plants and 41 wildlife taxa as potentially occurring on or in the vicinity of the Project site. Of the 29 special-status plants, only eight (8) of these plant taxa are state and/or federally listed. CEQA requires consideration of impacts to locally significant plant species and those that meet the criteria for listing, but which may not be officially listed under CESA or FESA. Those plants that are not officially listed but have been identified as rare, threatened, endangered or of limited distribution by the California Plant Society were also evaluated.

No listed or other special-status plant species were observed during the fieldwork conducted for the Project; however, the survey was conducted outside of the flowering period for all of these species. No listed or other special-status plant species have been recorded as occurring within the Project site footprint by any of the literature sources consulted. Even though the site visit was conducted outside of the appropriate period for identification of special-status plants, all special-status plant species were eliminated from further consideration based on one of the following: 1) the Project site does not provide suitable habitat due to the high existing disturbance level and lack of natural lands; and/or, 2) the Project site is out of the known range of the taxon. Based on the evaluation, no additional discussion is provided for special-status plant species beyond the evaluation included in Appendix B, Table A-1.

The CNDDDB, USFWS, and CNPS Rare and Endangered Plant Inventory queries returned a total of 29 special-status plants that have been documented as potentially occurring in the vicinity of the Project site. Based on McCormick Biological, Inc.'s habitat suitability analysis, none of the special-status plant species had the potential to occur within the Project site (Appendix B, Table A-1). During the reconnaissance survey a total of eight (8) plant species were observed, five (5) of which are non-native species. No listed or California Rare Plant Rank (CRPR) species were identified on the Project site during the field survey and the site does not represent suitable habitat for any of the special-status plants evaluated. Therefore, there is no potential for direct or indirect impacts to special-status plant species within the Project site. As described above, the Project site has undergone frequent disturbance, was completely graded in 2005, and is surrounded by urban and agricultural lands. As such, no special-status plant species have potential to occur onsite.

Appendix B, Table A-2, contains a discussion of the potential for each special-status wildlife species to occur on the Project site and whether there is a potential for impacts based on a combination of the literature review and conditions observed on and in the vicinity of the Project site. Two special-status wildlife species were found to have at least low potential for occurrence on the Project site but were not observed; those two wildlife species are burrowing owls and the San Joaquin kit fox (SJKF).

Burrowing Owl

The burrowing owl is a California species of special concern, and documented population declines have occurred in the State since at least the 1970s. It has no Federal listing but is protected by the Migratory Bird Treaty Act and potential habitat may be protected through the CEQA (California Department of Fish and Game [CDFG] 2012; CNDDDB 2021; MBTA 2021). Based on the initial site survey, several California ground squirrel burrows were identified with potential suitability for burrowing owl; however, no direct or indirect evidence of occupation by burrowing owl was noted during the reconnaissance survey conducted on the Project site.

Although no burrowing owls or sign of species presence was observed during the reconnaissance survey, California ground squirrel burrows, which are frequently used by burrowing owls for nesting and shelter, along with potential SJKF dens, were observed. The site is likely to support small mammals that are potential prey items in the diet of burrowing owl. Given that this species may occur in urban situations, the Project site may provide suitable foraging and nesting habitat. Absent additional measures, if the site were subsequently occupied by this species, burrowing owl burrows could be crushed or destroyed by vehicles during construction activities.

San Joaquin Kit Fox

The SJKF is currently Federal-listed as endangered and state-listed as threatened. Two dens were identified and evaluated for possible use by SJKF. Both were determined to be “potential dens” per the definitions in USFWS guidelines (2011b). This designation was based on the size of the dens and the absence of any SJKF sign (scat, tracks, or prey remains) that would indicate prior or current use by SJKF. No other direct or indirect evidence of SJKF occupation was noted during surveys conducted on the Project site.

The Project site provides suitable denning habitat for SJKF. Two suitably sized California ground squirrel burrows were observed during the survey effort. However, no sign indicating SJKF presence was observed. Individual SJKF could use either of the potential dens identified on the site. If the site becomes occupied by SJKF, Project activities could result in harm or injury to kit fox that would constitute a significant impact.

Nesting and Migratory Birds

The Project site contains remnant trees and minimal shrubs which can be used by nesting birds. The annual grassland present is suitable for ground nesting birds, but frequent disturbance reduces that suitability. Birds nesting on or in the immediate vicinity of the Project site could be disturbed if the Project is conducted during nesting season when active nests are present. If these nests are disturbed to the extent that eggs are destroyed, young are injured or killed, or adults abandon the nests, a violation of the MBTA and California Department of Fish and Wildlife (CDFW) Code could result.

General Wildlife

Wildlife is known to commonly enter open pipes, materials stockpiles, and storage containers as well as get on, under, or in vehicles and equipment. In addition, terrestrial wildlife may fall into open excavations during construction. Closing or moving pipes with wildlife inside could lead to direct mortality of individuals. If present under pallets, wildlife could be killed or injured by equipment when moving materials. If present in, on, or under equipment or vehicles when started or moving, wildlife could be crushed by tires, injured or killed by moving parts, or threatened through harassment by workers needing to access the vehicles. If deep enough in comparison to the animal size, wildlife falling into open excavations could be injured by the fall or otherwise become entrapped thereby increasing risks to the individual.

To protect all plant and wildlife species on the Project site during construction and operation, the following Mitigation Measures shall be implemented to avoid, minimize, and reduce the potential for

these effects to occur as a result of work activities. The following Mitigation Measures are also intended to result in compliance with applicable State and Federal statutes and regulations protecting biological resources. If it is determined that the effects to these species cannot be avoided, State and/or Federal permits may be warranted to obtain the appropriate authorization for such Project effects on Federal and/or State listed species.

With the implementation of Mitigation Measures **BIO-1** through **BIO-6** 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 CDFW or USFWS would mitigate potential impacts to Less Than Significant with Mitigation.

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 Game or U.S. Fish and Wildlife Service?

No Impact. No riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations; or by the CDFW or the USFWS would be disturbed by the Project; therefore, No Impact would occur.

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. The Project does not propose any disturbance to wetland vegetation. No wetland features or vegetation indicative of wetland conditions were observed during the field survey nor were any identified during the literature review. Consequently, No Impacts would occur as a result of Project development.

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?

No Impact. Wildlife corridors can be defined as connections between wildlife blocks that meet specific habitat needs for species movement generally during migratory periods, but seasonally as well. Wildlife corridors generally contain habitat dissimilar to the surrounding vicinity and include examples such as riparian areas along rivers and streams, washes, canyons, or otherwise undisturbed areas within urbanization. The Project site is an isolated and relatively small parcel of impacted annual grassland habitat. No Impacts are expected.

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

No Impact. There are no biological resources on the site which are separately protected by local policies. Therefore, conflicts with local policies would not occur.

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?

The Project is within the geographic area covered by the MBHCP; however, the Project is not expressly covered by its provisions because the CMD is not subject to City or County development permits. The MBHCP (City of Bakersfield 1994; CDFW 2014) was developed to obtain permits that meet both Federal and State environmental regulations regarding incidental “take” of listed species set for in the Endangered Species Act (ESA) and CESA. The goal of the MBHCP is to acquire, preserve, and enhance native habitats that support endangered and sensitive species. Since development on open lands in Metropolitan Bakersfield could potentially result in the incidental “take” of habitat and/or Federal and State listed species, permits acquired under the MBHCP include Section 10(a)(1)(B) of the ESA and Section 2081 of the CESA. The MBHCP is funded through the collection of mitigation fees associated with urban development that is subject to grading plan, building permits, and some other urban development permits occurring within the MBHCP permit area. The fee is paid to the City or County at the time of grading permit approval, grading plan approval, issuance of building permit, or another urban development permit. Upon payment and provided that all applicable measures required in the MBHCP and associated CESA Incidental Take Permit have been implemented, the applicant becomes a sub-permittee and would be allowed the incidental take of species in accordance with Federal and State endangered species laws and the provisions of the MBHCP.

No Impact. If a permit is obtained from either the City or the County, it would be subject to the provisions of the MBHCP. However, the Project is not subject to urban development permits required of private projects in the MBHCP boundary and therefore No Impacts are expected.

3.4.2 Mitigation Measures

The following measures are intended to reduce identified potential effects to special-status species as a result of the Project and are intended to result in compliance with applicable State and/or Federal statutes and regulations protecting biological resources.

- BIO-1** Biologists conducting activities in measures BIO-2 through BIO-6 shall be qualified to determine presence of that species. At a minimum, qualified biologists shall have a bachelor's degree in biological or environmental sciences or show equivalent experience, have two (2) years of experience detecting the target species, and have experience sufficient to understand potential effects on the species for which they are approved.
- BIO-2** Surveys to detect SJKF shall be conducted no more than 30 days prior to any ground disturbance activities on the Project site. Survey protocols and den definitions shall be consistent with the USFWS Standardized recommendations for the protection of the SJKF prior to or during ground disturbance (USFWS 2011; Guidelines) or current agency protocols and requirements. Den buffer zones and excavation procedures shall be consistent with the Guidelines. Should SJKF dens be found, protection measures shall include the following:
- A. Potential and known SJKF dens (as defined in the Guidelines) shall be avoided by 50-foot (15-meter) and 100-foot (30-meter) buffers, respectively, if possible. If it is not possible to avoid potential or known SJKF dens, then the procedures specified below that pertain to SJKF shall be followed.
 - B. Potential dens with no sign of SJKF presence shall be monitored for four (4) nights using tracking material and/or an infrared camera. Potential dens may be excavated once it is confirmed that no SJKF is present. If SJKF or sign of SJKF is observed at any time during the monitoring or excavation of a potential den, its status becomes known and procedures described below for treatment of known dens must be implemented.
 - C. If a known den cannot be avoided by Project activities and the Project is not covered by the MBHCP, then USFWS and CDFW shall be contacted regarding FESA and CESA compliance, respectively. Unavoidable known SJKF dens may be excavated under the supervision of an agency approved SJKF biologist provided that they are shown through the following monitoring methods (at a minimum) to be unoccupied and the appropriate Federal and/or State authorizations have been acquired.
 - D. Known SJKF dens shall be monitored by placing tracking material and remote sensing cameras at each den entrance and checking each morning until no SJKF activity is recorded for four (4) consecutive nights.

- E. A qualified SJKF biologist shall be present during all SJKF den monitoring and excavations.
- F. If a SJKF natal/pupping den cannot be avoided by 500 ft (152 meters), the CDFW and the USFWS shall be contacted for further guidance.

BIO-3 Surveys to detect burrowing owls should be conducted no more than 30 days prior to any ground disturbance activities on the Project site and can be conducted concurrently with SJKF surveys required in BIO-2. Occupied burrows should not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. If burrowing owls are observed using burrows during the surveys, owls shall be excluded from all active burrows through the use of exclusion devices placed in occupied burrows in accordance with CDFG protocols (CDFG 2012), and the Staff report on burrowing owl mitigation shall be implemented. In such case, exclusion devices shall not be placed until the young have fledged and are no longer dependent upon the burrow, as determined by a qualified biologist. Specifically, exclusion devices, utilizing one-way doors, shall be installed in the entrance of all Biological active burrows. The devices shall be left in the burrows for at least 48 hours to ensure that all owls have been excluded from the burrows. Each of the burrows shall then be excavated by hand and refilled to prevent reoccupation. Exclusion shall continue until the owls have been successfully excluded from the site, as determined by a qualified biologist

BIO-4 If Project activities occur during nesting season (February 1 to August 31) a qualified avian biologist shall conduct a nesting bird survey to identify any active nests present within the proposed work area. Surveys shall be conducted no more than ten (10) days prior to any ground disturbance activities on the Project site. If active nests are found, initial ground disturbance shall be postponed or halted within a buffer area, established by the qualified avian biologist, that is suitable to the particular bird species and location of the nest, until juveniles have fledged or the nest has been abandoned, as determined by the biologist. The construction avoidance area shall be clearly demarcated in the field with highly visible construction fencing or flagging and construction personnel shall be instructed on the sensitivity of nest areas.

BIO-5 If any previously unidentified protected species that are not addressed in this document or any previously unreported protected species are found to be present, occupied areas shall be avoided and a qualified biologist shall notify the USFWS and CDFW of any previously unreported protected species. Any take of protected wildlife shall be reported immediately to USFWS and CDFW.

BIO-6 The following additional general measures shall be implemented that represent best management practices (BMPs) for reducing the potential for impacts on biological resources:

- A. Traffic restraints and signs shall be established to minimize temporary disturbances during construction where potential biological resources have been confirmed by a qualified biologist. All construction traffic shall be restricted to designated access roads and routes, Project site, storage areas, and staging and parking areas. Off-road traffic outside designated Project boundaries shall be prohibited. A 15 mile-per-hour (24 kilometer-per-hour) speed limit shall be observed in all Project construction areas except as otherwise posted on county roads and State and Federal highways.
- B. All equipment storage and parking during construction activities shall be confined to the designated construction area or to previously disturbed offsite areas that are not habitat for listed species.
- C. Project construction activities involving initial surface disturbance shall be limited to daylight hours.
- D. Trenches shall be covered or ramped (no steeper than 2:1) to allow wildlife to escape. Such trenches shall be inspected for entrapped wildlife each morning prior to the onset of construction. Before such holes or trenches are filled, they would be thoroughly inspected for entrapped animals. Any wildlife so discovered would be allowed to leave on its own accord, without harassment, before construction activities resume. A qualified biologist may remove wildlife from a trench, hole, or other entrapment out of harm's way if the immediate welfare of the individual is in jeopardy. State or Federal listed species may not be handled. Should any state or Federal listed species become entrapped, CDFW and USFWS shall be contacted as appropriate by a qualified biologist.
- E. All exposed pipes, culverts, and other similar structures with a diameter three (3) inches or greater shall be properly capped in order to prevent entry by burrowing owl, SJKF, or

other wildlife. Any of these materials or structures that are left overnight and are not capped shall be inspected prior to being moved, buried, or closed in order to ensure that burrowing owls, SJKF, or other wildlife are not present. If a listed species is found within pipe, culverts, or similar structures, the animal would be allowed to escape that section on its own accord prior to moving or utilizing that segment.

- F. All food-related trash items such as wrappers, cans, bottles, and food scraps generated by Project activities shall be disposed of in closed containers and removed at least once each week from the site. Deliberate feeding of wildlife would be prohibited.
- G. To prevent harassment of special-status species, construction personnel shall not be allowed to have firearms or pets on the Project.
- H. All liquids shall be in closed, covered containers. Any spills of hazardous liquids shall not be left unattended until clean-up has been completed.
- I. Use of rodenticides and herbicides on the Project site shall be prohibited unless approved by the USFWS and the CDFW. This is necessary to prevent primary or secondary poisoning of special-status species using adjacent habitats and to avoid the depletion of prey upon which they depend. Label restrictions and other restrictions imposed by the United States EPA, the California Department of Food and Agricultural, and other State and Federal legislation shall be implemented. If rodent control must be conducted, zinc phosphide would be used because of its proven lower risk to SJKF.
- J. Any employee who inadvertently kills or injures a listed species, or who finds any such wildlife dead, injured, or entrapped, would be required to report the incident immediately to a designated site representative (e.g., foreman, project manager, environmental inspector, etc.), except animals killed on State and county roads when such mortality is not associated with Project traffic.
- K. In the case of injured special-status wildlife, the CDFW shall be notified immediately. During business hours Monday through Friday, the phone number is (559) 243-4017. For non-business hours, report to (800) 952-5400. Notification would include the date, time, location, and circumstances of the incident. Instructions provided by the CDFW for the care of the injured animal shall be followed by the contractor onsite.

- L. In the case of dead wildlife that are listed as threatened or endangered, the USFWS and the CDFW shall be immediately (within 24 hours) notified by phone or in person and the initial notification shall be documented in writing within 2 working days of the findings of any such wildlife. Notification shall include the date, time, location, and circumstances of the incident.
- M. Prior to commencement of construction on any phase of work, work areas would be clearly marked with fencing, stakes with rope or cord, or other means of delineating the work area boundaries.

3.4.3 References

McCormick Biological, Inc (December 2021). Biological Resources Evaluation. Field Maintenance Shop at Bakersfield Readiness Center Project. Bakersfield CA.

USFWS. (2011b). U.S. Fish and Wildlife Service standardized recommendations for protection of the endangered San Joaquin kit fox prior to or during ground disturbance. Sacramento, CA: Author. 9 pp. Retrieved from http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/kitfox_standard_rec_2011.pdf

3.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.5.1 Discussion

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

Less Than Significant Impact. Pursuant to 36 CFR Section Part 800.4(a) and (b), CAARNG conducted background research and archaeological surveys to identify resources eligible for listing in the National Register of Historic Places (NRHP) that may be affected by the Project, including a review of previous records search results, CAARNG building databases, and CAARNG Environmental Office records (historical materials as well as archaeological site records, survey reports, evaluation reports, etc.). The Area of Potential Effect (APE) for the Project has been defined as an area significantly larger than the project “footprint,” in order to include any additional minor ground-disturbing activities associated with construction, such as training, staging, and vehicle/equipment parking. Because there are no NRHP-eligible or historically significant built environmental resources in the area immediately surrounding the Project site, the APE has been defined solely on the basis of the Project’s potential for direct effects to archaeological resources.

Identification research efforts indicate that the Project vicinity was previously developed since 2004, when record review for construction of the adjacent Bakersfield Readiness Center began. In addition, the APE and many surrounding areas have been previously surveyed for cultural resources, and there are no known archaeological resources in the immediate vicinity of the Project. To determine whether the Bakersfield Readiness Center contained previously recorded cultural resources, a records search was conducted for the Project by the California Historical Resources Information Center, Southern San Joaquin Valley Information Center, California State Bakersfield. The records search was completed on

November 7, 2003. The search included files at the center that contain known and recorded archaeological and historic sites, inventory and excavation reports filed with the office, and properties listed on the NRHP, the Historic Property Data File, the California Register, the California State Historical Landmarks, the California Inventory of Historic Resources, and the California Points of Historical Interest. The records search determined that there were no reported cultural resources within the Bakersfield Readiness Center project site, an area that includes the current Project footprint.

Seven surveys have been conducted within a mile of the Project and one historic period trash scatter was recorded within a mile of the site. On November 15, 2003, the Project site was surveyed for cultural resources by a qualified archaeologist. The survey found no resources or properties present at the site. Due to prior disturbance throughout the Project site, including grading, it is unlikely that significant subsurface archaeological resources are present below the disturbed soil depth, however, construction could reveal intact cultural deposits.

At present, there is one federally recognized tribe, the Tule River Indian Tribe, associated with Yokut, and two other groups and one individual that are affiliated with the Tubatulabal, Kawaiisu, Koso, Yowlumne, and Kitanemuk that may have interest in the Project site vicinity. The CAARNG sent a letter dated February 8, 2022, to the attention of the Tachi-Yokut Tribe, the Tejon Indian Tribe, and the Tule River Indian Tribe providing a map and description of the Project. To date, CARRNG has not received a response from any of listed the Tribes.

Consultation under Section 106 was conducted for this Project on April 12, 2022, by CAARNG requesting concurrence with the finding of “No Historic Properties Affected” for the Project, in accordance with Section 800.4(d)(1) (CEQA Guidelines Appendix G). On May 17, 2022, Julianne Poblano, State Historic Preservation Office (SHPO) officer, issued a letter stating:

- The APE appears adequate to account for direct and indirect effects to historic properties
- SHPO concurs with the Guard’s (CARRNG’s) No Historic Properties Affected finding

A copy of the SHPO correspondence can be found in Appendix C. Because no designated historical resources exist on the Project site and because the Project would not significantly impact offsite historical resources, impacts to historical resources during the construction or operation of this Project would be Less Than Significant.

The 2018 Metropolitan Bakersfield DEIR lists 41 known historic resources recorded by the NRHP, California Historic Landmarks, and City of Bakersfield Register of Historic Places (Bakersfield, 2021). None of these historic resources are located on the Project site. The closest historical resource is the Union Cemetery approximately 1.5 miles away. As Project construction and operation would remain entirely within the footprint of the Project site and the Bakersfield Readiness Center, it would not significantly impact offsite historical resources. Therefore, impacts to historical resources during the construction or operation of this Project would be Less Than Significant.

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

Less Than Significant Impact with Mitigation Incorporated. As indicated in the 2018 Metropolitan Bakersfield DEIR, some vertebrate fossil localities are located within the City or its sphere of influence. Paleontological record searches conducted in 2011 in support of the General Plan found no observations of fossil resources within City boundaries. Occasional fossil remains may be present, although their distribution in the area is unknown. Pleistocene-aged deposits in the subsurface of the Project site have the potential to yield scientifically significant fossils. The Project site has been previously graded and disturbed and the Project involves relatively shallow ground disturbance activities. However, there is still the potential for the inadvertent discovery of archaeological resources during excavation and project construction. Incorporation of Mitigation Measure **CUL-1**, archaeological resource discovery protocol, would mitigate any potential impacts to archaeological or cultural resources to Less Than Significant levels.

Construction

Ground-disturbing activities associated with the construction of the Project have the potential to lead to the inadvertent discovery of archaeological resources on the Project site. Incorporation of Mitigation Measure **CUL-1** would mitigate any potential impacts to Less Than Significant levels.

Operation

No activities associated with Project operation would have direct or indirect impacts on archaeological resources. There would be No Impact to archaeological resources during operation of the Project.

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

Less Than Significant Impact with Mitigation Incorporated. A minimal potential exists for the incidental discovery of human remains during ground-disturbing activities associated with the construction of the Project. In the case that human remains are uncovered, incorporation of Mitigation Measure CUL-1 would reduce potential impacts related to the disturbance of human remains to Less Than Significant levels with Mitigation Incorporated.

Construction

Ground-disturbing construction activities have the potential to disturb human remains that may be buried onsite. If human remains are discovered, the Project shall implement Mitigation Measure CUL-1 and CAARNG shall implement its Standard Operating Procedure (SOP) 11 (Inadvertent Discovery) or SOP 4 (Compliance with Laws Relating to the Discovery and Repatriation of Human Remains) of its Integrated Cultural Resources Management Plan (ICRMP). Implementation of these measures would mitigate this potential impact to Less Than Significant Levels with Mitigation Incorporated.

Operation

No activities associated with the operation of this Project have the potential to disturb or unearth any human remains including those interred outside of formal cemeteries; therefore, No Impact would occur.

3.5.2 Mitigation Measures

CUL-1 The CMD/CAARNG shall implement SOP 11 (Inadvertent Discovery) of its ICRMP in the event of an inadvertent discovery of archaeological human remains or SOP 4 (Compliance with Law Relating to the Discovery and Repatriation of Human Remains) of its ICRMP in the event of an inadvertent discovery of Native American human remains. In accordance with SOP 11 of the ICRMP, workers/soldiers shall monitor their ground disturbance activities for previously unknown cultural resources. Should cultural resources be inadvertently discovered, all work shall stop, and the Environmental Office shall be contacted immediately (916-854-1477). Work may resume upon completion of consultation with the State Historic Preservation Officer or other resolution of the discovery. Because the Project site is Federal property, the Native American Graves and Repatriation Act applies to all human remains and associated burial goods discovered to be of Native American origin.

3.5.3 References

Bakersfield. (2018). *Making Downtown Bakersfield Project Draft Environmental Impact Report*.

Retrieved 30 June 2021 from <https://content.civicplus.com/api/assets/301a0f81-3b53-4ebb-adf4-39151570ea8e?cache=1800>.

3.6 Energy

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

3.6.1 Discussion

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

Less Than Significant Impact. The short-term construction and long-term operation of the Project would require the consumption of energy resources (e.g., electricity and fuel) at the Project site.

Construction and operational energy consumption are evaluated in detail below.

Construction

The anticipated construction schedule assumes that the Project would be completed over a period of approximately 15 months. The construction phase would require energy for the manufacturing and transportation of building materials, preparation of the site (e.g., excavation, and grading), and the actual construction of Project components. Site preparation would include grading, paving, and building construction that would consume energy in the form of electricity for power tools and lighting, gasoline, and diesel fuel for the operation of construction equipment, trucks, and personal vehicle travel.

Temporary electric power for as-needed lighting and electronic equipment would be provided by PG&E or small mobile generators. The amount of electricity used during construction would supply the typical demand of electrically powered hand tools and temporary lighting.

Petroleum would be consumed throughout construction. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction. Transportation of construction materials and construction workers would also result in petroleum consumption. Heavy-duty construction equipment, delivery trucks, and haul trucks would use diesel or gasoline fuel. Construction workers would likely travel to and from the Project site in gasoline-powered vehicles. Consumption of such resources would be temporary, used on an as-needed basis, and would cease upon the completion of

construction. SJVAPCD has created rules around vehicle idling during construction and operation. These rules help decrease fossil fuel consumption when construction and operation vehicles are not in use. Due to the limited scale of Project construction and the provision to limit idling set forth by the SJVAPCD, the Project would not result in inefficient energy consumption during construction. As such, construction-related energy impacts would be Less Than Significant.

Operation

Long-term operational energy use associated with the Project includes electricity and natural gas consumption associated with the new buildings (e.g., lighting, electronics, heating, and cooling), energy consumption related to water usage and solid waste disposal, and fuel consumption (gasoline and diesel) by vehicles associated with the Project (POV, serviced vehicles, work vehicles). The CalEEMod 2020.4.0 was used to estimate energy use during Project operation. During operation, the Project would result in the consumption of approximately 1.10×10^6 kilowatt hours (kWh) of electricity per year (1.1 GWh of electricity per year). In 2020, the total system electric generation for California was 272,576 gigawatt hours (GWh). As a result, the Project's consumption of electricity at operation would represent approximately 0.0004 percent of the 2020 statewide total system electric generation, which is an insignificant fraction of statewide consumption. During operation, the Project would result in the consumption of approximately 2.53×10^6 kilo-British Thermal Units (kBtu) of natural gas per year (2.53 million cubic ft of natural gas per year). In 2020, California consumed a total of 2,074.3 billion cubic ft of natural gas. As a result, the Project's consumption of natural gas at operation would represent approximately 1.2×10^{-8} percent of the 2020 statewide annual natural gas consumption, which is an insignificant fraction of statewide consumption. The building would be built to LEED Silver standards and use energy efficiencies to reduce the overall electrical and natural gas consumption of the building over its lifetime.

The Project would comply with standards set forth in CBC Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation. California Green Building Standards (as codified in CCR Title 24, Part 11) require implementation of energy-efficient light fixtures and building materials into the design of new construction projects. Interior lighting controls would be designed to include automatic lighting controls (e.g., vacancy and/or occupancy sensors) to turn off the light fixtures within 30 minutes (or less) of detected inactivity. The 2019 Building Energy Efficiency Standards (CBC Title 24, Part 6) require newly constructed buildings to meet energy efficiency performance standards set by the California Energy Commission (CEC). The standards are updated every three (3) years, and each iteration increases energy efficiency standards. Furthermore, use of nonrenewable energy resources would decline over time as the electricity generated by renewable

resources provided by PG&E continues to increase to comply with California requirements through Senate Bill (SB) 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. Based on the above, the Project would not result in wasteful or unnecessary energy consumption, and impacts would be Less Than Significant.

The Project would also site underground electrical conduit for future photovoltaic provisions. Electrical handholes would be located outside the electrical room, near the personal vehicle parking area, and at the north end of the Project site behind the military vehicles parking area. Proposed underground conduit development would be routed between electrical handholes from electrical room future inverter designated stub-up conduits to future ground-level and elevated carport type photovoltaic arrays. Photovoltaic installation is not planned at this time, but the Project would create electrical infrastructure for potential future use.

The primary intended use of the FMS building is to service CAARNG vehicles at the Bakersfield Readiness Center. During Project operation, the FMS building would serve as a maintenance, repair, and education facility utilized by CAARNG. Currently, minor mechanical work is performed at the Bakersfield Readiness Center, however, if major vehicle repairs are needed, the vehicle is towed offsite to Barstow, approximately 130 miles away for maintenance. When maintenance is complete, the vehicle is towed back to the Bakersfield Readiness Center, creating a 260-mile trip. Proximity to the Bakersfield Readiness Center is the most important design element of the Project to reduce vehicle miles traveled (VMT) to an offsite location for vehicle servicing. Construction of the Project would substantially reduce VMT through the life of Project operation, saving the CMD cost associated with travel and fuel usage, decreasing overall energy demands, reducing GHG emissions, and decreasing use of energy (i.e., fuel) from towing vehicles to Barstow.

The GHG analysis described in Section 3.8 shows that the Project's total emissions from all energy use, including VMT, would not exceed the SJVAPCD threshold. The GHG analysis concludes that the Project's emissions would be below the established threshold, which supports a conclusion that the Project's use of energy would not be wasteful or inefficient and impacts would be Less than Significant.

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

Less than Significant Impact. Construction and operation of the Project would not result in a significant new energy demand and there are no Project components or operations that would conflict with any other State or local plan for renewable energy or energy efficiency. The Project would not obstruct a State or

local plan for renewable energy or efficiency and the Project would comply with State laws and regulations, including the most recent CBC requirements, while also building to LEED Silver standards. Therefore, potential impacts would be Less Than Significant.

3.6.2 Mitigation Measures

No mitigation measures are recommended for energy resources.

3.6.3 References

California Energy Commission. 2020 Total System Electric Generation. <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2020-total-system-electric-generation>

U.S. Energy Information Administration. Natural Gas Consumption by End Use. https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm

3.7 Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.7.1 Discussion

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

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

Less Than Significant Impact. The Project is not located in a fault zone identified by the California Earthquake Hazards Zone Application (EQ Zapp) administered by the California Geological Survey (CGS) in compliance with the Alquist-Priolo Earthquake Fault Zoning Act, Special Publication 42, Revised 2018. However, all of California is seismically active, and there are numerous geologic fractures in the earth's crust within the San Joaquin Valley; the most prominent being the San Andreas fault (approximately 36 miles to the south and west of the Project). Two active faults are in the vicinity of the Project site. An unnamed set of ground ruptures associate with the 1952 earthquake is located approximately five (5) miles east of the Project site and the Kern Front Fault is approximately eight (8) miles northwest of the Project site and is actively creeping due to fluid withdrawal. Despite the Project's proximity to fault systems, there are no active faults or fault systems that traverse the Project site.

There are no active faults or fault systems known to traverse the Project site. Construction and operation of the Project would not expose people or structures to substantial adverse effects related to fault rupture during a seismic event, and the facilities would be constructed in compliance with seismic standards set forth in the CBC. Therefore, impacts associated with the rupture of a known fault would be Less Than Significant.

ii) Strong seismic ground shaking?

Less Than Significant Impact. California is seismically active, and it is typical for seismic activity to result in ground shaking. However, the Project would be designed and constructed in compliance with CBC regulations that minimize ground shaking impacts. The CBC includes building design standards with specific seismic engineering design measures that would reduce impacts from seismic ground shaking to Less Than Significant levels.

Construction

All construction activities would comply with applicable regulations, standards, and building codes to mitigate potential impacts from seismic ground shaking to Less Than Significant levels. This would include temporary shoring measures during excavation to protect workers from any cave-ins during seismic events.

Operation

All structures would be constructed in conformance with applicable design standards from Federal, State, and local building codes, and no people or structures would be exposed to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic ground shaking during the operation of the Project. Therefore, impacts are considered Less Than Significant.

iii) Seismic-related ground failure, including liquefaction?

Less than Significant. The Project is not located in a liquefaction zone identified by the EQ Zapp administered by the CGS. Areas of shallow groundwater are at a greater risk for liquefaction of soils during a major earthquake. The 2010 Metropolitan Bakersfield General Plan states high groundwater is known to exist at depths of 5 to 15 ft below the ground surface in portions of south Bakersfield and such areas could experience areas of liquefaction during a strong earthquake. Areas of shallow groundwater are rare elsewhere in the City because the water table has been in a condition of subsidence due to the extraction of water for irrigation since the late 1880s. The Readiness Center's 2004 Environmental Assessment (EA) indicates groundwater below the Project site is known to be rather deep; well records indicate that the depths to groundwater average between 90 and 200-ft in the Project vicinity. As with any new development in California, Project building design and construction would be required to comply with applicable provisions of the most recently adopted version of the CBC. With adherence to Federal, State, and local building codes and the depth of groundwater in the Project vicinity, impacts would be Less than Significant from ground failure, including liquefaction during both construction and operation of the Project.

iv) Landslides?

No Impact. The Project is not located in a landslide zone identified by the EQ Zapp administered by the CGS. The Project site is in a flat area with low vulnerability to landslides, mudslides, or rock-fall events induced by rainfall or excessive rainfall. The area surrounding the Project site is relatively uniform with flat topography; therefore, there would be No Impact from landslides during both construction and operation of the Project.

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

Less Than Significant Impact. Construction activities may lead to some soil erosion as soil is exposed during grading and excavation activities. However, the Project site is flat and therefore not susceptible to destabilizing slopes and rapid erosion during excessive rainfall. The Project must comply with the

requirements of the National Pollutant Discharge Elimination System (NPDES) Permit. The NPDES Permit Program helps control water pollution by regulating point sources that discharge pollutants into receiving waters. Project compliance under NPDES is discussed further in Section 3.10.

Additionally, since the Project would disturb one or more acres of soil, it would be required to obtain coverage under the General Permit for Discharges of Stormwater Associated with Construction Activity [CGP (Construction General Permit) Order 2009-0009-DWQ]. Construction activities subject to the CGP include clearing, grading, and disturbances to the ground such as stockpiling or excavation. The CGP requires implementation of a SWPPP. The SWPPP would generally contain a site map showing the construction perimeter, existing and proposed buildings, stormwater collection and discharge points, general preconstruction and post-construction topography, drainage patterns across the Project site, and adjacent roadways.

The SWPPP must also include Project construction features designed to protect against stormwater runoff, known as BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants should the BMPs fail; and a sediment monitoring plan should the Project site discharge directly into a water body listed on the 303(d) list for sediment BMPs. Implementation of the SWPPP during the construction phase would ensure that erosion control measures are followed to reduce potential impacts related to erosion. Typical BMPs include the use of soil binders, straw mulch, earth dikes, drainage ditch, and velocity dissipation devices.

Construction

Construction activities would include grading and vegetation removal that may result in soil and other raw materials being exposed. During rain events, these exposed raw materials can be carried in surface runoff increasing the amount of silt, debris, and suspended sediments that are deposited into surface water. A CGP would be obtained and implemented that would include site-specific BMPs to control erosion and sediment loss during construction. Implementation of these BMPs and compliance with erosion control measures would reduce impacts to Less Than Significant levels.

Operation

Project operation must also comply with the NPDES Industrial General Permit. Once the Project is constructed, no stockpiles of soil would exist on the Project site. In addition, the Project site would be paved, developed, and vegetated so that exposed soil is limited. A stormwater management basin would be designed within the Project site between the parking lot and Gateway Avenue for sediment and pollution control, so that there is no net increase in runoff volume or rate between preconstruction and

post-construction. The stormwater basin would be covered with stone cobble or vegetation and surrounded by decorative gravel mulch. A water-efficient irrigation system would be designed to provide for site landscaping. The paved area around the FMS building would also collect stormwater runoff from the new building and parking areas in below grade piping or allow it to sheet flow to the proposed stormwater management facilities, a ditch along the eastern perimeter, and then flow south to the stormwater basin. The stormwater facilities, in addition to adherence to applicable erosion control and stormwater management BMPs, including Section 438 of the Energy Independence and Security Act and the City of Bakersfield, and State requirements, would reduce impacts to Less Than Significant levels.

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 offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

No Impact. As indicated above, the Project site is not located within the liquefaction or landslide zones identified by the EQ Zapp administered by the CGS. Lateral spreading is a principal effect from liquefaction. The 2004 EA states there is a low potential for liquefaction and seismically induced soil settlement due to the depth of the groundwater table. The 2018 Metropolitan Bakersfield Draft Environmental Impact Report (DEIR) concluded subsidence is not a significant hazard, noting the southern part of the City has been undergoing gradual land subsidence, with up to 4-ft of subsidence over 40 years. However, the Project is in the central portion of the planning area and the previous 2004 EA indicated the land beneath the Project area has a low potential for liquefaction due to the deep groundwater table. Therefore, there would be No Impact related to soil instability and ground failure during both construction and operation of the Project.

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

Less Than Significant Impact. The Soil Survey Geographic Database soil survey map describes the soil at the Project area as Calflax clay loam and Panoche-Urban land complex, 0 to 2 percent slopes (McCormick Biological, 2021). Based on the 2010 Metropolitan Bakersfield General Plan, these soils are not known to have a high potential for soil expansion. Expansive soils tend to contain large amounts of clay and are typically located in basins or on basin rims. The soils on the Project site do not have these characteristics; Project site soil is reported to be very loose silt and fine sand with mica flakes. No hydric soils are present, and the soil is devoid of organic matter (2018 Metropolitan Bakersfield DEIR). The Project is not located on expansive soils; therefore, impacts are considered Less Than Significant.

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

No Impact. The Project would not construct or use any septic tanks or alternative wastewater disposal systems. The Project facilities would tie into the existing City municipal sewer system via Gateway Avenue. Temporary construction needs would be satisfied by using portable restroom facilities. Therefore, construction and operation of the Project would have No Impact on septic tank or alternative wastewater disposal systems.

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

Less Than Significant Impact with Mitigation Incorporated. As indicated in the 2010 Metropolitan Bakersfield General Plan, the City is underlain by sediments and rocks of Quaternary age (1.8 million years to present). During the Quaternary age, several large and small lakes occupied the southern portion of the San Joaquin Valley. The present surface extent of these lakes is reflected in the remnants of Buena Vista Lake, Kern Lake, and Tulare Lake. Lake deposits in this area have produced the remains of numerous species of extinct animals. Geological records of the region indicate it is underlain by recent alluvial deposits to all depths likely to be reached by excavations associated with development. These alluvial deposits appear to be too young geologically to contain significant fossil remains based on the age of Buena Vista Lake deposits. Therefore, the City is considered to have a very low potential for the discovery of fossils. Older fossiliferous alluvium may be present 6-ft below the surface since the remains of Pleistocene (ice age) land animals have been collected from older alluvial deposits in Kern County. If excavations penetrate below 6-ft, there is a “low to moderate potential” for the discovery of fossils. A “low to moderate potential” indicates that grading operations may expose fossils during development. These activities could destroy any fossils present. The destruction of such fossils could adversely impact the region’s paleontological resources (2010 Metropolitan Bakersfield General Plan).

Construction

Depth of excavation for construction of the Project could exceed 6-ft in certain areas for trenching of utilities and conduit; therefore, the Project shall include Mitigation Measure **GEO-1** to protect unique paleontological resources that may be discovered during construction. Inclusion of Mitigation Measure **GEO-1** would result in Less Than Significant impacts with Mitigation Incorporated.

Operation

No activities associated with Project operation would have direct or indirect impacts on paleontological resources. No Impact to paleontological resources would occur during operation of the Project.

3.7.2 Mitigation Measures

GEO-1 If paleontological resources are encountered during construction activities, all work shall stop at the discovery site. At that time, a qualified paleontological monitor shall be consulted to evaluate the find. Construction activities shall be temporarily redirected to another location on-site (minimum of 100-ft from the location of the find) so that the monitor can recover any specimens encountered during excavation. All fossils/specimens collected during this work shall be deposited in a City approved museum repository for curation and storage.

3.7.3 References

- Bakersfield. (2018). *Making Downtown Bakersfield Project Draft Environmental Impact Report*. Retrieved 30 June 2021 from <https://content.civicplus.com/api/assets/301a0f81-3b53-4ebb-adf4-39151570ea8e?cache=1800>.
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- McCormick Biological, Inc (December 2021). Biological Resources Evaluation. Field Maintenance Shop at Bakersfield Readiness Center Project. Bakersfield CA.
- U.S. Army Corps of Engineers (2004). *Environmental Assessment of Construction and Operation of a Readiness Center in Bakersfield, California*.

3.8 Greenhouse Gas Emissions

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

3.8.1 Discussion

The “greenhouse” effect is a naturally occurring phenomenon in which various gases in the earth’s atmosphere, classified as GHGs, play a critical role in determining the earth’s temperature. Solar radiation enters the earth’s atmosphere from space and a portion of the radiation is absorbed by the earth’s surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are Carbon Dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. Primary GHGs attributed to global climate change, are discussed, as follows:

CO₂

CO₂ is a colorless, odorless gas. It is emitted both naturally and through human activities. CO₂ is naturally present in the atmosphere as part of the Earth's carbon cycle (the natural circulation of carbon among the atmosphere, oceans, soil, plants, and animals). Human activities are altering the carbon cycle by adding more CO₂ to the atmosphere, by influencing the ability of natural sinks, like forests, to remove CO₂ from the atmosphere, and by influencing the ability of soils to store carbon. While CO₂ emissions come from a variety of natural sources, human-related emissions are responsible for the increase that has occurred in the atmosphere since the industrial revolution. CO₂ is the primary GHG emitted through human activities, primarily from the combustion of fossil fuels such as coal, oil, and gas. The transportation and electricity sectors are the largest CO₂ emitters in the United States (EPA, 2017).

CH₄

CH₄ is a colorless, odorless gas that is not flammable under most circumstances. CH₄ is the major component of natural gas, about 87 percent by volume. In 2017, CH₄ accounted for about 10.2 percent of all United States GHGs from human activities. Human activities emitting CH₄ include leaks from natural gas systems and the raising of livestock. CH₄ is also emitted by natural sources such as natural wetlands. In addition, natural processes in soil and chemical reactions in the atmosphere help remove CH₄ from the atmosphere. CH₄'s lifetime in the atmosphere is much shorter than CO₂, but CH₄ is more efficient at trapping radiation than CO₂. Pound for pound, the comparative impact of CH₄ is more than 25 times greater than CO₂ over a 100-year period (EPA, 2017).

N₂O

N₂O is a clear, colorless gas with a slightly sweet odor. In 2017, N₂O accounted for about 5.6 percent of all United States GHGs emissions from human activities. Human activities such as agriculture, fuel combustion, wastewater management, and industrial processes are increasing the amount of N₂O in the atmosphere. N₂O is also naturally present in the atmosphere as part of the Earth's nitrogen cycle and has a variety of natural sources. N₂O molecules stay in the atmosphere for an average of 114 years before being removed by a sink or destroyed through chemical reactions. The impact of 1 pound of N₂O on warming the atmosphere is almost 300 times that of 1 pound of CO₂ (EPA, 2017).

Fluorinated Gases

Unlike many other GHGs, fluorinated gases have no natural sources and only come from human-related activities. They are emitted through their use as substitutes for ozone-depleting substances (e.g., as refrigerants) and through a variety of industrial processes such as aluminum and semiconductor manufacturing. Many fluorinated gases have very high global warming potentials (GWPs) relative to other GHGs, so small atmospheric concentrations can have disproportionately large effects on global temperatures. They can also have long atmospheric lifetimes—in some cases, lasting thousands of years. Like other long-lived GHGs, most fluorinated gases are well-mixed in the atmosphere, spreading around the world after they are emitted. Many fluorinated gases are removed from the atmosphere only when they are destroyed by sunlight in the far upper atmosphere. In general, fluorinated gases are the most potent and longest lasting type of GHGs emitted by human activities. There are four main categories of fluorinated gases—hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride. The major emissions source of HFCs is their use as refrigerants—for example, in air conditioning systems in both vehicles and buildings. These chemicals were developed as a replacement for chlorofluorocarbons because they do not deplete the stratospheric ozone layer. PFCs are produced as a byproduct of aluminum production and are used in the manufacturing of semiconductors. PFCs generally

have long atmospheric lifetimes and GWPs near 10,000. SF₆ is used in magnesium processing and semiconductor manufacturing, as well as a tracer gas for leak detection. SF₆ is also used as an insulating gas in electrical transmission equipment, including circuit breakers. The GWP of SF₆ is 22,800, making it the most potent GHG that the Intergovernmental Panel on Climate Change has evaluated (EPA, 2017).

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

Less than Significant Impact. The same methodology and assumptions described in Section 3.3 were used to calculate GHG emissions from construction and operation of the Project using CalEEMod (Version 2020.4.0).

Construction

GHGs that would be emitted from construction of the Project are CO₂, CH₄, and N₂O. CalEEMod was used to estimate emissions of from CO₂, CH₄, N₂O. The construction assumptions described in Section 3.3 and in Appendix A were used to calculate GHG emissions from construction.

CalEEMod GHG annual outputs estimated for the Project construction period were used in this analysis. Construction of the Project would result in the short-term generation of GHG emissions. The majority of GHG emissions from construction would be generated from construction equipment as well as on-road vehicle emissions associated with worker commuting and hauling trips. Table 3-9 summarizes the annual construction emissions calculated using CalEEMod in metric tons. Detailed GHG emission calculations are shown in Appendix A.

The SJVAPCD has not adopted guidance that would apply to construction GHG emissions. For the purposes of this analysis, emissions from construction of the Project were amortized over a 30-year period and included with operational emissions. When amortized over a 30-year lifetime, construction emissions total approximately 11.05 metric tons carbon dioxide equivalents per year (MTCO₂e/year).

Table 3-9: Anticipated Construction GHG Emissions Summary

Biogenic CO ₂ ^a	Non-biogenic CO ₂ ^a	Total CO ₂ ^a	CH ₄ ^a	N ₂ O ^a	CO ₂ e ^a
Metric tons per year					
0.00	312.29	312.29	0.05	0.01	316.63
Amortized construction emissions (30-year project life)					10.55

(a) CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalents

Based on this analysis performed in CalEEMod, the Project GHG emissions during construction would have a Less Than Significant impact on the environment.

Operation

GHGs emitted from the operation of the Project are CO₂, CH₄, and N₂O. The operation assumptions described in Section 3.3 and Appendix A were used to calculate emissions of CO₂, CH₄, and N₂O from operation and CalEEMod was used to calculate these emissions.

Emissions from operation would be generated from electricity usage at the facility, natural gas, vehicle usage, consumer products, architectural coatings, landscaping, water usage, and waste disposal. Table 3-10 summarizes the annual operational GHG emissions from the Project and includes the amortized operational emissions. Detailed CalEEMod operational emissions calculations are included in Appendix A.

Table 3-10: Anticipated Operational GHG Emissions Summary

Biogenic CO ₂ ^a	Non-biogenic CO ₂ ^a	Total CO ₂ ^a	CH ₄ ^a	N ₂ O ^a	CO ₂ e ^a
Metric tons per year					
39.74	198.87	238.61	2.75	0.03	316.71
Amortized construction emissions (30-year project life)					10.55
Total					327.26

(a) CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; SF₆ = sulfur hexafluoride; CO₂e = carbon dioxide equivalents

With the addition of the amortized construction emissions, the Project would generate approximately 1,032.81 MTCO₂e/year. The magnitude of these emissions does not exceed the threshold of 1,100 MTCO₂e/year. Over the long term, operational GHG emissions are expected to decrease due to more renewable energy and more efficient vehicles. Therefore, GHG emissions from the Project would be Less Than Significant.

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

Less than Significant Impact. In August 2008, the SJVAPCD's Governing Board adopted the Climate Change Action Plan (CCAP). The CCAP directed the District Air Pollution Control Officer to develop guidance to assist Lead Agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project-specific GHG emissions on global climate change.

On December 17, 2009, the SJVAPCD adopted the *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The guidance and policy rely on the use of performance-based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project-specific GHG emissions on global climate change during the environmental review process, as required by CEQA. Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions from business-as-usual is required to determine that a project would have a less than cumulatively significant impact. The guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project-related impacts on global climate change.

In accordance with the SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency* (SJVAPCD, 2009), a project would be considered to have less than a significant impact on climate change if it complies with at least one of the following criteria:

- 1) Comply with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency;
- 2) Implement approved BPS; or
- 3) Quantify project GHG emissions and reduce those emissions by at least 29 percent compared to the business-as-usual (BAU) case.

Quantification of project-generated GHG emissions in comparison to BAU conditions to determine consistency with AB 32's reduction goals may be considered appropriate in some instances. However, based on a recent California Supreme Court's decision in *Center for Biological Diversity v. California Department of Fish and Wildlife and Newhall Land and Farming* (2015) 224 Cal.App.4th 1105 (CBD vs. CDFW; also known as the "Newhall Ranch case"), substantial evidence would need to be provided to document that project-level reductions in comparison to a BAU approach would be consistent with achieving AB 32's overall statewide reduction goal. Given that AB 32's statewide goal includes

reductions that are not necessarily related to an individual development project, the use of this approach may be difficult to support given the lack of substantial evidence to adequately demonstrate a link between the data contained in the AB 32 Scoping Plan and individual development projects.

Alternatively, the Court identified potential options for evaluating GHG impacts for individual development projects, which included the use of GHG efficiency metrics, compliance with regulatory programs designed to reduce GHG emissions, or the use of numerical GHG significance thresholds. At this time, the SJVAPCD has not developed recommended numerical GHG significance thresholds.

Other air districts within the State of California have adopted recommended numerical CEQA significance thresholds for GHG emissions. On March 28, 2012, the San Luis Obispo Air Pollution Control District (SLOAPCD) Board approved thresholds of significance for the evaluation of project-related increases of GHG emissions. The SLOAPCD's significance thresholds include both qualitative and quantitative threshold options, which include a bright-line threshold of 1,150 MTCO₂e/year. On October 23, 2014, the Sacramento Metropolitan Air Quality Management District adopted a similar significance threshold of 1,100 MTCO₂e/year. The Bay Area Air Quality Management District also recommends a GHG significance threshold of 1,100 MTCO₂e/year. In addition, San Diego County recommends a numerical threshold of 2,500 MTCO₂e/year. These GHG significance thresholds are based on AB 32 GHG emission reduction goals, which take into consideration the emission reduction strategies outlined in Air Resource Board's Scoping Plan. Development projects located within these jurisdictions that would not exceed these thresholds would be considered to have a less-than-significant impact on the environment and would not conflict with applicable GHG-reduction plans, policies, and regulations. For purposes of this analysis, Project-generated emissions (excluding stationary sources) in excess of 1,100 MTCO₂e/year would be considered to have a potentially significant impact.

As a conservative approach, construction-generated GHG emissions were amortized based on an estimated 30-year project life and included in annual operational GHG emissions estimates. Because no stationary operational sources are associated with the Project, a stationary source operational threshold was not evaluated.

Based on this analysis performed in CalEEMod, the Project GHG emissions would have a Less Than Significant impact on the environment during construction and operation would not conflict with any adopted plan, policy, or regulatory requirement for the reduction of GHG.

3.8.2 Mitigation Measures

No mitigation measures are recommended for GHG.

3.8.3 References

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3.9 Hazards and Hazardous Materials

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

3.9.1 Discussion

The Project shall adhere to all Federal, State, and local regulations for the transportation, handling, storing, and potential spill response from a hazardous material. As stated in Section 2-92.4, the Project shall create the following plans in accordance with applicable regulations.

The Applicant shall prepare a HMBP in accordance with California Health & Safety Code, Division 20, Chapter 6.95. The HMBP shall include inventory of any individual hazardous materials or mixtures more than any of the following quantities: 55 gallons (liquid); 500 pounds (solid); or 200 cubic ft (gases). The HMBP shall include measures for safe storage, transportation, use, and handling of hazardous materials. The HMBP shall also include a contingency plan that describes the facility's response procedures in the event of a hazardous materials release. The HMBP shall be submitted to the Bakersfield City Fire Department prior to occupancy and operation. The Applicant would provide documentation of submittal to the CUPA.

SPCC Plan shall be prepared in accordance with Title 40 of the CFR part 112. The Applicant would develop and implement an SPCC Plan that describes oil handling operations, spill prevention practices, discharge or drainage controls, and the personnel, equipment, and resources at the facility that are used to prevent oil spills from reaching navigable waters or adjoining shorelines. The SPCC Plan must describe and include the following elements: (1) Operating procedures at the facility to prevent oil spills; (2) Control measures (such as secondary containment) installed to prevent oil spills from entering navigable waters or adjoining shorelines; and (3) Countermeasures to contain and cleanup the effects of an oil spill that has impacted navigable waters and adjoining shorelines. The SPCC shall be prepared prior to occupancy and operation

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

Less Than Significant Impact. Routine storage, transport, use, and disposal of hazardous materials would be associated with the construction and operation of the Project. If hazardous waste is generated at levels or waste types requiring notification are on site during Project construction or operation, the Applicant shall apply for an U.S. EPA Identification (ID) Number. This number issued either by the U. S. EPA or by the Department of Toxic Substance Control (California ID Number), identifies each handler of hazardous waste on hazardous waste manifests and other paperwork. The ID Number enables regulators to track the waste from its origin to final disposal ("cradle to grave."). All hazardous waste transporters and permitted treatment, storage, and disposal facilities must have ID numbers. Compliance with existing Federal, State, and local regulations would reduce potential impacts to Less Than Significant levels.

Construction

Construction of the Project would involve the transport and storage of petroleum-based products associated with construction equipment. There is the potential for drips, spills, and leaks to occur during

construction. In addition, Project construction would require paints, solvents, cement sealers, and other materials that could potentially be hazardous. All storage, handling, transport, and disposal of potentially hazardous materials are regulated by the U.S. EPA, the California Department of Toxic Substance Control (DTSC), California EPA (CalEPA), and the local CUPA. In addition, the Project would be required to adhere to a SWPPP, which includes BMPs for the storage and handling of hazardous substances to prevent a release of hazardous materials to resources, including stormwater. These Federal, State, and local regulations would reduce the construction impacts associated with the use and handling of hazardous materials to Less Than Significant levels.

Operation

As part of normal Project operations, heavy duty military vehicles and equipment, hazardous materials, and associated hazardous wastes (i.e., used oil) would be stored and used onsite in accordance with applicable Federal, State, and local regulations regarding hazardous material transportation, handling, and storage. Hazardous materials would be stored within an enclosed shed located to the east of the shop (Figure 2-3) in accordance with local regulations. Operation would be subject to California Health & Safety Code, Division 20, Chapter 6.95, which requires sites that handle any individual hazardous materials or mixtures more than the following quantities: 55 gallons (liquid); 500 pounds (solid); or 200 cubic ft (gases) to prepare a HMBP and submit emergency response plans and inventory of stored materials to the local CUPA annually. The Project would implement the HMBP for safe storage, transport, use, and handling of hazardous materials. The HMBP would also include a contingency plan that describes the Project's emergency response procedures in the event of a hazardous materials release. The HMBP would be submitted and approved by the Bakersfield City Fire Department annually, which is the CUPA for the City.

Additionally, the Project would be subject to Title 40 of the CFR part 112, which requires facilities that handle 1,320 gallons or more of oil that could spill into navigable waters to prepare a SPCC. The SPCC would include BMPs to prevent the discharge of oil or other hazardous materials from entering navigable waters or adjoining shorelines as required by Section 311(j)(1)(c) of the Clean Water Act.

All vehicles would be washed onsite within a covered wash bay area to the north of the FMS building. The vehicle wash area would drain to an oil/water separator to prevent surface and subsurface contamination (Figure 2-3). The effluent from the wash bay would directly connect the oil/water separator and the flows to the municipal sewer system. Stormwater runoff from parking areas may transport residual petroleum products to the storm drain system. As described in Section 3.10, operation of the Project would require an industrial SWPPP be prepared in accordance with the NPDES Industrial General

Permit and implemented to control stormwater runoff. The industrial SWPPP would identify the proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, etc.) used onsite.

Therefore, adherence to the Federal, State, and local regulations governing the transport, handling, and storage, and potential spill of hazardous materials would reduce impacts to Less Than Significant.

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

Less Than Significant Impact. Hazardous materials used during the construction and operation of the Project would be transported, used, stored, and disposed of in accordance with regulations set forth by the EPA, DTSC, CalEPA, and the Bakersfield City Fire Department. Strict adherence to these regulations would limit the potential for any significant release into the environment to Less Than Significant levels.

Construction

As was previously mentioned, construction of the Project would involve the transport and storage of petroleum-based products associated with construction equipment and building materials. There is the potential for spills and leaks to occur that could release these products into the environment. However, strict compliance with applicable regulations for the handling of hazardous materials would decrease any significant hazard to the public or the environment and reduce impacts to Less Than Significant levels.

Operation

Operation of the Project would involve the handling, storage, and use of fuel, hazardous materials, and associated hazardous wastes (i.e., new and used oil). Mishandling of any of these products or wastes could potentially expose the public or the environment to hazardous materials. However, strict compliance with applicable regulations for the handling of hazardous materials would prevent the exposure of any significant hazard to the public or the environment and mitigate impacts to Less Than Significant levels.

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

Less than Significant. The Project site is not located within one-quarter mile of an existing or proposed school. The nearest child-care facility is the Pete H Parra Child Development Center located approximately 0.26 miles southwest from the centerline of the Project site. The Claude Richardson Child

Development Center is approximately 0.35 miles west of the Project site. The transport and handling of hazardous materials during construction and operation would comply with all applicable regulations. The type and quantity of hazardous materials that would be used during construction and operation would not be considered acutely hazardous. Therefore, impacts would be Less than Significant.

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

Less Than Significant Impact. The Cortese List, Hazardous Waste and Substances Sites List, also known as the California Superfund, is a planning document used by the State and its various local agencies and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. California Government Code section 65962.5 requires the California EPA to develop at least an annually updated Cortese List. The DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. The list is maintained via DTSC's Brownfields and Environmental Restoration Program, called EnviroStor. In addition to EnviroStor, information was obtained from the online GeoTracker tool hosted by the Regional Water Quality Control Board. The Project site is not included on the Cortese List, EnviroStor or GeoTracker, nor are any adjoining properties listed on these lists.

The 2004 EA includes the results of a preliminary site assessment (modified Phase I Environmental Site Assessment) performed in March 2003 at the adjacent Bakersfield Readiness Center, during which public records were reviewed and the approximately 20-acre footprint, including the Project site, was inspected (nonintrusive) to verify current conditions and potential impacts from adjoining properties. The Project site was characterized as a disturbed dirt lot with no building or other structures. There was no evidence that solids or liquids had been illegally dumped at the site, nor was there any soils staining or discoloration. Historically, the site was used for agriculture.

The Project site is not identified or listed as a hazardous materials site, and therefore construction and operation activities would not create a significant hazard to the public or the environment. There is a low possibility for hazardous materials to leak from facilities in the Project vicinity during construction and operation, but existing regulations would reduce any potential impacts to Less Than Significant levels.

- 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?**

Less than Significant Impact. The Bakersfield Municipal Airport is approximately two (2) miles southwest of the Project. The Bakersfield Municipal Airport is a general aviation airport owned by the City. During construction and operation, the Project would not create a substantial airport-related hazard or result in a significant aerial obstruction for the Bakersfield Municipal Airport because the Project design would adhere to the existing Kern County Airport Land Use Compatibility Plan (ALUCP) for height, noise, and airport safety restriction areas.

The Project site is located within Compatibility Zone C of the Bakersfield Municipal Airport per the ALUCP. Zone C is the outer boundary of the Common Traffic Pattern Zone, defined as the area where aircraft are commonly flown 1,000 ft above ground level. Per the Compatibility Criteria in the ALUCP, warehousing/truck terminals (like the Project) are considered a normally acceptable use. Prohibited uses include schools, hospitals, nursing homes, and hazards to flight. Only Compatibility Zones A and B need to consider aviation easements and height restrictions¹.

The next nearest airport is Meadows Field, which is located approximately six (6) miles northwest of the Project site.

Construction

The Project would not result in a safety hazard for personnel working at the Project site during construction as Project construction would not entail:

- Glare, distracting lights, or light patterns which could be mistaken for airport lights
- Large plumes of dust, steam, or smoke which may impair pilot visibility
- Sources of electrical interference with aircraft communications or navigation
- Any use, especially landfills and certain agricultural uses, which may attract large flocks of birds
- Any light or series of lights which may cause visual discomfort or loss of orientation during critical phases of flight

¹ Per the ALUCP, in locations within Compatibility Zone C where the ground level exceeds or comes within 35 ft of a Federal Aviation Regulation (FAR) Part 77 surface, dedication of an aviation easement limiting heights to 35 ft shall be required. However, it is noted, this policy may be applicable to future airports; there are no such locations near the existing airports in Kern County.

The final design of the Project would adhere to the ALUCP, which incorporates Federal Aviation Administration (FAA) regulations for the safe, efficient use and preservation of the navigable airspace and airport safety restriction areas during construction. Additionally, fugitive dust control measures would be implemented to limit the dust generated by earth-moving construction activities (i.e., site preparation and grading) as discussed in Section 3.3.

Per the Compatibility Criteria Zone C and adherence to the existing Kern County ALUCP for height, noise, and airport safety restriction, the Project would not create a significant safety hazard for people residing or working in the Project area and therefore impacts are considered Less Than Significant.

Operation

During operation, the Project would not create a substantial airport-related hazard or result in a significant aerial obstruction for the Bakersfield Municipal Airport because the Project design would adhere to the existing Kern County ALUCP for height, noise, and airport safety restriction areas. Impacts would be Less Than Significant for this threshold.

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

Less Than Significant Impact. Construction and operation activities would not significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Construction

Construction of the Project would involve the transport of equipment and materials on public roadways. Construction vehicle traffic typically travels at slower speeds than passenger vehicles and can slow vehicle travel in the Project area. Delivery of materials, supplies, and the hauling of debris from the Project site would use public roads; however, active construction of the Project would be confined within the Project site footprint (Figure 2-2). No roadway lane closures are anticipated during construction of the Project. Emergency response and safety meetings would be held regularly during construction detailing appropriate emergency access and egress. Construction would not interfere with any known or established emergency response plans or evacuation plans within the City or the greater Bakersfield area. Therefore, construction impacts would be Less Than Significant.

Operation

Operation of the Project would not impair implementation of or physically interfere with an adopted emergency response plan. Operation and maintenance of the Project would occur entirely within the Project site. The Project would have its own emergency response plans per their SWPPP, SPCC, HMBP, and fire safety plan. These emergency response plans would not interfere with any known or established emergency response or evacuation plans. Therefore, impacts would be Less Than Significant.

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

No Impact. The Project site is in an urban developed area in the City and is not adjacent to any wildland areas. Based on the Kern County Fire Hazard Severity Zone (FHSZ) map, the Project site is in an unzoned area for wildfires. Construction and operation activities would not increase the risk of wildland fires as the Project would be further developing the site. Additionally, the Project would be constructed in compliance with all applicable Federal, State, and local fire safety codes. No construction or operation activities would expose people or structures to a significant risk of loss, injury or death involving wildland fires; therefore, No Impact.

3.9.2 Mitigation Measures

No mitigation measures are recommended for Hazards and Hazardous Materials.

3.9.3 References

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3.10 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant Impact 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 groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.10.1 Discussion

A search of the USFWS National Wetlands Inventory resulted in no wetlands mapped on the Project site (USFWS 2021b). These results are consistent with the observed conditions within the survey area. No wetlands, riparian habitat, potential waters of the U.S., or potential waters of the State were observed.

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

Less Than Significant Impact. As part of Section 402 of the Clean Water Act, the EPA established regulations under the NPDES program to control direct stormwater discharges. In California, the SWRCB administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The NPDES program regulates discharges of pollutants related to construction and industrial activities. Projects that result in one or more acres of soil disturbance are required to obtain coverage under the SWRCB's NPDES General Permit for Discharges of Stormwater Associated with Construction Activity - CGP Order 2009-0009-DWQ (Construction General Permit) by submitting a Notice of Intent (NOI) and preparing and implementing a SWPPP and monitoring program. The SWPPP must contain BMPs to prevent sediment and other construction-related materials from entering stormwater discharges. Typical BMPs include the use of soil binders, straw mulch, earth dikes, drainage dikes or swales, and velocity dissipation devices. The SWRCB works in coordination with the RWQCBs to preserve, protect, enhance, and restore water quality. The Project is within the jurisdiction of the Central Valley RWQCB, which administers NPDES permitting programs and waste discharge requirements.

The Project site is very flat and is currently drained by infiltration and sheet flows to the south-southeast. There is an existing stormwater drainage system in place along Gateway Avenue on the southern boundary of the Project site. The City system draining Gateway Avenue consists of concrete piping, open channels, and stormwater drains. Regionally, captured stormwater is diverted to open spreading basins where it is allowed to percolate and recharge the groundwater aquifer per the 2010 Metropolitan Bakersfield General Plan.

Construction

The Project involves site development, including grading and construction of new facilities. Since the Project would disturb over one acre of soil, it would be required to obtain coverage under the CGP (NPDES No. CAS000002) through Central Valley RWQCB. The CGP requires implementation of a SWPPP that would identify potential point and non-point sources of pollutants that could adversely affect water quality. The SWPPP would designate specific BMPs that would reduce pollutant discharge during construction, including post-construction BMPs to support site stabilization and discharge controls during operations. Such BMPs include, but are not limited to, erosion and sediment controls, general housekeeping practices, containment of building materials, inspection for leaks and spills from construction vehicles, and training of construction site workers. With implementation of BMPs outlined in the SWPPP, stormwater discharges from the Project site during construction are not expected to violate any existing water quality standards or waste discharge requirements set by the RWQCB. Therefore, the Project construction impacts on water quality are Less Than Significant.

Operation

The Project would be subject to regulation under the NPDES Industrial General Permit (IGP)- Order No. 2014-0057-DWQ issued by the SWRCB based on the operation activities. The Project intends to enclose or otherwise cover their industrial activities and materials so there is no exposure to storm water discharges, which may qualify for a NEC in accordance with Section XVII of the IGP. The NEC allows for reduced stormwater monitoring requirements and a lower annual fee. If the Project does not qualify for a NEC, the facility would need to prepare an Industrial SWPPP that includes BMPs to control pollutant discharges and an ongoing monitoring, sampling, and reporting program per applicable permit requirements. Compliance with the IGP would reduce the potential for impacts associated with industrial discharges to Less Than Significant levels.

The Project would increase new impervious surfaces which could decrease rainwater infiltration and increase stormwater runoff. Potential impacts related to surface water runoff would be reduced to a less than significant level by incorporating stormwater pollution control BMPs to achieve site stabilization following construction and manage ongoing stormwater discharges. Typical BMPs include the use of temporary measures to achieve soil stabilization such as soil binders and straw mulch as well as post-construction or permanent BMPs such as earth dikes, drainage swales, and velocity dissipation devices.

Stormwater runoff from the FMS building and parking areas would be collected in below-grade piping or allowed to sheet flow to proposed stormwater management facilities. The Project design includes a ditch along the eastern perimeter which then flows to a stormwater basin that would control sediment and pollution and prevent net increase in runoff volume or rate between preconstruction and post-construction. The stormwater basin is equipped with a discharge outlet, which when full would discharge to the City's stormwater infrastructure along Gateway Avenue. These stormwater facilities would be designed for infiltration and to prevent flooding (Figure 2-3). The Project would also design and install a water-efficient irrigation system to irrigate onsite landscaping.

Stormwater runoff and discharges associated with Project operation would be managed in compliance with the SWPPP(s) and/or NEC that is developed for the facility, with BMPs designed to reduce impacts to Less Than Significant levels.

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

Less Than Significant Impact. According to the 2004 EA, the Project site is located above the Kern County Groundwater subbasin. The primary groundwater aquifer under Bakersfield is in unconsolidated

sediments, enclosed on three sides by non-water bearing rocks that restrict the amount of flow in and out of the basin. Groundwater flow is assumed to mimic surface water flow and topographic slope, generally toward the south-southeast. Depth to groundwater in the Project vicinity ranges from 90 to 200 ft beneath the ground surface.

The Project would not pump any groundwater during construction or operation, and therefore would not deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Recharge to the ground water basin is from natural infiltration from the Kern River, seepage from unlined storm drains and storm basins, agricultural irrigation, septic systems, precipitation, and groundwater banking using spreading basins (artificial recharge sites surrounded by levees where water is released and allowed to percolate into the ground to replenish the aquifer). In the past, the amount of water removed by pumping exceeded natural recharge. However, leading up to its publication in 2010, the Metropolitan Bakersfield General Plan noted groundwater levels were rising because of groundwater banking, sometimes using imported water sources.

The Project would utilize underground piping and sheet flow to move stormwater to the basin where natural recharge shall occur. The Project would not deplete or significantly impede recharge of groundwater; therefore, impacts are considered Less Than Significant.

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

i) result in substantial erosion or siltation on- or off-site;

Less Than Significant Impact. Implementation of the Project would introduce new impervious surfaces where they currently do not exist. Implementation of site-specific BMPs required for compliance with Section 402 of the Clean Water Act, would limit erosion or siltation from Project activities.

Construction

Activities related to construction of the Project would not substantially alter the existing drainage pattern in a manner that would result in substantial erosion or siltation onsite or offsite. As previously described, a Project SWPPP would include BMPs to reduce construction impacts related to soil erosion. Typical BMPs include the use of wetting soils for dust suppression, use of soil binders, straw mulch, earth dikes, drainage swales, and velocity dissipation devices. Track out would also be managed in accordance with

construction BMPs. Compliance with the NPDES CGP would reduce impacts to Less Than Significant levels.

Operations

Implementation of the Project would introduce new impervious surfaces where they currently do not exist; however, stormwater management facilities would be installed on the site for stormwater, sediment, and pollution control. These areas have been designed to prevent any net increase in runoff volume or rate between preconstruction and post-construction conditions. Energy Independence and Security Act (EISA) guidelines apply to Federal development projects exceeding footprints of greater than 5,000 sf. Per these guidelines, stormwater at the Project site would be managed and treated such that the post-development hydrology matches the existing hydrology regarding temperature, rate, volume, and duration of flow. The required design features and the layout of the facility would not substantially increase erosion or siltation on or off the Project site; therefore, operational impacts would be Less Than Significant.

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Less Than Significant Impact. Refer to response 3.10.1 (c)(i). The Project site is in a very flat, developed area with an extensive network of stormwater drainage infrastructure. The Project site is not located within areas of potential flooding according to the 2010 Metropolitan Bakersfield General Plan. In addition, the stormwater management facilities would be designed within the Project site so that there is no net increase in runoff volume or rate between preconstruction and post-construction (Figure 2-3). The stormwater management features would be covered with a natural pervious material such as stone cobble, gravel, or similar materials to increase infiltration and decrease potential flooding. A water-efficient irrigation system would be designed to provide for site landscaping.

Construction

Grading, excavation, trenching, and other short-term construction activities associated with Project site development and construction of the new building foundations could temporarily alter the drainage pattern on the Project site. This altered drainage pattern could reroute stormwater sheet flow in a way that slightly increases the rate of surface runoff during a rain event. However, adherence to BMPs within the SWPPP would substantially decrease the potential of flooding onsite or offsite, and compliance with the NPDES CGP would reduce any impacts to Less Than Significant levels.

Operation

Stormwater management facilities would be installed on the Project site for sediment and pollution control and would be designed so that there is no net increase in runoff volume or rate between preconstruction and post-construction conditions. The Project site would be designed to slope away from the building towards a ditch on the eastern perimeter of the property and then south to a stormwater basin near the entrance parking lot. These design features would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite and impacts would be Less Than Significant.

- 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**

Less Than Significant Impact. Refer to responses 3.10.1 (a) and (c)(i). Impacts related to stormwater drainage systems and runoff would be Less Than Significant for construction and operation.

- iv) **impede or redirect flood flows?**

No Impact. The Project site is not located within a 100-year flood hazard area; therefore, there would be No Impact during construction or operation of the Project.

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

Less Than Significant Impact. The California Emergency Management Agency (CalEMA) creates tsunami inundation maps designed for emergency planning. There is no CalEMA map for Kern County because it is not located within a coastal zone. This indicates that the Project site is not vulnerable to tsunami-related hazards.

Seiches are typically seismic-induced phenomena that occur to standing bodies of water which when they are shaken can cause waves that overflow containment. The Project is located on the border of the Isabella Lake Dam Failure Inundation Zone as mapped in the 2010 Metropolitan Bakersfield General Plan. The City is located downstream of the dam on Lake Isabella and dam failure could cause severe flooding, damage, and loss of life. The dam has a capacity to hold 570,000 acre-feet (AF) of water and is built near a major earthquake fault, therefore requiring special design and scrutiny to protect the safety of persons downstream. If the dam were to fail, the resulting flood would inundate some 60 square miles of Metropolitan Bakersfield and the surrounding areas. In 2006, the Lake Isabella Dam was found to be unstable at full capacity of Isabella Reservoir and the reservoir had to be drawn down to stabilize the earth

works. The U.S. Army Corps of Engineers has restricted the reservoir to approximately 60 percent capacity until studies and repairs are made, which are anticipated to be completed in 2022. In December 2009, Kern County published the Lake Isabella Dam Failure Plan, which provides the basic framework for response to an actual or potential failure of the Lake Isabella Dam. The plan supplements the Kern County/Operational Area and City of Bakersfield Emergency Operations Plans (EOPs) and would be implemented in conjunction with those EOPs. In addition, in the unlikely case that the dam failed, it would take approximately 8-10 hours for flood waters to reach one-foot inundation at the Project site, giving the City and Project adequate time to prepare emergency operations. Therefore, flooding from dam failure is unlikely and impacts would be Less Than Significant during construction and operation of the Project.

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

Less than Significant Impact. The Central Valley Regional Water Quality Control Board (RWQCB) prepared and periodically updates a Basin Plan (water quality control plan), which establishes beneficial uses of water designated for each protected water body, water quality standards for both surface water and groundwater, and actions necessary to maintain the water quality standards. The groundwater resources in the Project area are covered by the Groundwater Sustainability Plan (GSP) prepared by the Kern River Groundwater Sustainability Agency (KRGSA). Project construction and operation would comply with local, State, and Federal regulations, including the CGP, Basin Plan, and the Bakersfield Municipal Code. Commonly practiced BMPs, as required by these regulations, would be implemented as required to control construction site runoff, and reduce the discharge of pollutants to storm drain systems from stormwater and other nonpoint-source runoff.

As previously discussed, the Project would disturb more than one acre of soil and therefore, would be required to obtain coverage under the CGP, including the development and implementation of a SWPPP. The Project would also be subject to the IGP and would comply with the requirements thereof through either a NEC or a SWPPP. The SWPPP(s) would designate specific BMPs that would reduce pollutant discharge during construction and operations. Implementation of water quality control measures and BMPs would facilitate compliance with water quality standards, including the water quality objectives that protect designated beneficial uses of surface and groundwater, as defined in the Basin Plan. Construction runoff would also comply with the appropriate water quality objectives for the region. The CGP requires that stormwater discharges do not contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards, including designated

beneficial uses. With implementation of BMPs outlined in the SWPPP, stormwater discharges from the Project site during construction are not expected to obstruct implementation of a water quality control plan. Similarly, operation activities would be addressed in compliance with the IGP, as discussed in response 3.10.1 (a).

Depth to groundwater is greater than 90 ft below ground surface (2004 EA). As such, groundwater dewatering is not anticipated during Project construction. In addition, groundwater would not be used during construction activities or during operation. Therefore, the Project would not obstruct implementation of the GSP. Construction and operation of the Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Therefore, potential impacts would be Less than Significant.

3.10.2 Mitigation Measures

No mitigation measures are recommended for Hydrology and Water Quality.

3.10.3 References

- California Department of Conservation. (2021). *California Tsunami Maps and Data*. Retrieved November 23, 2021, from <https://www.conservation.ca.gov/cgs/tsunami/maps>
- Emergency Plans – Kern County Fire Department. (2021). Kern County Fire Department. Retrieved November 23, 2021, from <https://kerncountyfire.org/education-safety/emergency-plans/>
- Robert Olson Associates. (2009, December). *Lake Isabella Dam Failure Evacuation Plan*. County of Kern and City of Bakersfield. <https://kerncountyfire.org/jsp/uploads/Isabella-Dam-Failure-Plan.pdf>
- U.S. Army Corps of Engineers (2004). *Environmental Assessment of Construction and Operation of a Readiness Center in Bakersfield, California*.
- USDA-FSA NAIL Orthoimagery, City of Bakersfield, & ESRI Streetmap. (2008). *Isabella Dam Break-Hydrograph 3 - Main Dam Failure Gross Pool EL* [Map]. <https://kerncountyfire.org/jsp/uploads/Time-To-1-Foot-Inundation>
- The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region Fifth Edition*. (2018). California Regional Water Quality Control Board Central Valley Region. https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805
- SGMA Portal*. (2021). California Department of Water Resources. Retrieved November 23, 2021, from <https://sgma.water.ca.gov/portal/#gsa>

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- Carollo. (2015). *2014 Storm Water Management Plan: City of Bakersfield and County of Kern*. https://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/2015_bkrsfld_swmp
- Title 8 Health and Safety, Bakersfield Municipal Code*. (2021). City of Bakersfield. Retrieved November 23, 2021, from <https://bakersfield.municipal.codes/Code/8>
- USFWS (2021). *National Wetlands Inventory Website* [July]. Retrieved 23 November from <http://www.fws.gov/wetlands/>
- City of Bakersfield (2010) *Metropolitan Bakersfield General Plan*. Retrieved 22 October 2021 from <https://content.civicplus.com/api/assets/37a2e20d-e610-431f-a222-9f4f2ecd2ddd>

3.11 Land Use and Planning

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

3.11.1 Discussion

a) Physically divide an established community?

No Impact. The Project site is located on a vacant lot adjacent to the CAARNG, owned by the military. The Project is situated in Bakersfield among the suburbs of Cottonwood, Lakeview, Oakridge, and Tyner Homes, with residential, commercial, industrial, and recreational being its primary neighboring land uses. Construction and operation of the Project would not physically divide an established community since the Project would be constructed on a vacant lot adjacent to the existing CAARNG facility zoned as M-2 General Manufacturing (City of Bakersfield) and would maintain existing use. The Project would have No Impact related to physically dividing an established community during construction or operation.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Project site is currently zoned as M-2 General Manufacturing. The City's Municipal Code identifies the General Manufacturing as a designation inclusive of truck yards and terminals, processing, and manufacturing industries. Operation of the Project would align with the General Manufacturing zoning designation. Therefore, there is No Impact related to any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project.

3.11.2 Mitigation Measures

No mitigation measures are recommended for land use.

3.11.3 References

City of Bakersfield (2021) *Bakersfield Map Gallery and Spatial Data Library*. Accessed 22 October 2021 at <https://bakersfelddatalibrary-cob.opendata.arcgis.com/>

3.12 Mineral Resources

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

3.12.1 Discussion

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

No Impact. The California State Geologist is responsible for classifying Mineral Resource Zones and identifying the presence of significant mineral resources in the State of California. The Project site is located within the boundary of the City of Bakersfield on an undeveloped vacant lot surrounded by an urbanized area that is currently developed. The City does not contain any mineral resources of Statewide or regional importance, as classified by the State Geologist (2018 Metropolitan Bakersfield DEIR). In addition, no mineral resources that would be of value to the region and the residents of the State have been identified in the Project vicinity or on the Project site. There are no known mineral resources within the Project boundary (2018 Metropolitan Bakersfield DEIR). As such, construction and operation of the Project would result in No Impact to a loss of availability of a known mineral resource that would be of value to the region and the residents of the State.

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

No Impact. As previously stated, no locally important mineral resources are located in the Project vicinity or within the boundaries of the City. There are no locally important mineral resource recovery sites in the City or near the Project site. As such, construction and operation of the Project would have no impact on the availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

3.12.2 Mitigation Measures

No mitigation measures are recommended for mineral resources.

3.12.3 References

City of Bakersfield. (2018). *Making Downtown Bakersfield Project Draft Environmental Impact Report*.

Retrieved 30 June 2021 from <https://content.civicplus.com/api/assets/301a0f81-3b53-4ebb-adf4-39151570ea8e?cache=1800>

3.13 Noise

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

3.13.1 Discussion

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

Less Than Significant Impact. Burns & McDonnell Engineering Company, Inc (Burns & McDonnell) conducted a desktop survey to investigate potential noise-sensitive receivers surrounding the Project. The area immediately surrounding the Project consists of SR58 to the north, a group of residences to the west, and industrial facilities to the south and east. The existing sound environment is significantly influenced by the adjacent SR58. The 2010 Metropolitan Bakersfield General Plan provides exterior noise exposure sound levels adjacent to nearby roadways by distance from the roadway centerline. Noise-sensitive receivers near the Project range between 200 to 600 ft from SR58 which is estimated to be a Community Noise Exposure Level (CNEL) in the range of 63 A-weighted decibels (dBA) to 70 dBA. The nearest noise-sensitive receiver to the Project, Rec01 as shown in Figure 3-1, is approximately 250-ft from SR58, resulting in a CNEL of approximately 68 dBA according to the 2010 Metropolitan Bakersfield General Plan. CNEL is closely related to hourly equivalent sound levels (L_{dn}), but includes an additional 5-decibel

(dB) evening penalty between the hours of 7:00 p.m. and 10:00 p.m. For this application, CNEL and L_{dn} values are assumed to be equivalent (Burns & McDonnell, 2021).

Construction of the Project has the potential to generate noise associated with the short-term operation of construction equipment. During operation, vehicles would travel along Gateway Avenue and the surrounding areas; however, these trips are not anticipated to significantly increase noise in excess of existing ambient noise levels in the area.

The City of Bakersfield Noise Ordinance Section 9.22.050 prohibits construction noise 1,000 ft from construction sites for the same periods as the Kern County Municipal Code, between the hours of 9:00 p.m. and 6:00 a.m. on weekdays and 9:00 p.m. and 8:00 a.m. on weekends.

The 2010 Metropolitan Bakersfield General Plan provides a land use compatibility matrix which states what sound levels in L_{dn} are considered acceptable by land use category. A summary of Table 4.5-2 of the 2010 Metropolitan Bakersfield General Plan is included as Table 3-11.

Table 3-11: Noise and Land Use Compatibility Matrix

Land Use Category	Day-Night Sound Level L_{dn} (dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density	50-60	60-70	70-75	75-85
Residential – Multiple Family	50-65	65-70	70-75	75-85

Construction

Burns & McDonnell estimated the noise levels generated by the Project during each phase of construction. Noise levels for each piece of construction equipment were used to calculate the average hourly A-weighted sound level and the corresponding 24-hour L_{dn} depending on hours of construction. The frequency at which each piece of equipment operates at full power was estimated with daily usage factors. Sound levels and daily usage factors for each piece of equipment are from the Federal Highway Administration (FHWA) Construction Noise Handbook, 2017. Table 3-12 summarizes the source sound levels used to calculate construction impacts.

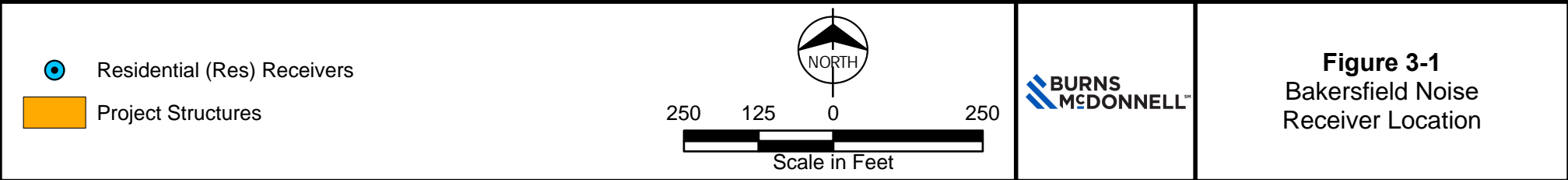


Table 3-12: Construction Equipment Reference Sound Levels

Equipment	Sound Pressure Level at 50 ft (dBA)^a
Air Compressor	80
Crane	85
Cement and Mortar Mixer	80
Forklift	55
Generator	82
Grader	85
Paver	85
Rubber Tired Dozer	85
Scraper	85
Tractor/Loader/Backhoe	80

Source: Adapted from *FHWA Construction Noise Handbook*, 2017

L_{eq} for each construction phase were estimated at the nearest receiver, Rec01, located approximately 350 ft to the west of the Project site. The center of the Project site was used to model the construction impacts since construction equipment is commonly located throughout the entire area of the Project site for varying durations. Table 3-13 provides a summary for each phase including the expected increase to the ambient environment at the nearest receiver, Rec01. Project L_{dn} sound levels were calculated assuming construction operation between 6:00 a.m. to 9:00 p.m. Note, the time from 6:00 a.m. to 7:00 a.m. is considered within the nighttime period of 10:00 p.m. to 7:00 a.m. and was calculated as such.

Table 3-13: Estimated Construction Noise by Phase at Nearest Receiver

Phase	Equipment	Project L_{dn}^a	Ambient L_{dn}	Project + Ambient	Increase to Ambient
Architectural Coating	Air Compressor (1)	59	68	69	1
Building Construction	Tractor/Loader/Backhoe (1), Crane (1), Forklift (2), Generator Sets (1), Welder (3)	66	68	70	2
Grading	Tractor/Loader/Backhoe (2), Rubber Tire Dozer (1), Grader (1)	68	68	71	3
Paving	Tractor/Loader/Backhoe (1), Paver (2), Cement and Mortar Mixer (1)	69	68	72	4
Site Preparation	Tractor/Loader/Backhoe (1), Grader (1), Scraper (1)	68	68	71	3

(a) Assuming 6:00 am to 9:00 pm operation

Due to the Project's proximity to SR58, existing sound levels in the general area of the Project range from 63 dBA to 70 dBA CNEL, which per the 2010 Metropolitan Bakersfield General Plan is considered "conditionally acceptable". Construction grading, paving, and site preparation would temporarily increase ambient noise levels at the receiver location up to 72 dBA CNEL. A "significant increase" in ambient noise levels is not defined in either the 2010 Metropolitan Bakersfield General Plan or the 2009 Kern County General Plan. However, industry standards typically consider a significant noise increase to be 5 dBA over ambient noise levels. Noise levels above 70 dBA CNEL level are considered "normally unacceptable" for residential land use per the 2010 Metropolitan Bakersfield General Plan; however, due to the temporary nature of construction and the fact that construction noise would not increase ambient noise levels greater than 5 dBA, it is not considered a significant increase.

The worst-case scenario sound exposure for the Project construction would occur during the paving phase. All construction equipment for each phase was assumed to be onsite and operational during the duration of the construction day, as a conservative assumption. In compliance with local noise ordinances, construction hours for all heavy machinery equipment would limit heavy machinery construction to 6:00 am to 9:00 pm on weekdays and 8:00 a.m. to 9:00 p.m. on weekends. The analysis concludes that noise impacts would be Less Than Significant.

Operation

Predicted levels at the closest sensitive receptor were calculated using industry-accepted sound modeling software, Computer Aided Noise Abatement (CadnaA), version 2021. The software is a scaled, three-dimensional program that considers air absorption, terrain, ground absorption, and reflections and shielding for each piece of noise-emitting equipment and predicts sound pressure levels. The model calculates sound propagation based on International Organization of Standardization (ISO) 9613-2:1996, General Method of Calculation. ISO 9613-2 assesses the sound level propagation based on the octave band center-frequency range from 31.5 to 8,000 hertz (Hz). Structured facades onsite may potentially mitigate sound levels but were not included in the model as a conservative measure. The atmospheric conditions were assumed to be calm and the default values for temperature and relative humidity were used.

Various rooms of the FMS building are expected to have interior sound sources that may propagate to the outside of the building. These rooms included the Air Compressor Room, Mechanical Room, Electrical Room, and Work Bays. The three (3) Work Bays in the FMS building were modeled as one room because there are no walls or partitions separating each bay. Based on the provided equipment for each room, interior sound levels were estimated and input into the model. Insulated metal panel walls, windows,

work bay roll-up doors, and non-acoustical doors were modeled to estimate the attenuation of the interior sound levels to outside of the building. The estimated interior sound level for each room is provided in Table 3-14.

Table 3-14: Field Maintenance Shop Sound Assumptions

Modeled Project Room	Modeled Average Interior Sound Level
Air Compressor Room	93 dBA
Mechanical Room	96 dBA
Electrical Room	96 dBA
Work Bay Room	88 dBA

Operational sound levels were estimated at the nearest residential receiver, Rec01, approximately 350 ft west of the Project. The expected sound level at Rec01 assuming all interior equipment is operating at the same time is 35 dBA. Assuming 24-hour operation as a conservative estimate, the resulting day-night sound level is expected to be 42 dBA L_{dn} .

Increased truck traffic is expected to occur on the local roadways during Project operation. Project sound levels from POV and military vehicles traveling to the site were estimated at the nearest noise-sensitive receivers. Vehicles counts were provided to be approximately 19 POVs and four (4) military vehicles per day. Design speeds were based on existing local roadway speed limits. The estimated Project traffic worst-case hourly sound level was 45 dBA at the nearest noise-sensitive receiver. As a conservative estimate, the worst-case hourly sound level was assumed for all daytime hours resulting in an L_{dn} of 43 dBA. The expected traffic noise increase is expected to be insignificant compared to the existing SR58 traffic noise. Project operational noise is expected from both the FMS building interior sources and Project vehicles.

The wash rack is expected to wash one vehicle per day on average and vehicles would be hand dried (i.e., no large dryers). A pressure washer with a sound level of 85 dBA at 3-ft was modeled within the wash rack. Assuming 30 minutes of washing per day, L_{dn} sound levels from the wash rack are expected to be approximately 31 dBA L_{dn} .

A summary of the expected Project sound levels from each source is shown in Table 3-15.

Table 3-15: Operational Noise Summary

Receiver	Day-Night Sound Pressure Level (L _{dn} dBA)					
	Project Field Maintenance Shop	Project Vehicle	Wash Rack	Overall Project	Existing	Expected Increase
Rec01	41	48	31	49	68	0

The Project operational cumulative sound level is below the lower bound of the City's "Normally Acceptable" sound level range and therefore would have a Less Than Significant Impact.

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

Less Than Significant Impact. Burns & McDonnell estimated the maximum vibration levels during Project construction. Reference vibration levels for each piece of construction equipment were used to calculate the maximum peak particle velocity (PPV) in inches per second (in/s). Vibration levels are from Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual, 2018. Table 3-16 provides the source vibration levels used to calculate construction impacts.

Table 3-16: Construction Equipment Reference Vibration Levels

Equipment	Peak Particle Velocity at 25 ft (in/s)
Air Compressor	--
Crane	--
Cement and Mortar Mixer	0.210
Forklift	--
Generator	--
Grader	0.210
Loader	0.089
Paver	0.210
Rubber Tired Dozer	0.089
Scraper	0.210
Tractor/Trailer	0.003

Source: Adapted from *FTA Transit Noise and Vibration Impact Assessment Manual*, 2018

As specified in the 2021 Burns & McDonnell Noise Assessment (Appendix D), a significant impact would be defined as a vibration source exceeding a PPV of 0.1 in/s for occupied receivers. The maximum

vibration levels are expected during the Paving phase. Table 3-17 provides maximum PPV in in/s for the Paving construction phase at Rec01.

Table 3-17: Estimated Worst-Case Vibration at Nearest Receiver

Worst-Case Scenario Construction Phase	Nearest Receiver and Distance	Maximum PPV (in/s)
Paving	Rec01 (350 ft)	0.01

Vibration levels at Rec01 are not expected to exceed the maximum PPV of 0.1 in/s at the nearest noise-sensitive receiver. Note that vibration levels may vary from results depending on the sources' proximity to sensitive receivers. After construction is completed, the Project is not expected to have a significant vibration impact while operational.

The only significant source of vibration resulting from the Project would be during the construction phase. Vibration levels have been analyzed and are not expected to be detrimental to nearby structures throughout construction. Once construction is complete, the Project is not expected to have any significant operational vibration. The Project is considered to have a Less Than Significant Impact to excessive groundborne vibration or groundborne noise levels.

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

No Impact. The Bakersfield Municipal Airport is approximately 2 miles southwest of the Project. The Project is expected to have no impact to the surrounding environment; therefore, the Project would have No Impact associated with airports and airstrips.

3.13.2 Mitigation Measures

No mitigation measures are recommended for noise.

3.13.3 References

Bakersfield. (2021) *Bakersfield Municipal Code*. Retrieved 22 June 2021 from <https://bakersfield.municipal.codes/Code>

- Burns & McDonnell. (2021) *CMD Bakersfield CEQA – Sound and Vibration Analysis*. Technical Noise Study submitted to the Project team by Burns & McDonnell on October 18, 2021
- City of Bakersfield (2010) *Metropolitan Bakersfield General Plan*. Retrieved 22 October 2021 from <https://content.civicplus.com/api/assets/37a2e20d-e610-431f-a222-9f4f2ecd2ddd>
- County of Kern. (2012) *Airport Land Use Compatibility Plan*. Retrieved 22 June 2021 from <https://www.bakersfieldcity.us/271/Adopted-Planning-Documents?contentId=f30c71ee-04b1-4547-bc07-f6ccfafb4eaa>
- County of Kern. (2021) *Kern County Code of Ordinances*. Retrieved 22 June 2021 from https://library.municode.com/ca/kern_county/codes/code_of_ordinances?nodeId=16251
- Kern County General Plan (2009). Kern County Planning Department. Retrieved July 21, 2021. https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGP_Complete.pdf

3.14 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.14.1 Discussion

- a) Induce substantial 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. The City has a population of 384,145 (U.S. Census Bureau, 2019). There are approximately 124,863 housing units. Of these housing units, approximately 8,741 are vacant and 116,123 are occupied. Most units (93,648 units) are 1-unit detached dwellings. Bakersfield also has 1-unit attached housing units as well as mobile homes and multi-unit structures (U.S. Census Bureau, 2019).

The new FMS building would be permanent construction with a total gross square footage of approximately 20,557 sf. No new dwellings would be constructed as part of the Project. It is anticipated that staffing for the Project facility would consist of approximately 20 full-time staff made of local employees and transfers from other military facilities. No roads or infrastructure would be extended for the Project. Therefore, construction and operation of the Project would not induce substantial population growth directly or indirectly by proposing new homes and businesses or through the extension of roads and other infrastructure and there would be No Impact.

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

No impact. The Project site contains no existing structures and is an undeveloped lot consisting of exposed dirt and sparse grass. There are no habitable structures on the Project site that would need to be demolished to construct the Project. No housing would be displaced as part of the Project and no housing

currently exists on the property. As such, no housing or people would be displaced during the construction or operation of the Project; therefore, there would be No Impact.

3.14.2 Mitigation Measures

No mitigation measures are recommended for population and housing.

3.14.3 References

U.S. Census Bureau. (2019). *QuickFacts Bakersfield City, California*. Retrieved 22 June 2021 from <https://www.census.gov/quickfacts/fact/table/bakersfieldcitycalifornia#>

3.15 Public Services

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
(i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.15.1 Discussion

- a) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

i) Fire protection?

Less Than Significant Impact. The Bakersfield Fire Department operates 14 fire stations throughout the City with 240 sworn, support, and reserve personnel. Fire Station #41, the closest fire station to the Project site, is located at 2214 Virginia Ave (BFD, 2021). However, the Fire Department would dispatch the closest responding unit in case of an emergency.

Construction

Project construction would be short-term and is anticipated to last 15 months. Although unlikely, construction activities do have the potential for ignitions and fires. In terms of FHSZs, the Project site is a Local Responsibility Area that is not within a FHSZ (CAL FIRE, 2007; CAL FIRE, 2008). Fire protection measures used during construction would include the use of portable fire extinguishers, and a safety plan would be developed that would include procedures in case of a fire and precautions to minimize fire risk. Emergency access routes and muster points would be identified as part of the safety plan for construction employees and visitors in case of a fire emergency. Fire protection measures would

be implemented during construction and local services would be sufficient to respond to a potential fire at the Project site. Therefore, the Project would result in Less Than Significant Impacts.

Operation

An increased demand on fire protection services is not anticipated at the Project site. In terms of FHSZs, the Project site is a Local Responsibility Area that is not within a FHSZ (CAL FIRE, 2007; CAL FIRE, 2008). New facilities would be built as part of the Project, which would have the potential for ignitions and fires. All Project facilities would be constructed in accordance with local, State, and Federal fire safety codes. To minimize fire risk and damage, fire protection measures used onsite during Project operation would include the use of portable fire extinguishers which would be mounted throughout the facility in accordance with Section 6151, Article 157 of Cal/OSHA Title 8 regulations.

All areas of the new FMS building shall be protected throughout by an automatic sprinkler system. The FMS building shall be served from the site utilities. A fire protection service main would be provided to the building with a double check valve backflow preventer located 40 feet away from the building. A fire department connection would be installed on the downstream side of the double check valve assembly. The sprinkler system would include an indicating control valve for each riser system or zone. All flow switches and tamper switches would connect to the building Fire Alarm Control Panel (Atkins 2022).

CMD would utilize its standard safety protocols to minimize fire risk and respond in case of a fire. Safety plans, including contingency plans required by the HMBP and SPCC plans, would be developed that would include procedures in case of a fire and precautions to minimize fire risk, including mass notification from an autonomous control unit. The autonomous control unit would allow personnel in the facility to initiate delivery of a pre-recorded voice message, provide live voice messages and instructions, and initiate visual strobes in the case of an emergency.

Emergency access routes and muster points would be identified as part of the safety plans for employees and visitors in case of a fire emergency. The FMS building would also comply with applicable sections of California Fire Code (CFC) Title 24. The CFC contains regulations consistent with nationally recognized and accepted practices for safeguarding life and property from the hazards of fire and explosion. The HMBP emergency response plan would also be created and approved by CUPA specifically detailing how to handle dangers as they relate to hazardous materials storage.

The Project would not increase demand for fire protection services and is not within a FHSZ. It is anticipated that the local fire protective services would be sufficient to respond to fire emergencies at the Project site. A fire hydrant flow test would be scheduled with the City of Bakersfield to determine the

available water flow and pressures of the existing water system. Design and construction of the Project would adhere to all applicable CBC and CFC codes and full-time employees would be trained in basic emergency response, including fire response. Therefore, impacts would be Less Than Significant.

ii) Police Protection?

Less Than Significant Impact. Law enforcement services in Bakersfield are provided by the Bakersfield Police Department. The Bakersfield Police Department divides the City into two areas for service. The Project site is located within the jurisdiction of the department headquarters, located at 1601 Truxtun Avenue.

Construction

Project construction would be short-term and is anticipated to last approximately 15 months. All visitors and employees at the base must stop at the security station at the entrance on Gateway Avenue to verify their credentials. The adjacent Bakersfield Readiness Center is fenced to deter vandals and other security risks, and no trespassing signs are posted. Physical security measures would be incorporated into the design including minimum standoff distances from roads, parking areas, vehicle unloading areas, berms, heavy landscaping, and bollards.

Construction

Access to the Project site would be limited to construction employees working on the Project. Construction is anticipated to temporarily increase traffic in the Project vicinity. Workers commuting to the Project site would be required to obey all traffic laws. Since construction would be temporary, any increase in traffic or temporary disruption of traffic in the Project vicinity would not adversely affect local and State police from patrolling roads and highways in the area. Existing police protection facilities would be adequate to serve the Project; there would not be a need for new facilities. The Project would result in Less Than Significant Impacts for this threshold.

Operation

During operation all visitors and employees would stop at the security station at the entrance off Gateway Drive to verify their credentials. The Project would have an automatic gate that would open once a badge is scanned. Access to the Project site would be limited to a small number of full-time employees (approximately 20) and invited/approved guests. Outdoor lighting would be put in place, which would be operated by motion detectors after hours. This lighting would be downward facing and shielded to focus light on desired areas for safety and security goals. Workers commuting to the Project site would be required to obey all traffic laws. Existing police protection facilities would be adequate to serve the

Project; there would not be a need for new facilities. The Project would result in Less Than Significant Impacts for this threshold.

iii) Schools?

Less Than Significant Impact. The Project site is located within the Bakersfield City School District and Kern High School District. The Bakersfield City School District has thirty-five elementary schools and nine middle schools (Bakersfield City School District, 2021). The Kern High School District has twenty-four high schools (Kern High School District, 2021). Project construction would be temporary and is anticipated to last approximately 15 months. It is not anticipated to increase the population of school age children in the area as construction crews would not relocate to the area. No new schools would be required, nor existing schools expanded because of Project construction. Therefore, there would be No Impact to schools.

Operation of the Project is not anticipated to significantly increase the population of school age children in the area because there would not be a significant increase in number of full-time employees at the FMS building (approximately 20). No substantial increase in new employees or employee relocation to the Bakersfield area is anticipated due to Project operation. No new schools would be required, or existing schools expanded as a result. Therefore, impacts are considered Less Than Significant.

iv) Parks?

See Section 3.16 Recreation for a discussion regarding parks in the Project site.

v) Other public facilities?

Less Than Significant Impact. Electric and gas service is provided by PG&E in Bakersfield (Pacific Gas and Electric Company, 2014). Library services in the Project site are provided by Kern County Public Libraries at their Bakersfield Holloway-Gonzales branch, located at 506 E Brundage Lane. Trash collection in is provided by the Public Works Department, Solid Waste Department, which provides curbside solid waste and recycling pick up as well as yard waste, electronics recycling, appliance recycling, and other services (Public Works Department, 2021).

Other public facilities, e.g., sewer services, water services, storm drains, and roadways, are discussed in Sections 3.10 Hydrology and Water Quality, 3.17 Transportation/Traffic, and 3.19 Utilities and Service Systems.

Construction

Project construction would be temporary. No significant population increase in the area is anticipated because of construction and library, trash collection, and other local services are not anticipated to be impacted during construction. Electricity would be used for construction activities for power tools and lighting, but not in quantities that would adversely impact PG&E and the local electrical grid. Because construction would be temporary in nature and would not require more energy than what PG&E can provide to the Project site, nor would construction overwhelm existing public services, it is anticipated the Project would have Less Than Significant Impact on local utility services and other public services (e.g., water and trash) during construction.

Operation

Due to the small number of full-time employees during operation (approximately 20), there would not be a significant employee relocation effort nor a subsequent population increase. As such, library and trash collection services are not anticipated to be impacted during operation. Electric and gas would be used in the FMS building during operation of the Project; however, the Project would be designed with LEED Silver standards and constructed to achieve High Performance and Sustainable Building Requirements. Additional information on estimated amount of new energy consumption during operation is discussed in Section 3.6 Energy. Considering the use of LEED principals and the low number of proposed full-time personnel, the Project would have a Less Than Significant Impact on local utilities and services.

3.15.2 Mitigation Measures

No mitigation measures are recommended for public services.

3.15.3 References

Bakersfield City School District (2021) *Elementary & Jr High/Middle Schools*. Retrieved 23 June 2021 from

https://www.bcsd.com/apps/pages/index.jsp?uREC_ID=1070502&type=d&pREC_ID=1365325

Kern High School District (2021) *School Directory*. Retrieved 23 June 2021 from

<https://www.kernhigh.org/apps/pages/schooldirectory>

Bakersfield Fire Department (2021) *Fire Information Map*. Retrieved 8 November 2021 from

<https://cob.maps.arcgis.com/apps/webappviewer/index.html?id=8c056dff7b2f45b6916f15f7caa7f15c>

CAL FIRE (2007) *Kern County State Responsibility Areas, Fire Hazard Severity Zone Maps*. Retrieved 8 November 2021 from <https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>

CAL FIRE (2008) Kern County Local Responsibility Areas, Fire Hazard Severity Zone Maps. Retrieved 8 November 2021 from <https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>

Pacific Gas and Electric Company (2014) *Electric Maps & Gas Maps*. Retrieved 8 November 2021 from <https://www.pge.com/tariffs/index.page>

Public Works Department (2021) *Garbage/Recycling*. Retrieved 8 November 2021 from <https://www.bakersfieldcity.us/374/Garbage-Recycling>

3.16 Recreation

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.16.1 Discussion

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less Than Significant Impact. The Bakersfield Recreation and Parks Department (BRPD) offers a variety of services and programs while managing several facilities in Bakersfield, including the Dr. Martin Luther King, Jr. Community Center, the Silver Creek Community Center, dozens of parks, and the McMurtrey Aquatic Center. The BRPD also offers lap swimming, swim lessons, adult fitness classes, and youth programs at several public pools and sports complexes (BRPD, 2021). Several parks are located near the Project site. The closest park to the Project site is Belle Terrace Park located at 1101 East Belle Terrace, which is approximately 0.75 miles southwest of the Project site. Additionally, Virginia Avenue County Park at 2022 Virginia Ave is approximately 0.82 miles northeast of the Project site.

Construction

Short-term Project construction would employ an estimated five (5) full-time onsite workers with up to 30 workers onsite at any given time depending on construction requirements over the approximate 15 month construction period. During the construction period, it is possible that workers from the Project site would use parks and recreational facilities within the Project vicinity during lunch breaks or on weekends. However, because the Project site is in a generally urban area, it is anticipated that most construction workers would be local or would commute to the site daily, likely living within the greater Kern

County/Bakersfield area. Given the relatively short duration of the construction activities, it is not anticipated that construction workers would relocate with their families to the greater Kern/Bakersfield area.

Construction workers commuting to the Project site could potentially use recreation facilities during the workday or immediately before or after work. The recreation facilities mentioned above are located near the Project site and may experience a small increase in use. However, considering the limited number of construction workers at the Project site and the limited hours of the day that construction workers could use the facilities, it is not anticipated that the Project construction personnel would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. Therefore, impacts would be Less Than Significant.

Operation

The Project site is located near several parks, including Belle Terrace Park and Virginia Avenue County Park. These facilities may be used by employees once the Project is constructed. Most of the workers at the Project site during operation would be local or commute to the Project site, likely living within the greater Kern/Bakersfield area. Employee relocation is not anticipated as part of the Project. However, a small number of employees may be transferred depending on the long-term needs for the Project. Any workers that commute to the area could use these BRPD facilities during the workday during breaks or lunch. However, considering the limited hours of the day that workers could be use the facilities and the small number of permanent full-time employees anticipated (approximately 20), Project operation would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. Because relocation is not anticipated, the Project impacts would be Less Than Significant.

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

No Impact. No parks or recreational facilities would require construction or expansion during the building or operation of the Project. Therefore, there would be No Impact related to construction or expansion of recreational facilities.

3.16.2 Mitigation Measures

No mitigation measures are recommended for recreation.

3.16.3 References

Bakersfield Recreation and Parks Department. (2021) *Recreation & Parks*. Retrieved 20 October 2021 from <https://www.bakersfieldcity.us/297/Recreation-Parks>

3.17 Transportation

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.17.1 Discussion

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

Less Than Significant Impact. Construction of the Project may result in additional vehicles on Gateway Avenue, S. Washington Street, and Mt. Vernon Avenue associated with Project development due to temporary transport of supplies, building materials, and construction equipment being moved to and from the Project site. This short-term increase in traffic would be localized and temporary and considered Less Than Significant.

Construction

Construction is anticipated to last approximately 15 months. Construction crews would generally operate from 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends with noise generating activities in compliance with the Bakersfield Municipal and Kern County Codes. Construction of the Project would result in trucks entering and exiting the Project site. However, these trips would be nominal in quantity in the context of the City's circulation system (i.e., approximately five (5) full-time construction workers accessing the site daily, and four (4) to ten (10) truck trips per day). During peak construction there could be up to 30 employees accessing Project site daily and 30 to 40 truck trips over a one-to-two-week period (material and equipment delivery). Additionally, designated delivery and haul routes for the Project would be consistent with those currently used for the adjacent Bakersfield

Readiness Center and surrounding industrial and manufacturing facilities. Construction trucks and equipment would likely access the site either from the north from SR58 then travel to the Mt. Vernon/Gateway intersection, or from the south along Mt. Vernon Avenue (Figure 2-2). The Project would have a low quantity of average daily truck trips, a short-term construction period, and would use designated routes already used for delivery and haul routes for other industrial and manufacturing facilities in the area.

The Project would not conflict with plans, ordinances, or policies establishing measure of effectiveness for the performance of the circulation system. Furthermore, delivery trips would be spread throughout the day, only construction worker commuter trips would typically occur during peak hour traffic conditions. Therefore, construction-related traffic impacts would be Less Than Significant.

Operation

Operation of the Project would not degrade traffic conditions in the surrounding circulation system due to the low number of full-time employees onsite (approximately 20). During Project operation, the building would serve as a maintenance, repair, and education facility utilized by the CAARNG. The Project would be located adjacent to the Bakersfield Readiness Center and provide direct access to the maintenance shop with the FMS building. The Project would be built adjacent to the Bakersfield Readiness Center to maintain and service the large fleet of tactical vehicles stationed there. The primary intended use of the FMS building is to service CAARNG vehicles. Currently, minor mechanical work is performed at the Bakersfield Readiness Center, however, if major vehicle repairs are needed, the vehicle is towed offsite to Barstow, approximately 130 miles away for maintenance. When maintenance is complete, the vehicle is towed back to the Bakersfield Readiness Center creating a 260-mile trip. Proximity to the Bakersfield Readiness Center is the most important design element of the Project to reduce VMT to an offsite location for vehicle servicing. Construction of the FMS building would substantially reduce VMT through the life of Project operation, saving the CMD cost associated with travel and fuel usage, decreasing overall energy demands, and thereby also reducing GHG emissions. There would be no fence or gate along the eastern boundary separating the FMS building and the Bakersfield Readiness Center. Personnel would use this open access point to transport fleet vehicles from the Bakersfield Readiness Center to the FMS building for maintenance or servicing, rather than towing or driving military fleet vehicles on public roads, further decreasing overall VMT during operation and life of Project. The number of vehicles serviced is not expected to change, only the location of the servicing. Between the low number of full-time employees and direct access between the Bakersfield Readiness Center and new the FMS building, current Project designs would not conflict with any applicable plan, ordinance, or policy establishing

measure of effectiveness for the performance of the circulation system and impacts would be Less than Significant.

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

Less Than Significant Impact. CEQA Guidelines Section 15064.3(b) focuses on VMTs, adopted pursuant to SB 743 for determining the significance of transportation impacts. Pursuant to SB 743, the focus of transportation analysis now uses VMT. In 2017, California Office of Planning Research released new guidelines that govern how CEQA is used to address congestion as required by SB 743. Level of Service has now been replaced with VMT as the primary method to measure traffic impact under CEQA in California. SB 32 (Pavley, 2016) requires California to reduce GHG emissions 40 percent below 1990 levels by 2030, and Executive Order B16-12 provides a target of 80 percent below 1990 emissions levels for the transportation sector by 2050. The transportation sector has three major means of reducing GHG emissions: increasing vehicle efficiency, reducing fuel carbon content, and reducing the amount of vehicle travel. According to the technical guidance provided in the Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018), absent substantial evidence indicating that a project would generate a potentially significant level of VMT or inconsistency with a Sustainable Communities Strategy or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a Less Than Significant Impact.

Neither Project construction nor operation would generate more than 110 trips per day. During operation, VMT for tactical vehicle servicing would substantially decrease by building the FMS building directly adjacent to the Bakersfield Readiness Center. Proximity to the Bakersfield Readiness Center is the most important design element of the Project to reduce VMT to an offsite location for vehicle servicing. Construction of the FMS building would substantially reduce VMT through the life of Project operation, saving the CMD cost associated with travel and fuel usage, decreasing overall energy demands, and thereby also reducing GHG emissions.

According to CEQA Guidelines Section 15064.3(b)(1), projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. The Project site is located within the Golden Empire Transit District and is approximately 0.45 miles from the Adult School bus stops, which are served by Bus Line 41. These stops operate from 7:41 a.m. to 6:11 p.m. every day, with bus service every half hour.

Proximity to this transit corridor allows the option for construction workers and future employees to utilize mass transit, further reducing VMT.

Based on the above information, the Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b) and impacts would be considered Less Than Significant.

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

Less Than Significant. A small portion of the cul-de-sac located at the end of the road located immediately south to the Project site would be slightly modified for the Project. Gateway Avenue currently extends from the intersection at Mt. Vernon Avenue west towards the Project site (Figure 2-2). The road extends west along the southern boundary of the Project site and terminates in a cul-de-sac. Two new driveways would be constructed on the north side of the cul-de-sac to create entrance/egress to the parking lot. This would avoid overlapping/two-way traffic within the parking lot and therefore decrease potential parking lot hazards or accidents. These are the only two driveways or design features that connect to a public right of way. All other Project components would be located entirely within the vacant lot on land owned by the military, and Project construction or operation would not temporarily or permanently result in any major modifications (e.g., reconfiguration or restriping) to existing circulation facilities. During Project operation, trucks and personal vehicles would continue to use existing routes. No other design feature for the Project would create an incompatible use, hazard, or danger to employees or the public. Therefore, Less Than Significant Impact is anticipated during Project construction and operation.

d) Result in inadequate emergency access?

Less Than Significant Impact. Construction would temporarily generate some additional traffic on the existing area roadway network. These vehicle trips would include construction workers traveling to the Project site and delivery trips associated with construction equipment and materials. Delivery of construction materials to the Project site would likely require oversize vehicles that may travel at slower speeds than existing traffic. Lane closures are not anticipated, and no off-site roadway improvements are required or proposed that would have the potential to interrupt area circulation or redirect traffic. Current designs for ingress/egress and circulation currently comply, and would continue to comply, with fire code requirements for width, grade, clearance, dead-end length, and turnarounds. Additionally, the Project is subject to the City's discretionary review process for determination of Project conformance with City

design standards for the provision of emergency access and circulation. Therefore, the Project would not result in inadequate emergency access, and Less Than Significant Impacts would occur.

3.17.2 Mitigation Measures

No mitigation measures are recommended for transportation/traffic.

3.17.3 References

Governor's Office of Planning and Research. December 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf
Kern Council of Governments (2021). *2018 Regional Transportation Plan*. Accessed 12 November 2021 from <https://www.kerncog.org/category/docs/rtp/>

3.18 Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project 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:				
(a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) 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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.18.1 Discussion

a) 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

Less Than Significant. As previously discussed in Section 3.5, the Project site does not contain any resources that are either listed or eligible for listing in the California Register of Historical Resources (CRHR) or in a local register of historical resources as defined in Public Resource Code Section 5020.1(k). Seven surveys have been conducted within a mile of the Project, and one historic period trash scatter was recorded within a mile of the site. On November 15, 2003, the Project site was surveyed for cultural resources by a qualified archaeologist. The survey found no resources or properties present at the site. Due to prior disturbance throughout the Project site, including grading, it is unlikely that significant subsurface archaeological or cultural resources are present; therefore, impacts from construction and operation of the Project are considered Less than Significant.

Additionally, consultation under Section 106 was conducted for this Project on April 12, 2022, by CAARNG requesting concurrence with the finding of “No Historic Properties Affected” for the Project,

in accordance with Section 800.4(d)(1) (Appendix G). On May 17, 2022, Julianne Poblanco, SHPO officer, issued a letter stating (Appendix C):

- The APE appears adequate to account for direct and indirect effects to historic properties
- SHPO concurs with the Guard's (CARRNG's) No Historic Properties Affected finding

Therefore, impacts to a historical resource would be Less than Significant.

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

Less than Significant Impact with Mitigation Incorporated. The Project is subject to compliance with AB 52 [Public Resource Code (PRC) Section 21074], which requires consideration of impacts to tribal cultural resources as part of the CEQA process. Per PRC, § 21080.3.1(b)(1)AB 52 California Native American Tribes must request to be on an Agency's notification list. To date, CMD, as the lead agency responsible for CEQA compliance for the Project, has not received a formal request from any California Native American Tribes to be notified of current or upcoming proposed projects. Therefore, consultation under AB 52 was not triggered for this Project.

At present, there is one federally recognized tribe, the Tule River Indian Tribe, associated with Yokut, and two other groups and one individual that are affiliated with the Tubatulabal, Kawaiisu, Koso, Yowlumne, and Kitanemuk that may have interest in the Project site vicinity. The CAARNG sent a letter dated February 8, 2022, to the attention of the Tachi-Yokut Tribe, the Tejon Indian Tribe, and the Tule River Indian Tribe providing a map and thorough Project description of the Proposed Project (Appendix C). To date, CARRNG has not received a response from any of listed the Tribes.

Despite the Project site being previously disturbed and the fact that the archaeological sensitivity of the Project site is low, CMD is committed to preserving the integrity of cultural resources. Thus, CMD would adopt Mitigation Measure **CUL-1** which states that, in accordance with SOP 11 of the ICRMP, workers/soldiers shall monitor their ground disturbance activities for previously unknown cultural resources. Should cultural resources be inadvertently discovered, all work shall stop, and the Environmental Office shall be contacted immediately (916-854-1477). Work may resume upon completion of consultation with the State Historic Preservation Officer or other resolution of the

discovery. Because the Project site is Federal property, the Native American Graves and Repatriation Act applies to all human remains and associated burial goods discovered to be of Native American origin. With the incorporation of Mitigation Measure **CUL-1**, impacts associated with any potential buried, currently unrecorded/unknown tribal cultural resources would be Less than Significant.

3.18.2 Mitigation Measures

CUL-1 The CMD/CAARNG shall implement SOP 11 (Inadvertent Discovery) of its ICRMP in the event of an inadvertent discovery of archaeological human remains or SOP 4 (Compliance with Law Relating to the Discovery and Repatriation of Human Remains) of its ICRMP in the event of an inadvertent discovery of Native American human remains. In accordance with SOP 11 of the ICRMP, workers/soldiers shall monitor their ground disturbance activities for previously unknown cultural resources. Should cultural resources be inadvertently discovered, all work shall stop and the Environmental Office shall be contacted immediately (916-854-1477). Work may resume upon completion of consultation with the State Historic Preservation Officer or other resolution of the discovery. Because the Project site is Federal property, the Native American Graves and Repatriation Act applies to all human remains and associated burial goods discovered to be of Native American origin.

3.18.3 References

Bakersfield. (2018). *Making Downtown Bakersfield Project Draft Environmental Impact Report*.

Retrieved 30 June 2021 from <https://content.civicplus.com/api/assets/301a0f81-3b53-4ebb-adf4-39151570ea8e?cache=1800>.

U.S. Army Corps of Engineers (2004). *Environmental Assessment of Construction and Operation of a Readiness Center in Bakersfield, California*.

3.19 Utilities and Service Systems

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

3.19.1 Discussion

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

Less Than Significant Impact. As part of the Project, service connections and meters would be installed between the FMS building and the existing utility infrastructure along Gateway Avenue. Water, sanitary sewer, storm drainage, electrical, natural gas, and communications would be required to support all

facilities within the FMS building (i.e., front offices, staff facilities, restrooms, work bays, etc.). The use of these resources for the Project would not cause a significant environmental effect. Energy consumption statistics for electricity and gas can be found in Section 3.6 Energy.

Water

During construction, water use would be limited and temporary at the Project site. Water would be used for some construction activities such as dust control and for mixing building materials. Large dust control water trucks are typically rented and filled offsite. Due to the limited water use, construction is not anticipated to require or result in the construction of new water or wastewater treatment facilities and therefore, impact would be Less Than Significant.

Once operational, the Project would increase water use at the site. Permanent water facilities would be constructed onsite to move water from municipal infrastructure to water use locations in buildings such as restrooms, breakrooms, wash racks, and irrigation. The Project would be built to LEED Silver standards and would include the use of water conservation technologies such as low-flow water closets (1.28 gallons per flush [gpf]), urinals (0.125 gpf), lavatories (0.35 gallons per minute [gpm]), and breakroom sink (1.5 gpm). Showers would be provided with vandal proof heads rated for 1.5 gpm flowrate.

During operation it is anticipated that one vehicle per day would be washed in the wash rack. The wash rack would be operated manually to help control total amount of water used, with employees trained to conserve water when feasible and limiting total wash time per vehicle. Vehicles would be hand dried; no blowers or large dryers would be used.

California Water Service (Cal Water) would serve the Project site with a 12-inch water main and laterals from Gateway Avenue. Flows are rated at approximately 60 pounds per square inch static and approximately 2,100 gpm flow. The 2020 Urban Water Management Plan Bakersfield District by Cal Water projected water use for 2025 through 2045 in 5-year increments. The demands for potable and raw water were projected to increase for “Institutional/Governmental” uses from 5,122 AF in 2025 to 5,622 AF in 2045. The plan estimated that Cal Water's water supply would increase from 59,418 AF in to 70,314 AF between 2020 and 2045 to meet the increased water demands. Water is purchased from the City and the Kern County Water Agency Improvement District 4 and obtained from 130 wells in the Kern County Subbasin. The Urban Water Management Plan concluded that based on all available information, the combination of groundwater and purchased imported water supplies is expected to be sufficient to support the Bakersfield District's projected water demand through 2045. Since no significant increase is

anticipated because of the Project, the Project would have a Less Than Significant Impact for projected water use.

Wastewater

Wastewater would be generated during construction but would be limited and temporary in nature. Due to the limited wastewater generation, construction is not anticipated to require or result in the construction of new wastewater treatment facilities and the impact would be Less Than Significant.

Once operational, the Project would increase wastewater generation at the Project site mainly from kitchen, restroom, showers, and water used in the wash rack. Domestic wastewater flows generated by the Project would be collected and discharged to the existing eight-inch sanitary sewer line on Gateway Avenue. Once the wastewater flows leave the Project site, they would be conveyed through a collection and treatment system which is owned and operated by the City of Bakersfield Wastewater Division. The Wastewater Division operates and maintains two treatment facilities, 55 pump and lift stations, and 1,069 miles of sewer main, six inches in diameter and greater. The Project would be served by Wastewater Treatment Plant No. 2, which is designed to accommodate an average daily flow of 25 million gallons per day (MGD), with a peak design hourly flow of 40.8 MGD. Current daily average flow is 13.7 MGD. The treated wastewater is used for restricted agricultural purposes, not for human consumption. Operational wastewater discharge from the Project site would not require the relocation or expansion of existing City wastewater treatment plants. Therefore, Project operation would have a Less Than Significant Impact on wastewater services.

Stormwater

During construction, stormwater flow from the Project area would be routed to the existing storm drains within the existing Project footprint or into temporary stormwater management facilities in accordance with the NPDES CGP and BMPs set forth in the Project's SWPPP.

The new Project facility, including all new paved areas, would result in a permanent disturbance of approximately 5.80 acres, which would incrementally increase the amount of impervious surface compared to existing conditions. Increase in stormwater flow associated with the Project has been calculated and has been incorporated into onsite design features. Stormwater runoff from the new building and parking areas would be collected in below grade piping or allowed to sheet flow to a ditch along the eastern edge of the Project and then flow south to the stormwater management basin near the entrance of the Project (Figure 2-3). Any stormwater that does not percolate through the natural stormwater conveyance systems would flow to existing storm drains on Gateway Avenue. The Project

would not create stormwater runoff that would exceed the capacity of newly designed stormwater features or existing drainage systems. Stormwater runoff associated with Project operation would also be managed in compliance with the Project SWPPP, with BMPs designed to reduce impacts to less than significant levels. Therefore, impacts would be Less Than Significant.

Electric Power

The Project would be located entirely on military-owned land, within the vacant parcel immediately west of the existing Bakersfield Readiness Center, which is currently served by PG&E electric facilities.

As discussed in Section 3.6, during construction, temporary electric power would be provided by PG&E through existing site connections as needed and mobile generators for temporary lighting, electric powered tools, and equipment. The amount of electricity used during construction would be minimal and temporary in nature. The electricity demand would be temporary and would cease upon completion of construction; therefore, Project construction would not require new or expanded electric power facilities, but simply tap into existing infrastructure that exists to support the adjacent Bakersfield Readiness Center. Impacts associated with electrical facilities during construction are therefore considered Less Than Significant.

As discussed in Section 3.6, once operational, long-term electricity use associated with the Project includes electrical consumption associated with the new buildings for lighting, electronics, and mechanical operations. Electrical service would be connected via existing utility facilities extended from Gateway Avenue. The Project would be built to meet LEED Silver standards, employ a small number of full-time personnel, and consume less than 0.001 percent of California's electric generation annually. As such, operation of the Project would have a Less Than Significant Impact on local electric utilities and services.

Natural Gas

Construction workers would not tap into the existing natural gas facilities during construction of the Project. However, construction of the FMS building would involve the installation of new natural gas facilities that would tie into the existing natural gas infrastructure located on Gateway Avenue. Since the adjacent Bakersfield Readiness Center is already served by existing natural gas infrastructure, it is not anticipated that extensive off-site infrastructure improvements would be needed to serve the Project area.

Once operational, long-term natural gas use associated with the Project would include consumption associated with the FMS building for heating and cooling. A gas main of sufficient size has already been placed on Gateway Avenue in anticipation of industrial development. Off-site gas infrastructure

improvements would not be needed to serve the Project area. Natural gas service would be extended from the existing gas main on Gateway Avenue to the Project site during construction. Based on natural gas availability in the greater Bakersfield area, any gas use during operation would not substantially deplete existing local resources (Section 3.6). Additionally, the Project would use LEED Silver principals during operation of the facility and staff a low number of full-time employees (approximately 20). Although connection to existing infrastructure along Gateway Avenue would be required for operation, consumption rates as described in Section 3.6 would be considered a Less Than Significant Impact on the environment and existing natural gas supply.

Telecommunications

Construction activities typically do not involve the construction of telecommunication facilities. During construction, wireless telecommunication systems may be used for internet and telephone systems. However, as telecommunications providers already deliver service to the immediately adjacent Bakersfield Readiness Center, it is anticipated that existing telecommunications facilities would be sufficient to support the Project's needs during construction. As such, no expansions or upgrades to off-site telecommunications facilities are anticipated during construction. Therefore, impacts would be Less Than Significant.

Once operational, it is anticipated that connections to existing telecommunications facilities adjacent to the FMS building would be sufficient to support the Project's needs for services. As such, no significant expansions or upgrades to off-site telecommunications facilities are anticipated for long-term operational use. Therefore, impacts would be Less Than Significant.

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

Less Than Significant Impact. Although construction would require water usage, the duration of that usage would be short term and the amount required is not considered significant. Current water supply and existing water conveyance systems on Gateway Avenue would be sufficient to support both construction and operation. Any required water consumption would have Less Than Significant Impact on the environment.

Construction

Water would be required during construction; however, the amount required would be nominal and temporary and would not strain the City's existing water supply, even during a dry year. Water would be used for some construction activities such as dust control or added to building material mixtures. The

existing Project site has adequate water supply capacity with existing entitlements and resources. Therefore, the Project would have Less Than Significant Impacts regarding sufficient water supplies for the foreseeable future.

Operation

Once operational, the Project would increase water use at the site. The Project building would comply with LEED Silver standards and include the use of water conservation technologies, such as low flow toilets and low flow aerator faucets. Permanent water connection facilities would be constructed onsite to move water from municipal infrastructure to water use locations at the site, including the outdoor wash rack. The Project would use a wash rack to clean vehicles on an as needed basis, estimated around one vehicle per day. The water would be operated with a manual nozzle during cleaning to help decrease the total amount of water used.

With the use of water conservation technologies and the low number of permanent employees (approximately 20), Project operation is anticipated to have a Less Than Significant Impact to water services.

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

Less Than Significant Impact. The existing Project site has adequate water supply capacity with existing entitlements and resources and the Project would not substantially increase the capacity of the wastewater system. Water would be required during construction; however, the amount required would be nominal and temporary. Operation of the Project would not generate a significant amount of wastewater. Low flow technologies would be used for the kitchen, showers, restrooms, and wash rack, further decreasing total amount of wastewater generated at Project during operations.

Construction

Wastewater would be generated during construction; however, the amount would be nominal and temporary. Due to the limited wastewater generation, no additional infrastructure nor an increase of existing wastewater facilities capacity would be required; therefore, impacts would be Less Than Significant.

Operation

Once operational, the Project would slightly increase wastewater generation at the site. Specifically, wastewater generation would come from the wash rack located to the north of the FMS building. The Project design includes a 2,000-gallon oil/water separator that drains to sanitary sewer system. Any wastewater collected during washing or maintenance would be routed to an oil/water separator before continuing to the municipal sewer system. The FMS building would be supported by the existing local wastewater treatment system. A sewer main of sufficient size has already been placed on Gateway Avenue in anticipation of industrial development. Major off-site wastewater infrastructure improvements would not be needed to serve the Project.

As discussed in Section 3.19.1(a), wastewater generated by the Project would be conveyed through a collection and treatment system owned and operated by the City of Bakersfield Wastewater Division. The Project would be served by Wastewater Treatment Plant (WWTP) No. 2, which is designed to accommodate an average daily flow of 25 MGD, with a peak design hourly flow of 40.8 MGD. Current daily average flow is 13.7 MGD. As such, the collection system has ample capacity remaining to support the Project's development and there would be a Less Than Significant Impact.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact. The Solid Waste Division (SWD) of the Bakersfield Public Works Department currently provides residential, commercial, and industrial waste collection services for Bakersfield (Public Works Department, 2021). SWD's active landfills have a remaining capacity of 34.8 million tons, as of January 2017, and collect approximately 775,000 tons of waste from customers annually. The life expectancy for SWD's existing active landfills is approximately 55 years (ASCE, 2018). Waste from the Project site is anticipated to be diverted to these sites, and the landfills would have sufficient capacity to accommodate the Project's disposal needs. Therefore, impacts are considered Less than Significant.

Construction

According to the 2014 Disposal Facility-Based Characterization of Solid Waste in California, construction and demolition materials are estimated to account for between 21.7 percent to 25.5 percent of the disposed waste stream. Previous study estimates have ranged from 29 percent in 2008 to 24 percent in 2004.

Common construction and demolition materials include lumber, drywall, metals, masonry (brick, concrete, etc.), carpet, plastic, pipe, rocks, dirt, paper, cardboard, or green waste related to land development. Many of these materials can be reused or recycled, thus prolonging the supply of natural resources. Of these, metals are the most recycled material while lumber makes up the majority of debris that goes to a landfill. Enforcing agencies can require contractors to develop and maintain one of the following three waste management goals, development of a waste management plan and document diversion and disposal, utilization of a waste management company that can provide verifiable documentation that it meets 65 percent waste diversion, or use of a waste stream reduction alternative (e.g., non-residential new construction projects with a total disposal weight of less than or equal to 2 (two) pounds per square foot (lbs./ft²) meets the 65 percent waste diversion requirement). The CMD would determine the most appropriate approach prior to construction to meet the Federal, State, and local provisions for construction waste management (CalRecycle 2022).

There would be no demolition or demolition waste created from this Project. Construction activities would result in construction material waste that would either be recycled or disposed of at local landfills. However, this waste is not expected to exceed the capacity of the landfills. The landfills have sufficient capacity to accept waste from Project construction. The waste produced during construction is expected to be minimal and temporary and the construction contractor would be required to dispose of solid waste in accordance with Federal, State, and local solid waste requirements, including applicable measures under Senate Bill 1374. The California Green Building Standards Code (CALGreen) is part 11 of Title 24, California Code of Regulations, which requires covered projects to recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste or meet a local construction and demolition waste management ordinance, whichever is more stringent. Construction contractors would recycle materials when appropriate and feasible and adhere to Federal, State, and local requirements. The Project would not strain the local landfills' capacities and therefore, it is anticipated the Project would have a Less Than Significant Impact on the local landfills' capacity to dispose of the Project's solid waste during construction.

Operation

Once operational, any solid waste generated by the Project would be minimal. The Project would not generate ongoing solid waste in excess of the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals. During operation employees would recycle appropriate materials and place them in the designated bins, separating trash from recyclable goods when applicable. Any hazardous material waste would be disposed of in accordance with Federal, State, and local

regulations. Operation of the Project would not generate solid waste in excess of State or local standards or capacity. Therefore, impacts would be Less Than Significant.

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

Less than Significant Impact. Under the Integrated Solid Waste Management Act of 1989, all cities and counties in California were required to divert 25 percent of solid waste from landfills by January 1, 1995 and 50 percent by January 1, 2000.

The California Solid Waste Reuse and Recycling Access Act of 1991 requires that State and local agencies provide adequate and accessible areas for collecting and loading garbage and recycling materials by creating ordinances for development projects. The DTSC enforces hazardous waste laws and regulations; issues permits to store, treat, or dispose of hazardous wastes; oversees cleanup activities on contaminated sites; provides emergency response for hazardous materials-related emergencies; and investigates potential criminal activities related to hazardous wastes (DTSC, 2010). The Project would comply with Federal, State, and local reduction statutes and regulations related to solid waste.

Additionally, the Project would minimize solid waste production and implement appropriate recycling and disposal efforts during both construction and operation, as applicable per Senate Bill 1383. Therefore, impacts related to solid waste would be Less than Significant.

Construction

Project construction would be temporary and is anticipated to last 15 months. The construction of the Project would comply with all Federal, State, and local statutes and regulations related to handling, recycling, and disposal of solid wastes (e.g., SB 1383). Construction contractors would be required to recycle and re-use construction materials to the extent possible, including sorting and separating materials of common construction (e.g., cardboard, wood scrap, scrap metals, masonry, etc.). Contractors would re-use materials when feasible and properly dispose of construction waste as required by Federal, State, and local regulations; therefore, construction of the Project would result in Less Than Significant Impacts related to solid wastes.

Operation

Once operational, the Project site is expected to generate a small amount solid waste, including food waste, which would be stored and/or disposed of as required by standard local specifications and any

applicable Federal and State requirements, including SB 1383. Therefore, there would be Less Than Significant impacts.

3.19.2 Mitigation Measures

No mitigation measures are recommended for utilities and service systems.

3.19.3 References

- California Department of Toxic Substances Control (DTSC). (2010). *DTSC: Who We Are and What We Do*. Retrieved August 2016 from https://www.dtsc.ca.gov/InformationResources/DTSC_Overview.cfm.
- CalRecycle (2022). [CALGreen Construction Waste Management Requirements - CalRecycle Home Page](#)
- Public Works Department (2021) *Garbage/Recycling*. Retrieved 8 November 2021 from <https://www.bakersfieldcity.us/374/Garbage-Recycling>
- ASCE (2018) *Report Card for Kern County's Infrastructure 2018*. Retrieved 12 November 2021 from <https://www.infrastructurereportcard.org/wp-content/uploads/2018/08/2018-Kern-County-Infrastructure-Report-Card-1.pdf>
- U.S. Army Corps of Engineers (2004). *Environmental Assessment of Construction and Operation of a Readiness Center in Bakersfield, California*
- California Water Service (2020). *2020 Urban Water Management Program*. Retrieved 12 November 2021 from https://www.calwater.com/docs/uwmp2020/BK_2020_UWMP_FINAL.pdf
- Bakersfield Department of Public Works (2021) *Wastewater Treatment Plants*. Retrieved 12 November 2021 from <https://www.bakersfieldcity.us/679/Wastewater-Treatment-Plants>
- Bakersfield Department of Public Works (2014). *Sewer System Management Plan*. Retrieved 12 November 2021 from <https://content.civicplus.com/api/assets/4c6d1bb9-f5c5-4a1f-b0fd-177018967488?cache=1800>

3.20 Wildfire

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.20.1 Discussion

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

Less Than Significant Impact. According to CAL FIRE's FHSZ map, the Project site is not located in a high FHSZ (CAL FIRE 2021). The Project site and surrounding area are characterized as developed and industrial, which would not facilitate the spread of wildfires compared to vegetated areas.

Construction

Construction of the Project would involve the transport of equipment and materials on public roadways. Construction vehicle traffic typically travels at slower speeds than passenger vehicles and can slow vehicle travel in the Project area. Delivery of materials, supplies, and the hauling of debris from the Project site would use public roads; however, active construction of the Project would be confined within the Project site footprint (Figure 2-2). No roadway lane closures are anticipated during construction of the Project. Emergency response and safety meetings would be held regularly during construction detailing appropriate emergency access and egress. Construction would not interfere with any known or established

emergency response plans or evacuation plans within the City or greater Bakersfield area. Therefore, construction impacts would be Less Than Significant.

Operation

The Project's operations would not require a substantial increase of employees onsite and the level of traffic would remain consistent with existing levels of traffic in and around the general area and would not impede emergency response or evacuation. Current designs for ingress/egress and circulation comply, and would continue to comply, with fire code requirements for width, grade, clearance, dead-end length, and turnarounds. Additionally, the Project is subject to the City's discretionary review process for determination of Project conformance with City design standards for the provision of emergency access and circulation. Operation of the Project would not interfere with an adopted emergency response plan or emergency evacuation plan; therefore, impacts are considered Less Than Significant.

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

No Impact. As stated above, the Project site is not located in a high FHSZ (CAL FIRE, 2021). The Project site and surrounding area are characterized as developed and industrial which would not facilitate the spread of wildfires compared to vegetated areas. No incising of hillslopes or degradation of slope stability would occur because of Project construction and operation. The Project site and the immediate surrounding area is flat and does not contain slopes typical of exacerbating wildfire risks.

Therefore, it is not anticipated that the Project, due to slope, prevailing winds, and other factors, would exacerbate wildfire risks or expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. No Impacts would occur.

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 is situated in a developed area. All required utility connection points and main lines already exist on Gateway Avenue; therefore, installation or maintenance of new roads, fuel breaks, emergency water resources, power lines, or other utilities would not be required. A hydrant flow test was conducted on May 5, 2022, to ascertain the available water supply and pressure for fire suppression water supply for the Project. The flow test took place using two hydrants per NFPA 24 2019 Edition, Annex C,

to test the water supply on Gateway Avenue. Based on the recent flow testing of the hydrant on Gateway Avenue, there is sufficient flow for the Project's needs and the Project would not need a fire pump. Thus, it is not anticipated that the Project would exacerbate wildfire risk; No Impacts would occur.

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 and surrounding area are characterized as flat developed and industrial land which would not facilitate the spread of wildfires. In the rare chance of a large-scale fire, slope or hill side instability would not occur due to the flat landscape. In addition, as discussed in Section 3.10, stormwater runoff would discharge towards new and existing storm drain infrastructure and the Project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or offsite. Due to the flat Project site, it is unlikely that the Project would expose people or structures to downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes; No Impacts would occur.

3.20.2 Mitigation Measures

No mitigation measures are recommended for wildfires.

3.20.3 References

CAL FIRE, 2021. *Fire Hazard Severity Zone Map*. Retrieved 11/20/2021 from

<https://egis.fire.ca.gov/FHSZ/>

Kern County Fire, 2019. *Kern County Fire Ordinance Code*. Retrieved 11/20/2021 from

<https://kerncountyfire.org/jsp-uploads/Fire-Code-Ordinance-Ordinance8866.pdf>

3.21 Mandatory Findings of Significance

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to 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, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.21.1 Discussion

- a) Does the project have the potential to 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, 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. As discussed in Section 3.4, although no candidate, sensitive, or special-status plant or wildlife species are likely to occur at the Project site, implementation of Mitigation Measures **BIO-1** through **BIO-6** are recommended to minimize potential impacts to nesting birds, burrowing owls, and SJKF.

As noted under Section 3.5, implementation of the Project would not significantly affect known cultural resources. However, it is possible that grading activities could potentially encounter archeological resources. Therefore, Mitigation Measure CUL-1 is required to reduce potential impacts. With incorporation of these mitigation measures, Project impacts would be Less Than Significant.

b) Does the project 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 Impact with Mitigation Incorporated. The cumulative impacts analysis determines whether the Project’s incremental effects would be cumulatively considerable when viewed in connection with the effects of past, present, or probable future projects. A cumulative impact is not considered significant if the effect would be essentially the same whether or not the Project is implemented. As discussed throughout Section 3.0, the Project would have No Impact, a Less Than Significant Impact, or a Less Than Significant Impact with Mitigation Incorporated with respect to all environmental issues. No other significant cumulative impacts have been identified or are anticipated as further described below.

Aesthetics

The Project would result in minor Project-specific aesthetic impacts that would be Less Than Significant, thus, would not lead to cumulatively considerable impacts. The Project site is currently located on a vacant lot adjacent to the existing structure of the Bakersfield Readiness Center. While construction of the Project would change the visual character and quality of the site by introducing a new feature to the area, it would not substantially degrade the existing aesthetic character or quality. The FMS building would be located on military owned land and does not represent a conflicting land use that would affect visual quality on or offsite. There are no scenic vistas or resources at the Project site nor in the immediate vicinity of the Project site. As such, the Project would not contribute cumulatively to adverse effects on scenic vistas or resources in the area.

Agricultural and Forestry

The Project site is in an area that is designated as Urban and Built-Up Land according to the FMMP (DOC, 2021). The closest designated agricultural land is located approximately 700 meters southeast of the Project site and is designated as Grazing Land. Farmland of Statewide Importance exists 1,000 meters east of the Project site. Neither of the identified Grazing Land or Farmland of Statewide Importance are in

the vicinity of the Project site and neither would be converted to non-agricultural use by the Project; therefore, No Impact would occur during construction or operation of the Project and this Project would not contribute to the cumulative impacts to agricultural resources in the region.

Air Quality

The portion of Kern County where the Project is located is a non-attainment area for the 24-hour and annual PM_{2.5} NAAQS, the 8-hour ozone NAAQS, the 24-hour and annual PM₁₀ CAAQS, the annual PM_{2.5} CAAQS, and the 8-hour and 1-hour ozone CAAQS. As such, there is an existing regional cumulative impact associated with these pollutants. However, an individual project can emit these pollutants without significantly contributing to this cumulative impact, depending on the magnitude of those emissions.

The cumulative baseline ambient air conditions include the emissions from existing sources in the Project region plus foreseeable changes to emissions associated with growth in the region. The generation of pollutant emissions by construction of other reasonably foreseeable projects could contribute to adverse impacts on ambient air quality, concurrent with those of the Project if the emissions occur at the same time. Based on current information, the region is nonattainment for the above-mentioned pollutants; however, there are plans in place to ensure that regional growth doesn't disrupt progress towards attainment. As identified in Section 3.4, the Project would not exceed SJVAPCD construction or operational significance thresholds for daily or annual emissions. Additionally, the Project would not conflict with any SJVAPCD air quality plans. Thus, the Project would result in Less Than Significant cumulative air quality impacts.

Biological Resources

Biological resources onsite are limited to the low potential for the presence of two special status wildlife species, the SJKF and the burrowing owl. The Project would implement measures to minimize impacts should these species be detected onsite. With the implementation of Mitigation Measures **BIO-1** through **BIO-6**, Project-specific biological resource impacts would be mitigated to a Less Than Significant level, and, thus, would not lead to cumulatively considerable impacts.

Cultural Resources

There is a small potential for ground-disturbing activities to lead to incidental discoveries of cultural resources, but these impacts would be Less Than Significant with Mitigation. Therefore, with implementation of Mitigation Measure **CUL-1**, the Project would not make a considerable contribution to the cumulative impacts to cultural resources in Bakersfield. Redevelopment in the Project area, which is

predominantly disturbed and undeveloped, has a low potential to encounter and cause a significant impact on tribal cultural resources. Further, in association with CEQA review, future AB 52 consultations with Native American tribes to identify tribal cultural resources would be required for future projects that have the potential to cause significant impacts to tribal cultural resources. Therefore, to the extent impacts on tribal cultural resources from cumulative projects may occur, contribution from the Project would not be cumulatively considerable, and there would be no cumulative impact.

Energy

The short-term construction and long-term operation of the Project would require the consumption of energy resources (e.g., electricity and diesel fuel) at the Project site. The anticipated construction schedule assumes that the Project would be completed over a period of approximately 15 months. The construction phase would require energy for the manufacturing and transportation of building materials, preparation of the site (e.g., excavation, and grading), and the actual construction of Project components.

Long-term operational energy use associated with the Project would include electricity and natural gas consumption associated with the new buildings (e.g., lighting, electronics, heating, and cooling), energy consumption related to water usage and solid waste disposal, and fuel consumption (gasoline and diesel) by vehicles associated with the Project (POV, serviced vehicles, work vehicles). The CalEEMod 2020.4.0 was used to estimate energy use during Project operation.

During operation, the Project would result in the consumption of approximately 1.10×10^6 kWh of electricity per year (1.1 GWh of electricity per year). In 2020, the total system electric generation for California was 272,576 GWh. As a result, the Project's consumption of electricity at operation would represent approximately 0.0004 percent of the 2020 statewide total system electric generation, which is an insignificant fraction of statewide consumption. During operation, the Project would result in the consumption of approximately 2.53×10^6 kBtu of natural gas per year (2.53 million cubic ft of natural gas per year). In 2020, California consumed a total of 2,074.3 billion cubic ft of natural gas. As a result, the Project's consumption of natural gas at operation would represent approximately 1.2×10^{-8} percent of the 2020 statewide annual natural gas consumption, which is an insignificant fraction of statewide consumption.

Construction and operation of the Project would not result in a significant new energy demand and there are no Project components or operations that would conflict with any other State or local plan for renewable energy or energy efficiency. The Project would not obstruct a State or local plan for renewable

energy or efficiency and the Project would comply with State laws and regulations, including the most recent CBC requirements, while also building to LEED Silver standards.

The Project and future projects in the greater Bakersfield area must comply with standards set forth in CBC Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation. California Green Building Standards (as codified in CCR Title 24, Part 11) require implementation of energy-efficient light fixtures and building materials into the design of new construction projects. Furthermore, the 2019 Building Energy Efficiency Standards (CBC Title 24, Part 6) require newly constructed buildings to meet energy efficiency performance standards set by the CEC. The standards are updated every three (3) years and each iteration increases energy efficiency standards. Furthermore, use of nonrenewable energy resources would decline over time as the electricity generated by renewable resources provided by PG&E continues to increase to comply with California requirements through SB 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Therefore, to the extent impacts to energy resources from cumulative projects may occur, contribution from the Project would not be cumulatively considerable, and the cumulative impact would be Less Than Significant.

Geology and Soils

Compliance with CBCs as well as municipal building codes specific to Bakersfield and Kern County would mitigate impacts related to earthquakes, ground-shaking, liquefaction, ground instability, landslides, and other natural hazards to Less Than Significant levels. All development in Bakersfield is required to comply with these codes and protective measures and no additive effect would result from the combination of the related projects and this Project. Therefore, implementation of the Project would not result in any considerable incremental contributions to any significant cumulative impacts related to geology, soils, or mineral resources. Potential soil erosion and sediment runoff during construction would be reduced to Less Than Significant levels by the implementation of site-specific BMPs during construction as well as the implementation of recommendations from the site-specific geotechnical studies. Therefore, the Project would not make a considerable contribution to the cumulative impacts to soil erosion and the loss of topsoil in the region.

Greenhouse Gas Emissions

The SJVAPCD has not adopted guidance that would apply to construction GHG emissions. Other air districts within the State of California have adopted recommended numerical CEQA significance

thresholds for GHG emissions. On March 28, 2012, the SLOAPCD Board approved thresholds of significance for the evaluation of project-related increases of GHG emissions. The SLOAPCD's significance thresholds include both qualitative and quantitative threshold options which include a bright-line threshold of 1,150 MTCO₂e/year. On October 23, 2014, the Sacramento Metropolitan Air Quality Management District adopted a similar significance threshold of 1,100 MTCO₂e/year. The Bay Area Air Quality Management District also recommends a GHG significance threshold of 1,100 MTCO₂e/year. In addition, San Diego County recommends a numerical threshold of 2,500 MTCO₂e/year. These GHG significance thresholds are based on AB 32 GHG emission reduction goals which take into consideration the emission reduction strategies outlined in the Air Resource Board's Scoping Plan. For purposes of this analysis, Project-generated emissions (excluding stationary sources) in excess of 1,100 MTCO₂e/year would be considered to have a potentially significant impact. Based on this analysis performed in CalEEMod, the Project GHG emissions would have a Less Than Significant impact on the environment during construction and operation would not conflict with any adopted plan, policy, or regulatory requirement for the reduction of GHG.

Because Project-related emissions would not exceed the regional emissions thresholds for criteria pollutants, GHG emissions are not considered to be considerable enough to result in a significant cumulative impact relative to GHG emissions and climate change impacts. Therefore, the short-term cumulative contribution to GHG emissions would be Less Than Significant.

Hazards and Hazardous Materials

The Project site is not identified or listed as a hazardous materials site and therefore construction and operation activities would not create a significant hazard to the public or the environment. There is a low possibility for hazardous materials to spill or leak during construction and operation, but the implementation of existing regulations would reduce any potential impacts to Less Than Significant levels. Construction of the Project may contribute cumulatively due to increased delivery and use of hazardous materials creating a potentially higher risk of accidental release or spill. The potential cumulative impacts due to the increased use of hazardous materials include, but are not limited to, air quality, water quality, fire, and exposure to multiple contaminants. However, any type of future development near the Project area, or transportation, handling, storage, and disposal of hazardous materials must be permitted through appropriate agencies, and comply with local, State, and Federal regulations. All employees at the Project site would be trained on the safe handling, storage, and disposal of hazardous materials and waste; therefore, the Project would not make a considerable contribution to the cumulative impacts associated with hazards and hazardous materials in the region.

Hydrology and Water Quality

A search of the USFWS National Wetlands Inventory resulted in no wetlands mapped on the Project site (USFWS 2021b). These results are consistent with the observed conditions within the Project area. No wetlands, riparian habitat, potential waters of the U.S., or potential waters of the State were observed. The construction and operation of planned developments in Bakersfield have the potential to discharge sediment and pollutants to storm drains and receiving waters. Implementation of site-specific BMPs and compliance with NPDES discharge permits would mitigate these cumulative impacts to Less Than Significant levels because runoff contaminants would be reduced to below applicable water quality protection standards.

Land Use and Planning

The Project is not anticipated to have an impact on land use and planning. Therefore, the Project is not anticipated to contribute cumulatively to impacts related to land use and planning.

Mineral Resources

Mineral resources are site-specific rather than cumulative by nature, and there are no known mineral resources on the Project site. In addition, the City of Bakersfield does not contain any nonfuel mineral resources of Statewide or regional importance. The Project would not result in project-specific mineral resource impacts: thus, it would not lead to cumulatively considerable impacts.

Noise

Cumulative noise levels would result from the Project, proximity to SR58, and existing Bakersfield Readiness Center activity. Temporary noise levels are anticipated to increase during various phases of Project construction. The increases are temporary, would not be greater than 5 dBA, and would occur only during daytime hours; therefore, they are not considered significant. The Project operational cumulative sound level is below the lower bound of the City's "Normally Acceptable" sound level range and therefore would have a Less Than Significant Impact and would not lead to cumulatively considerable impacts.

Population and Housing

The Project would not create or displace housing or induce substantial population growth. It would have No Impact on population or housing and would not contribute to cumulative effects.

Public Service

The Project would not contribute or create substantial population growth and would thus not create a new demand for public services. With the implementation of a the SPCC, HMPB, and fire safety plan, impacts

would be Less Than Significant for fire protection services. Impacts to police protection services are anticipated to be Less Than Significant. The Project would not result in increased enrollment at local schools. The Project would not result in project-specific impacts to public services. Therefore, impacts to local Public Services are considered Less Than Significant, and, thus, would not lead to cumulatively considerable impacts.

Recreation

The Project would not substantially increase the number of people using recreational facilities in the Project vicinity during and operation since no substantial increase in new employees would occur as a result of the Project. There may be increased use of recreational facilities during construction of the Project as construction crews work at the Project site and may use parks nearby during non-work hours; however, this increase would be negligible. The Project would result in project-specific impacts to recreational resources that would be Less Than Significant, and, thus, would not lead to cumulatively considerable impacts.

Transportation

The Project is not anticipated to have permanent traffic and/or transportation impacts. Temporary traffic impacts during construction are anticipated but would be temporary and localized. The Project would result in project-specific traffic and transportation impacts that would be Less Than Significant, and, thus, would not lead to cumulatively considerable impacts.

Tribal and Cultural Resources

There is a small potential for ground-disturbing activities to lead to incidental discoveries of cultural or Tribal resources, but these impacts would be Less Than Significant with Mitigation. Therefore, with implementation of Mitigation Measure CUL-1, the Project would not make a considerable contribution to the cumulative impacts to Tribal resources in Bakersfield. Redevelopment in the Project area, which is predominantly disturbed and undeveloped, has a low potential to encounter and cause a significant impact on tribal cultural resources. Further, in association with CEQA review, future AB 52 consultations with Native American tribes to identify tribal cultural resources would be required for future projects that have the potential to cause significant impacts to tribal cultural resources. Therefore, to the extent impacts on tribal cultural resources from cumulative projects may occur, contribution from the Project would not be cumulatively considerable, and there would be no cumulative impact.

Utilities and Service Systems

The Project would not create a new permanent demand for utilities and service systems as no substantial increase in new employees (approximately 20 employees) is anticipated due to the Project. A temporary increase in water use, wastewater generation, recycling, and solid waste generation is anticipated during construction. However, this increase would be Less Than Significant. With implementation of LEED Silver design features, adherence to standards set forth in CBC Title 24 (minimizing the wasteful, inefficient, or unnecessary consumption of energy resources during operation), the California Green Building Standards (as codified in CCR Title 24, Part 11), and the 2019 Building Energy Efficiency Standards (CBC Title 24, Part 6) requiring newly constructed buildings to meet energy efficiency performance standards set by the CEC, impacts are considered Less Than Significant. Therefore, to the extent impacts to utilities and service system from cumulative projects may occur, contribution from the Project would not be cumulatively considerable, and there would be no cumulative impact.

Wildfire

According to CAL FIRE's FHSZ map, the Project site is not located in a high FHSZ (CAL FIRE 2021). The Project site and surrounding area are characterized as developed and industrial, which would not facilitate the spread of wildfires. The Project would result in Less Than Significant Impacts to wildfire impacts, and, thus, would not lead to cumulatively considerable impacts.

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

Less Than Significant Impact with Mitigation Incorporated. As evaluated throughout Section 3.0, Environmental Factors Potentially Affected, of this IS/MND, with the incorporation of previously identified Mitigation Measures, all environmental impacts associated with construction and/or operation of the Project would be Less Than Significant. In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise impacts. The development of the Project would contribute to air pollutant emissions on a short-term basis during construction. As a result, the Project would be required to comply with regional rules that assist in reducing short-term air pollutant emissions. After compliance with applicable rules and regulations, potential impacts on human beings would be Less Than Significant.

Appendix A: Air Quality and Greenhouse Gas Technical Analysis

Air Quality and Greenhouse Gas Emissions Technical Analysis

California Military Department

**Bakersfield Readiness Center FMS Maintenance Shop
Project No. 128331**

Revision 0

December 2021

Air Quality and Greenhouse Gas Emissions Technical Analysis

prepared for

**California Military Department
Bakersfield Readiness Center FMS Maintenance Shop
San Joaquin County, CA**

Project No. 128331

**Revision 0
December 2021**

prepared by

Burns & McDonnell Engineering Company, Inc.

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LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
°F	degrees Fahrenheit
µg/m ³	microgram per cubic meter
AB 32	California Global Warming Solutions Act of 2006
AB 203	Assembly Bill 203, Occupational safety and health: Valley Fever
APCO	Air Pollution Control Officer
BAU	business-as-usual
BPS	Best Performance Standards
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAP	Climate Change Action Plan
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH ₄	methane
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
DPM	diesel particulate matter
EPA	U.S. Environmental Protection Agency
FROG	fraction of reactive organic gases
GHG	greenhouse gas
GWP	global warming potential
H ₂ S	hydrogen sulfide
HFC	hydrofluorocarbons
ISR	Indirect Source Review
kV	kilovolt
LOS	level of service
MTCO ₂ e/year	metric tons of carbon dioxide equivalents per year
NAAQS	National Ambient Air Quality Standards
N ₂ O	nitrous oxide
NIOSH	National Institute for Occupational Safety and Health
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
PFC	perfluorocarbons
PM	particulate matter
PM ₁₀	particulate matter less than 10 microns in diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
ppb	parts per billion
ppm	parts per million

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
RACM	Reasonably Available Control Measures
ROG	reactive organic gases
SB 32	Senate Bill 32
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLOAPCD	San Luis Obispo Air Pollution Control District
SO ₂	sulfur dioxide
SF ₆	sulfur hexafluoride
TAC	toxic air contaminant
TOG	total organic gases
VDE	visual dust emissions
WRCC	Western Regional Climate Center

1.0 INTRODUCTION

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) conducted an Air Quality and Greenhouse Gas Emissions Impact Study (Study) for the California Military Department's (CMD) proposed Field Maintenance Shop (FMS) at Bakersfield Readiness Center (Project). The FMS will include office spaces and general-purpose vehicle work bays sized at approximately 25,000 square feet. This includes a maintenance shop, petroleum, oil, and lubricants storage, a controlled waste facility, military equipment parking, and supporting facilities such as general office spaces, fencing, sidewalks and curbing. The total estimated ground disturbance for the Project is 13,582 square yards.

The Project is in Kern County within the City of Bakersfield, which is within the San Joaquin Valley Air Basin (SJVAB). The purpose of this Study is to determine whether potential air quality impacts are significant as defined by the California Environmental Quality Act (CEQA) and San Joaquin Valley Air Pollution Control District (SJVAPCD) during the construction and operation of the Project.

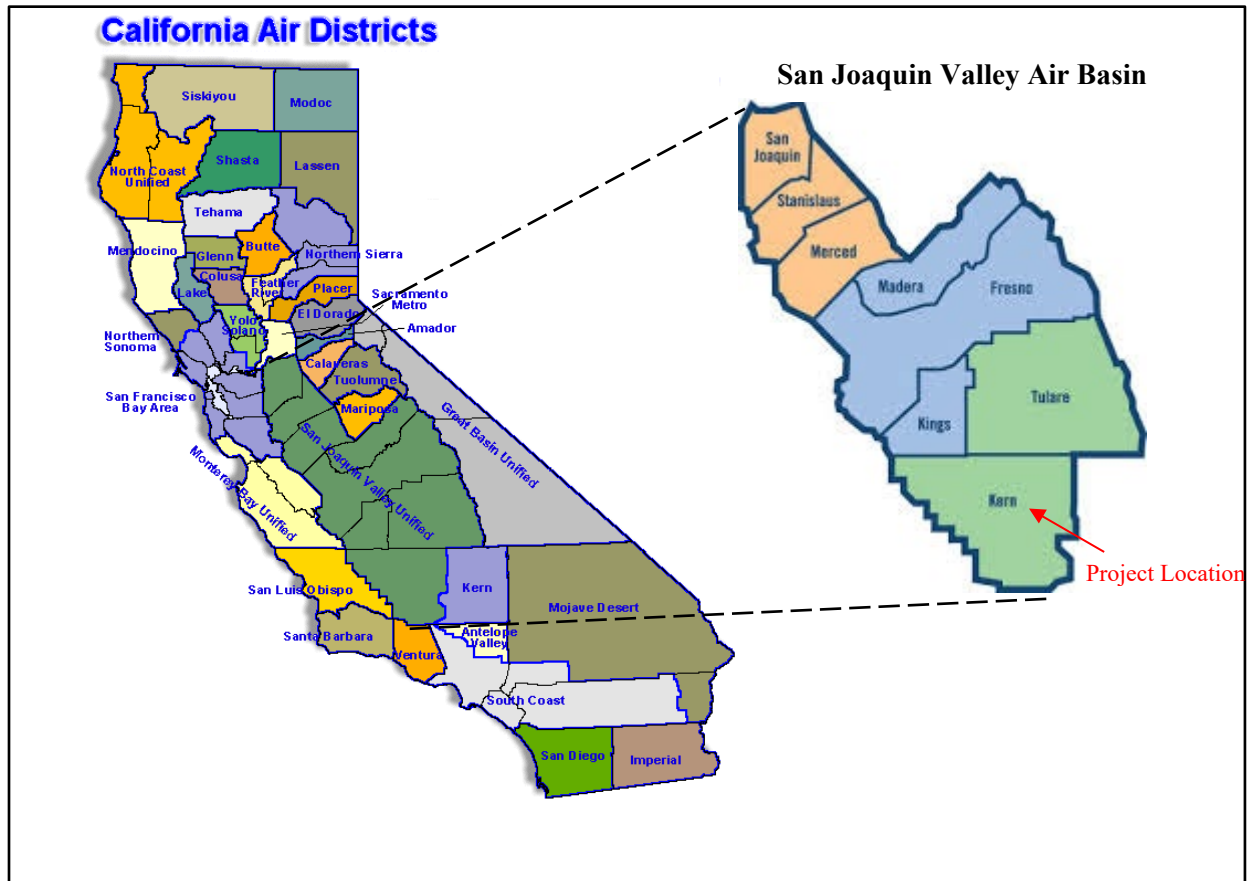
2.0 EXISTING AIR QUALITY

This section provides an analysis of the air quality impacts associated with the construction and operation of the Project and a determination of any significant findings in accordance with CEQA. This analysis was performed in accordance with the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD, 2015).

2.1 Existing Environmental Setting

The Project is in Kern County within the City of Bakersfield. The elevation of the Project area is approximately 375 feet above sea level. This area encompasses the major components and construction work areas associated with the Project. The Project location within the SJVAB is shown in Figure 2-1.

A portion of Kern County (Project area included) lies within the SJVAB and SJVAPCD. The SJVAB encompasses a 250-mile long, 80-mile-wide valley that is bordered by the Coast Mountain range to the west, the Sierra Nevada range to the east, and the Tehachapi Mountains from the south. The region has an inland Mediterranean climate which experiences hot, dry summers and cool, foggy winters.

Figure 2-1: San Joaquin Valley Air Basin Boundary and Project Location

Source:

- (1) SJVAPCD, 2012
- (2) CARB, 2019

The average annual precipitation is approximately 17 inches per year. The Project area does not typically receive snowfall. The average annual maximum temperature is 73.6 degrees Fahrenheit (°F), and the average annual minimum temperature is 46.0 °F. Temperature inversions often occur in the SVJAB, with stable warm air laying over colder ground-level air, preventing upward dispersion. The air quality in the region is impacted by the topography as well as temperature inversion, both of which promote the formation and retention of air pollutants. Coastal wind patterns from the Bay Area and the Sacramento Valley also transport air pollutants into the region, further contributing to local air pollution problems.

2.2 Local Air Quality

Local to the Project area, criteria pollutants are measured throughout SJVAB. Existing levels of ambient air concentrations and historical trends and projections in the Project area are best documented by measurements made by the California Air Resources Board (CARB). This data is used to track ambient air quality patterns throughout the County and is also used to determine attainment status when compared

to the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). The portion of Kern County where the Project is located is classified as a nonattainment area for the Federal 8-hour ozone standard (2008 and 2015), 24-hour $PM_{2.5}$ standard (1997, 2006, and 2012) and is classified as attainment or unclassified for all other criteria pollutants, based on the Federal standards. The Project area is classified as a nonattainment area for the State of California ozone, particulate matter less than less than 10 microns in diameter (PM_{10}), and particulate matter less than less than 2.5 microns in diameter ($PM_{2.5}$) and is classified as attainment or unclassified for all other criteria pollutants.

2.2.1 Sensitive Receptors

Air quality standards are set to protect populations who are sensitive to the adverse health effects of air pollutions. Sensitive receptor locations may include hospitals, schools, and day care centers, and such other locations as the air district board or California Air Resources Board may determine (California Health and Safety Code § 42705.5(a)(5)). The nearest child-care facility is the Pete H Parra Child Development Center located approximately 0.26 miles southwest from the center of the Project. The Claude Richardson Child Development Center is also approximately 0.35-mile west of the Project site. No sensitive receptors were located within 1,000 feet of the Project area.

2.3 Regulatory Standards

Federal, State, and regional regulatory standards applicable to the Project are described in the following paragraphs.

2.3.1 Federal Standards

The U.S. Environmental Protection Agency (EPA) has been charged with implementing national air quality programs at the Federal level. EPA's air quality mandates are drawn primarily from the Federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress were in 1990.

The CAA required EPA to establish primary and secondary NAAQS. The CAA provides the basis for the national air pollution control effort. To improve air quality, the Clean Air Act requires areas with unhealthy levels of criteria pollutants to develop a State Implementation Plan (SIP). The Federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. The EPA has responsibility for reviewing all

state SIPs to determine conformance with the mandates of the CAAA and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, a Federal Implementation Plan that imposes additional control measures may be prepared for the nonattainment area. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in application of sanctions to transportation funding and stationary air pollution sources in the air basin.

2.3.1.1 National Ambient Air Quality Standards

The NAAQS were established by the EPA per the requirements of the Clean Air Act. The NAAQS are used to identify thresholds for specific pollutants. Two types of air quality standards were established by the Clean Air Act: 1) Primary Standards; and 2) Secondary Standards. Primary Standards define limits for the intention of protecting public health, which includes sensitive populations such as asthmatics, children and elderly. Secondary Standards define limits to protect public welfare to include protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

The EPA Office of Air Quality Planning and Standards has set NAAQS for principal pollutants, which are called "criteria" pollutants. The NAAQS are shown below in Table 2-1.

Table 2-1: National Ambient Air Quality Standards

Pollutant	Averaging Period	Primary NAAQS^{1,2,a}	Secondary NAAQS^{1,2,a}	Designation/ Classification^{2,3}
PM ₁₀	24-Hour	150 µg/m ³	150 µg/m ³	Attainment
PM _{2.5}	Annual	12 µg/m ³	15 µg/m ³	Nonattainment
	24-Hour	35 µg/m ³	35 µg/m ³	Nonattainment
SO ₂	3-hour	--	0.5 ppm	Attainment/unclassified
	1-hour	75 ppb	--	Attainment/unclassified
NO ₂	Annual	53 ppb	53 ppb	Attainment/unclassified
	1-hour	100 ppb	--	Attainment/unclassified
Ozone	8-hour	0.070 ppm	0.070 ppm	Nonattainment/extreme
CO	8-hour	9 ppm	--	Attainment/unclassified
	1-hour	35 ppm	--	Attainment/unclassified
Lead	Rolling 3-month average	0.15 µg/m ³	0.15 µg/m ³	No designation/ classification
	Calendar quarter	1.5 µg/m ³	--	No designation/ classification

Source:

(1) Title 40 CFR Part 50

(2) <https://www.epa.gov/criteria-air-pollutants/naaqs-table>(3) <https://www.valleyair.org/aqinfo/attainment.htm>

(a) NAAQS = National Ambient Air Quality Standards; PM₁₀ = particulate matter less than 10 microns in diameter; PM_{2.5} = particulate matter less than 2.5 microns in diameter; SO₂ = sulfur dioxide; NO₂ = nitrogen dioxide; CO = carbon monoxide; µg/m³ = microgram per cubic meter; ppm = parts per million; ppb = parts per billion

2.3.1.2 Conformity Requirements

In addition, general conformity requirements were adopted by Congress as part of the CAAA and were implemented by EPA regulations in 1993. General conformity requires that all Federal actions conform to the SIP as approved or promulgated by EPA. The purpose of the general conformity program is to ensure that actions taken by the Federal government do not undermine state or local efforts to achieve and maintain NAAQS. Before a Federal action is taken, it must be evaluated for conformity with each state's SIP. All reasonably foreseeable emissions, both direct and indirect, predicted to result from the action are taken into consideration and must be identified as to location and quantity. If it is found that the action would create emissions above *de minimis* threshold levels specified in EPA regulations, or if the activity is considered regionally significant because its emissions exceed 10 percent of an area's total emissions, the action cannot proceed unless mitigation measures are specified that would bring the Project into conformance.

General conformity applies in both Federal nonattainment and maintenance areas. Within these areas, it applies to any Federal action not specifically exempted by the CAA or EPA regulations. Emissions from construction activities are also included. General conformity does not apply to projects or actions that are covered by the transportation conformity rule. If a Federal action falls under the general conformity rule, the Federal agency responsible for the action is responsible for making the conformity determination. In some instances, a state will make the conformity determination under delegation from a Federal agency.

2.3.2 State Standards

The CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required CARB to establish CAAQS. The CCAA requires that all local air districts in the State endeavor to achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies that local air districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources and provides districts with the authority to regulate indirect sources.

Other CARB responsibilities include overseeing compliance with California and Federal laws by local air districts, approving local air quality plans, submitting SIPs to EPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

2.3.2.1 California Ambient Air Quality Standards

Individual states have the discretion to add additional pollutants beyond those identified as part of the NAAQS. The CARB is responsible for setting the laws and regulation for air quality on the State level. The CAAQS are either the same or more restrictive than the NAAQS. The CAAQS also include four additional contaminants in keeping with discretionary power granted to the State. The additional contaminants include:

- Visibility-reducing particles: particles in the air that obstruct visibility.
- Sulfates: salts of sulfuric acid. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. They increase the acidity of the atmosphere and form acid rain.
- Hydrogen sulfide (H_2S): a colorless, toxic and flammable gas with a recognizable smell of rotten eggs or flatulence. Usually, H_2S is formed from bacterial breakdown of organic matter. Exposure to low concentrations of H_2S may cause irritation to the eyes, nose, or throat.
- Vinyl chloride: also known as chloroethene, a toxic, carcinogenic, colorless gas with a sweet odor. It is an industrial chemical mainly used to produce its polymer, polyvinyl chloride.

Table 2-2 identifies the State air quality standards for specific pollutants.

Table 2-2: California Ambient Air Quality Standards

Pollutant^a	Averaging Period	CAAQS^{1,2,a}	San Joaquin Valley Designation/ Classification²
PM ₁₀	Annual	20 µg/m ³	Nonattainment
	24-Hour	50 µg/m ³	Nonattainment
PM _{2.5}	Annual	12 µg/m ³	Nonattainment
SO ₂	24-hour	0.04 ppm (105 µg/m ³)	Attainment
	1-hour	0.25 ppm (655 µg/m ³)	Attainment
NO ₂	Annual	0.030 ppm (56 µg/m ³)	Attainment
	1-hour	0.18 ppm (338 µg/m ³)	Attainment
Ozone	8-hour	0.070 ppm (137 µg/m ³)	Nonattainment
	1-hour	0.09 ppm (180 µg/m ³)	Nonattainment/severe
CO	8-hour	9 ppm (10 µg/m ³) (6 ppm, Lake Tahoe only)	Attainment/unclassified
	1-hour	20 ppm (23 µg/m ³)	Attainment/unclassified
Lead	30-day average	1.5 µg/m ³	Attainment
Visibility reducing particles	8-hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07 -30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent.	Unclassified
Sulfates	24-hour	25 µg/m ³	Attainment
Hydrogen sulfide	1-hour	0.03 ppm	Unclassified
Vinyl chloride	1-hour	0.010 ppm (26 µg/m ³)	Attainment

Source:

(1) Title 17 California Code of Regulations Section 70200

(2) <https://www.valleyair.org/aqinfo/attainment.htm>(a) CAAQS = California Ambient Air Quality Standards; PM₁₀ = particulate matter less than 10 microns in diameter; PM_{2.5} = particulate matter less than 2.5 microns in diameter; SO₂ = sulfur dioxide; NO₂ = nitrogen dioxide; CO = carbon monoxide; µg/m³ = microgram per cubic meter; ppm = parts per million

The CARB defines reactive organic gases (ROG) as any compound of carbon, excluding CO, carbon dioxide (CO₂), carbonic acid, metallic carbides or carbonates, and ammonium carbonate. CARB's Emission Inventory Branch uses the terms total organic gases (TOG) and ROG. California air pollution control districts report TOG to the CARB's emission inventory. For each source category, CARB derives a value for the ROG by multiplying the reported TOG by the fraction of reactive organic gases (FROG). Each source category is keyed to one of several hundred available chemical speciation profiles. For each category, the FROG value is calculated as the weight fraction of those species designated by CARB as reactive in the speciation profile applicable to the category.

The relationships among these organic gas terms are summarized as follows:

- $\text{TOG} - \text{Exempt compounds} = \text{ROG}$
- $\text{TOG} \times \text{FROG} = \text{ROG}$

2.3.2.2 Regional and Local Plans, Policies, Regulations and Laws

Regional and local plans, policies, regulations, and laws are described in the following paragraphs.

2.3.2.2.1 Regional Comprehensive Plan and Guide

The State of California has 35 specific air districts, which are each responsible for ensuring that the criteria pollutants are below the NAAQS and CAAQS. Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants are designated as “nonattainment areas” for that pollutant.

2.3.2.2.2 San Joaquin Valley Air Pollution Control District

The SJVAPCD has jurisdiction over air quality for the Project area and is primarily responsible for ensuring that NAAQS and CAAQS are not exceeded, and that air quality is maintained in the SJVAB. Responsibilities of the SJVAPCD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting, and enforcing rules and regulations concerning air quality, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution for compliance with applicable regulations, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the Federal CAA and CCAA. All development projects within SJVAPCD are required to comply with existing SJVAPCD rules as they apply to each specific project. The SJVAPCD rules and regulations that apply to the Project include, but are not limited to, the following:

SJVAPCD Regulation VIII (Fugitive PM₁₀ Prohibitions) sets forth rules regarding the control of fugitive dust from construction and operation activities. Reasonably Available Control Measures

(RACM) are required by Regulation VIII during construction and operation activities to help reduce the amount of particulate matter. Some examples of RACMs include the application of water or chemical soil stabilizers to disturbed soils, the reduction of construction vehicle speed, the covering of haul vehicles, and some form of approved Track-Out Prevention device at access points where unpaved surface adjoins a paved surface. The following rules under Regulation VIII set forth requirements for fugitive particulate matter:

- **SJVAPCD Rule 8011** outlines general requirements of Rule VIII in support of reducing fugitive PM₁₀ emissions. Rule 8011 lists the required test methods for visible dust emissions (VDE), stabilized surfaces, soil moisture content, and silt content of bulk materials and unpaved roads or vehicle/equipment traffic areas.
- **SJVAPCD Rule 8021** regulates construction, demolition excavation, extraction, and other earthmoving activities. Visible dust emissions are limited to 20 percent opacity. Fugitive dust emissions must be controlled pursuant to Table 8021-1 Control Measure Options for Construction, Excavation, Extractions, and other Earthmoving Activities. Dust control measures may include watering, wind barriers, dust stabilizers/suppressants, and vehicular access restriction. The owner/operator shall post signs limiting all vehicles traveling on uncontrolled unpaved access/haul roads within construction sites to a speed of 15 miles per hour.
- **SJVAPCD Rule 8031** regulates fugitive dust emissions from the outdoor handling, storage, and transport of bulk materials. This rule applies to any bulk material where the total material stored is above 100 cubic yards.
- **SJVAPCD Rule 8041** regulates carryout and track-out activities. The rule requires that mud or dirt that is deposited on public paved roads must be prevented and cleaned. Within urban areas, carryout and track-out shall be prevented or immediately removed when it extends 50 feet or more from the nearest unpaved surface exit point of a site. All visible carryout and track-out must be removed at the end of each workday. If the disturbed area at the Project exceeds 5 acres, the owner/operator must submit a Dust Control Plan to the Air Pollution Control Officer (APCO) prior to the start of any construction activity. The Dust Control Plan must specify all fugitive dust control measures at the Project area.
- **SJVAPCD Rule 8051** regulates open areas. The rule applies to open areas of 0.35 acres or more within urban areas. VDE are limited to 20 percent opacity. Surfaces must be stabilized, and barriers must be installed to prevent unauthorized vehicles from accessing the stabilized areas.

- **SJVAPCD Rule 8071** regulates unpaved vehicle/equipment traffic areas. Unpaved vehicle and equipment traffic areas with less than 50 Average Annual Daily Trips (AADT) are exempt from this rule.

SJVAPCD Rule 4102 (Nuisance) applies to any source operation that emits or may emit air contaminants or other materials.

SJVAPCD Rule 4103 (Open Burning) regulates the use of open burning and specifies the types of materials that may be open burned. Section 5.1 of this rule prohibits the burning of trees and other vegetative (non-agricultural) material whenever the land is being developed for non-agricultural purposes.

SJVAPCD Rule 9510 (Indirect Source Review – ISR) Requires developers of larger residential, commercial, recreational, and industrial projects to reduce smog-forming and particulate emissions from their projects' baselines. If project emissions still exceed the minimum baseline reductions, a project's developer will be required to mitigate the difference by paying an off-site fee to the SJVAPCD, which would then be used to fund clean-air projects. For projects subject to this rule, the ISR rule requires developers to mitigate and/or offset emissions sufficient to achieve: (1) 20 percent reduction of nitrogen oxides (NO_x) from construction equipment exhaust; (2) 45 percent reduction of construction equipment exhaust PM₁₀; (3) 33 percent reduction of operational NO_x over 10 years; and (4) 50 percent reduction of operational PM₁₀ over 10 years. SJVAPCD ISR applications must be filed "no later than applying for a final discretionary approval with a public agency."

Air Quality Plans

The SJVAPCD has developed plans to attain State and Federal standards for ozone and particulate matter. These plans include conducting air emission inventories to measure sources of air pollutants and determine how emissions can be reduced. The plans also use computer modeling to estimate future levels of air pollution and make sure the SJVAB will meet air quality standards. The SJVAPCD's air quality plans are discussed more in detail as follows:

Ozone Attainment Demonstration Plans

Although the 1979 1-hour ozone standard was revoked in 2005, many of the planning requirements for the extreme nonattainment classification remain in place, and the SJVAB must still attain the standard before CAA Section 185 fees can be rescinded. The SJVAPCD's most recent 1-hour ozone plan, the *2013 Plan for the Revoked 1-hour Ozone Standard* (SJVAPCD, 2013), demonstrated attainment of the 1-hour ozone standard by 2017. The SJVAB now meets the 1-hour ozone standard based on the most recent

three-year period air monitoring data. On May 6, 2014, the SJVAPCD submitted a formal request that the EPA determine that the SJVAB has attained the Federal 1-hour ozone standard.

SJVAPCD adopted the 2007 8-Hour Ozone Plan in April 2007. This plan addresses EPA's 8-hour ozone standard of 84 parts per billion (ppb), which was established by EPA in 1997. The SJVAPCD's 2007 Ozone Plan demonstrates attainment of EPA's 1997 8-hour ozone standard by 2023. EPA approved the 2007 Ozone Plan effective April 30, 2012. The SJVAB is designated an extreme ozone nonattainment area for EPA's 2008 8-hour ozone standard of 75 ppb. The EPA Administrator signed the Final Rule revising the 8-hour ozone standard to 70 ppb on October 1, 2015. The SJVAPCD submitted the plan to address EPA's 2008 8-hour ozone standard on June 16, 2016. The CARB approved the attainment demonstration plan for SJVAB on July 21, 2016 and transmitted the plan to the EPA on August 24, 2016. The plan for areas designated as extreme nonattainment must demonstrate attainment of the standard by December 31, 2031. The 2016 Ozone Plan predicts attainment of the 2008 8-hour ozone standard by 2031.

PM₁₀ Attainment Demonstration Plan

Based on 2003 to 2006 monitoring data, EPA found that the SJVAB had reached the Federal PM₁₀ standards. On September 21, 2007, the SJVAPCD's Governing Board adopted the 2007 PM₁₀ Maintenance Plan and Request for Redesignation. The EPA approved this document and on September 25, 2008 the SJVAB was redesignated to attainment/maintenance.

PM_{2.5} Attainment Demonstration Plans

The SJVAPCD Governing Board adopted the 2008 PM_{2.5} Plan on April 30, 2008. This plan is designed to assist the SJVAB in attaining all PM_{2.5} standards, including the 1997 Federal standards, the 2006 Federal standards, and the State standard, at the earliest possible date. The SJVAPCD's 2008 PM_{2.5} Plan demonstrated 2014 attainment of EPA's first PM_{2.5} standard, set in 1997. EPA lowered the PM_{2.5} standard in 2006, and the SJVAPCD's 2012 PM_{2.5} Plan showed attainment of this standard by 2019, with the majority of the SJVAB seeing attainment much sooner. On July 13, 2011, the EPA issued a rule partially disapproving the 2008 PM_{2.5} Plan. Subsequently, on November 9, 2011, the EPA issued a final rule approving most of the plan with an effective date of January 9, 2012. However, the EPA disapproved the plan's contingency measures because they would not provide sufficient emission reductions.

Approved by the SJVAPCD Governing Board on December 20, 2012, the 2012 PM_{2.5} Plan addresses attainment of EPA's 24-hour PM_{2.5} standard of 35 micrograms per cubic meter (µg/m³) established in

2006. The 2012 PM_{2.5} Plan demonstrated that the SJVAB would achieve attainment of the Federal PM_{2.5} standard by the attainment deadline of 2019.

On April 16, 2015, the SJVAPCD Governing Board adopted the 2015 Plan for the 1997 PM_{2.5} Standard. This plan addresses the EPA's annual PM_{2.5} standard of 15 µg/m³ and 24-hour PM_{2.5} standard of 65 µg/m³ established in 1997. This plan includes a request for a one-time extension of the attainment deadline for the 24-hour standard to 2018 with an attainment date for the annual standard of 2020.

On September 5, 2016, the SVAPCD Governing Board adopted the 2016 Moderate Area Plan for the 2012 PM_{2.5} Standard on September 15, 2016. This plan addresses the EPA Federal annual PM_{2.5} standard of 12 µg/m³, established in 2012. This plan includes an attainment impracticability demonstration and request for reclassification of the SJVAB from moderate nonattainment to serious nonattainment.

The SJVAPCD Governing Board adopted the 2018 Plan for the 1997, 2006, and 2012 PM_{2.5} standards on November 15, 2018. This plan addresses the EPA Federal 1997 annual PM_{2.5} standard of 15 µg/m³ and 24-hour PM_{2.5} standard of 65 µg/m³; the 2006 24-hour PM_{2.5} standard of 35 µg/m³; and the 2012 annual PM_{2.5} standard of 12 µg/m³.

2.3.3 California Environmental Quality Act (CEQA) Significance Thresholds

The CEQA has provided a checklist to identify the significance of air quality impacts. These guidelines are found in Appendix G of the CEQA Guidelines (CEQA, 2021). Would the Project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?
- b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable Federal or State ambient air quality standard?
- d) Expose sensitive receptors to substantial pollutant concentrations?
- e) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

2.3.4 SJVAPCD Air Quality Impact Assessment Screening Thresholds (CEQA)

The SJVAPCD significance thresholds are listed in the *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD, 2015). The screening criteria within this handbook can be used to determine whether a project's total emissions would result in a significant impact as defined by CEQA. These significant impacts are defined in Section 2.3.3.

To assist local jurisdiction in the evaluation of air quality impacts, the SJVAPCD guidance document (SJVAPCD, 2015) includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Table 2-3 below shows the screening thresholds for construction and operational emissions.

Table 2-3: SJVAPCD Screening Thresholds for Criteria Pollutants

Pollutant ^a	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
		tons per year	
ROG	10	10	10
NO _x	10	10	10
CO	100	100	100
SO _x	27	27	27
PM ₁₀	15	15	15
PM _{2.5}	15	15	15

Source: SJVAPCD, 2015

(a) ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with diameter less than 10 microns; PM_{2.5} = particulate matter with diameter less than 2.5 microns

Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that the project's total air quality impacts are below the State and Federal ambient air quality standards.

The following additional criteria are used to determine whether implementation of a project will result in a significant air quality impact:

- Due to the region's nonattainment status for ozone, PM₁₀, and PM_{2.5}, if project-generated emissions of ozone precursor pollutants (NO_x and ROG), or particulate matter (PM) would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the region's attainment plans.
- CO Hot Spot from Mobile Sources – Local mobile source impacts associated with a project would be considered significant in the project contributes to CO concentrations in excess of the CAAQS.
- Toxic Air Contaminants (TAC) – Exposure to TAC would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 20 in 1 million or would result in a Hazard Index greater than 1.

- Odor impacts associated with a project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors.

The SJVAPCD also recommends a screening level of 100 pounds per day of any criteria pollutant from construction or operation activities, after implementation of all enforceable mitigation measures. If this threshold is exceeded by any criteria pollutant, the SJVAPCD recommends that an ambient air quality analysis be performed.

2.3.5 Local Standards

The City of Bakersfield has adopted the SJVAPCD screening thresholds for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts described in Section 2.3.4.

2.4 Air Permits

Because no stationary sources of air pollution are being constructed as part of the Project, no air permits are required.

3.0 AIR IMPACT ANALYSIS

Air quality impacts related to construction and daily operations were calculated using the CalEEMod air quality model (Version 2020.4.0), which was developed for the South Coast Air Quality Management District in 2013. CalEEMod is designed to quantify direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as greenhouse gas (GHG) emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. CalEEMod allows for the input of project-specific information, such as the number and types of equipment, hours of operations, duration of construction activities, and selection of emission control measures. The construction module in CalEEMod was used to calculate the emissions associated with the construction of the project and uses methodologies presented in the EPA AP-42 document.

3.1 Construction Assumptions

Construction emission calculations for the Project assume the implementation of standard dust control measures, including watering during grading. The quantity, duration, and the intensity of construction activity influences the amount of construction emissions and the related pollutant concentrations that occur at any one time. As such, the emission forecasts for the Project reflect a specific set of assumptions based on the expected construction scenario. If construction is delayed or occurs over a longer time period, daily emissions could be reduced because the Project could have a less intensive buildout schedule (i.e., fewer daily emissions spread over a longer time interval). The construction activities and overall size of the proposed Project footprint is so small that cancer health risks from diesel particulate matter are not anticipated. Decommissioning emissions are assumed to be similar to construction emissions. The Project construction phases and timelines are shown in Table 3-1.

Table 3-1: Anticipated Construction Activities and Timelines

Construction Phase	Timeline
Site preparation	Month 1
Grading	Month 1
Building Construction	Month 1 through month 12
Paving	Month 13
Architectural Coating	Month 14

The construction phases and timelines in shown in Table 3-1 were used in CalEEMod and based on an 8-hour workday, 5-day workweek. It is estimated that construction of the Project would take about 15 months to complete. Typical equipment will be used for site preparation (including grading), digging

foundations, excavating trenches, and for conduit installation. Hours per day of operation for each type of construction equipment varied based on the type of work being performed. The Project excavation area is anticipated to be approximately 5.8 acres. The land use subtypes in CalEEMod are broken down as follows as shown in Table 3-2:

Table 3-2: Project Land Use Types

Project Area	Area (square feet)	Acreage^a	CalEEMod Land Use Type	CalEEMod Land Use Subtype
Building (includes maintenance shop, petroleum, oil and lubricants storage, and controlled waste area)	25,000	0.57	Industrial	General light industry
Unpaved areas	70,850	1.63	Parking	Other non-asphalt surfaces ^b
Paved areas	156,800	3.6	Parking	Parking lot

(a) Total acreage sums to 5.8 acres

(b) This land use type was chosen based on a discussion with SJVAPCD staff for appropriately modeling unpaved surfaces such as stormwater basins or landscaped areas

Roads surfaces for workers, vendors, and haulers commuting to and from the Project locations were assumed to be paved. Approximately 98 percent of the surfaces surrounding the Project will be paved and this number was used in CalEEMod. Disturbed surfaces that are not stabilized will be watered as needed for dust control. The default CalEEMod worker trips per day and worker trip distance was used. The default CalEEMod vendor trips per day and vendor trip distance was used. A building footprint size of 25,000 square feet was used for architectural coatings emissions calculations. Anticipated equipment for each construction phase and equivalent equipment available in CalEEMod are provided in Table 3-3 below. CalEEMod defaults were used for all other model inputs. All required construction data was input into CalEEMod which was run to quantify Project-generated construction emissions.

Table 3-3: Anticipated Equipment During Construction Phases

Construction Phase	Equipment	Power (horsepower)	Quantity
Site preparation	Grader	187	1
	Scraper	367	1
	Tractor/Loader/Backhoe	97	1
Grading	Grader	187	1
	Rubber tired dozer	247	1
	Tractor/Loader/Backhoe	97	2
Building Construction	Cranes	231	1
	Forklifts	89	3
	Generator set	84	1
	Tractor/Loader/Backhoe	97	3
	Welders	46	1
Paving	Cement and Mortar mixer	9	1
	Paver	130	2
	Paving equipment	132	2
	Roller	80	2
	Tractor/Loader/Backhoe	97	1
Architectural Coating	Air compressor	78	1

3.2 Operational Assumptions

No new stationary emission sources are expected for the operation of the Project with the exception of cleaners and/or solvents used in the new maintenance shop. Default CalEEMod emission factors for consumer products, coating products, and landscape equipment were used for the calculations. Default inputs were also used for water usage and solid waste generation. Default CalEEMod vehicle trips to and from the facility and around the facility were used to model emissions. Power for the facility will be provided by the Pacific Gas and Electric Company utility. To calculate emissions associated with operational electrical use, the site was classified as the “General Light Industry” category in CalEEMod. Default assumptions were used for all other operational categories in CalEEMod.

3.3 Findings

The findings of the air quality analysis are described in the following sections. Sections 3.3.1 through 3.3.5 address findings associated with the requirements of the SJVAPCD Air Quality Impact Assessment

Screening Thresholds discussed in Section 2.3.4. Section 3.3.6 describes the findings of the CEQA thresholds of significance listed in Section 2.3.3.

3.3.1 Construction Criteria Pollutant Findings

Construction of the proposed Project is anticipated to begin after receipt of all required approvals and will continue for approximately 15 months. The construction workers employed for the Project will consist of laborers, electricians, supervisory, support, and management personnel. The detailed construction emissions calculation output from CalEEMod is shown in Appendix A.

Maximum annual expected construction emissions are presented in Table 3-4. As shown in Table 3-4, none of the Project construction emissions exceed the significance thresholds. Therefore, Project construction emissions would not exceed the SJVAPCD annual significance thresholds. Impacts regarding obstructing an air quality plan would be **less than significant** during Project construction.

Table 3-4: Maximum Annual Expected Construction Emissions Summary

Pollutant ^a	Annual Emissions	SJVAPCD Threshold ^{1,a}	Threshold Exceeded?
	tons per year		
ROG	0.30	10	No
NO _x	1.29	10	No
CO	1.63	100	No
SO _x	3.52 x 10 ⁻³	27	No
PM ₁₀	3.17	15	No
PM _{2.5}	0.38	15	No

(1) SJVAPCD, 2015

(a) ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with diameter less than 10 microns; PM_{2.5} = particulate matter with diameter less than 2.5 microns; SJVAPCD = San Joaquin Valley Air Pollution Control District

Maximum daily construction emissions were also estimated using CalEEMod and are shown below in Table 3-5. Because non-default values were used in CalEEMod, CalEEMod only outputs daily emissions on a winter and summer basis, as shown in Appendix A. Unless otherwise noted, the predicted emissions in summer and winter are equal. As shown below, emissions from the Project do not exceed the screening guideline of 100 pounds per day for any criteria pollutant.

Table 3-5: Maximum Daily Expected Construction Emissions Summary

Pollutant ^a	Daily Emissions	SJVAPCD Threshold	Threshold Exceeded?
	pounds per day		
ROG	14.57 ^b	100	No
NO _x	16.52 ^c	100	No
CO	19.79 ^b	100	No
SO _x	0.04	100	No
PM ₁₀	44.57	100	No
PM _{2.5}	5.25	100	No

(a) ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with diameter less than 10 microns; PM_{2.5} = particulate matter with diameter less than 2.5 microns

(b) Maximum daily emissions occur in summer

(c) Maximum daily emissions occur in winter

3.3.2 Operational Findings

CalEEMod was used to calculate operational emissions from the Project. The annual operational emissions are shown in Table 3-6.

Table 3-6: Maximum Annual Expected Operational Emissions Summary

Pollutant ^a	Annual Emissions	SJVAPCD Threshold	Threshold Exceeded?
	tons per year		
ROG	0.30	10	No
NO _x	0.15	10	No
CO	0.62	100	No
SO _x	1.58 x 10 ⁻³	27	No
PM ₁₀	0.13	15	No
PM _{2.5}	0.04	15	No

(a) ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with diameter less than 10 microns; PM_{2.5} = particulate matter with diameter less than 2.5 microns

As shown in Table 3-6, emissions from operation of the facility are below all SJVAPCD significance thresholds for operation. Detailed operational emissions calculations from CalEEMod are shown in Appendix A.

Daily operational emissions were also calculated using CalEEMod. Because non-default values were used in CalEEMod, daily emissions were calculated on a summer and winter basis, as shown in Appendix A. Unless otherwise noted, the predicted emissions in summer and winter are equal. As shown in Table 3-7, expected maximum daily emissions from operation are below the screening threshold of 100 pounds per day for all pollutants.

Table 3-7: Maximum Daily Expected Operational Emissions Summary

Pollutant ^a	Daily Emissions	SJVAPCD Threshold	Threshold Exceeded?
	pounds per day		
ROG	1.57 ^b	100	No
NO _x	0.93 ^c	100	No
CO	4.03 ^b	100	No
SO _x	0.01	100	No
PM ₁₀	0.79	100	No
PM _{2.5}	0.23	100	No

(a) ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter with diameter less than 10 microns; PM_{2.5} = particulate matter with diameter less than 2.5 microns

(b) Maximum daily emissions occur in summer.

(c) Maximum daily emissions occur in winter.

3.3.3 Carbon Monoxide Hot-Spot Findings

Localized concentrations of CO are typically associated with the idling of vehicles, particularly in highly congested areas. For this reason, the areas of primary concern are congested roadway intersections that experience high levels of vehicle traffic with degraded levels of service (LOS). With regard to potential increases in CO concentrations that could potentially exceed applicable ambient air quality standards, signalized intersections that are projected to operate at an unacceptable LOS E or F are of particular concern.

While an increase in vehicle trips during the construction phase will occur, these trips are not expected to cause a degradation in the traffic at intersections to LOS E or F. Additionally, worker and vendor trips associated with operation of the Project are not expected to cause congested intersections. As a result, this Project is not expected to cause a substantial increase in localized CO concentrations that would exceed applicable ambient air quality standards. Therefore, this impact is considered less than significant.

3.3.4 Toxic Air Contaminant Findings

Construction and operation of the Project may result in temporary increases in emissions of Diesel Particulate Matter (DPM) associated with the use of diesel-fueled equipment. Health impacts associated with DPM are primarily associated with long-term exposure to TACs and developing cancer. The calculation of cancer risk associated with exposure to TACs are typically calculated based on a long-term exposure period (e.g., 70-year). Construction activities are expected to occur over a 15-month period, which equates to roughly 1.5 percent of a 70-year exposure period. Use of diesel-fueled equipment during operation of the Project will occur periodically and emissions from this activity are very low. Based on the emissions calculations performed for the construction and operation of the Project, emissions of

particulate matter do not exceed SJVAPCD's significance thresholds for localized impacts (see Table 3-4, Table 3-5, Table 3-6, and Table 3-7). As such, exposure to DPM as a result of the Project is not expected to exceed 20 in 1 million risk of contracting cancer for the maximally exposed individual or result in a hazard index greater than 1. Therefore, this impact is considered less than significant.

3.3.5 Odor Impact Findings

Odor impacts from construction operations would be considered short-term events and would not be considered an impact.

3.3.6 Conclusion of CEQA Findings

Project impacts on air quality were evaluated against the CEQA significance criteria, as discussed previously in Section 2.3.3. This section evaluates potential project impacts from both the construction phase and ongoing operation and maintenance of the Project. Based on this analysis, no construction or operational impacts are expected. In summary responses to CEQA questions are as follows:

A: Conflict with or obstruct implementation of the applicable air quality plan?

SJVAPCD is responsible for implementing and regulating stationary and area sources of air emissions in the county. SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD, 2015) and air quality attainment plans were reviewed to determine whether the Project will conflict with applicable air quality plans. These SJVAPCD plans present strategies and control measures need to continue the improvement of air quality in the county. As shown in Section 3.3.1, emissions from construction would not exceed any SJVAPCD thresholds of significance for construction. Disturbed surfaces that are not stabilized will be watered as needed for dust control to reduce particulate matter emissions. Therefore, project construction will be compatible with applicable air quality plans, and short-term construction-related emissions will not impact SJVAPCD's implementation of its adopted air quality plans.

No new stationary emission sources are expected for the operation of this project with the exception of cleaners and/or solvents used in the new maintenance shop. Operational emissions from consumer products, architectural coating products, landscape equipment, water usage and solid waste generation will occur from operation of the Project. Default inputs were used for the calculations for these sources. Default inputs were also used for water usage and solid waste generation. Minor increases in traffic are expected to occur on the local roadways from Project operations. Default CalEEMod vehicle trips to and from the facility and around the facility were used to model emissions. Power for the facility will be provided by the Pacific Gas and Electric Company utility. As shown in Section 3.3.2, emissions from

operation of the Project will be minimal and will not exceed any applicable thresholds. Therefore, operation of the Project will not conflict with adopted air quality plans.

C: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

The portion of Kern County where the Project is located is a non-attainment area the 24-hour and annual PM_{2.5} NAAQS, the 8-hour ozone NAAQS, the 24-hour and annual PM₁₀ CAAQS, the annual PM_{2.5} CAAQS, and the 8-hour and 1-hour ozone CAAQS.

Construction emissions from the Project will not exceed SJVAPCD thresholds as shown in Section 3.3.1. Mitigation measures are not required to meet the SJVAPCD thresholds, however disturbed surfaces that are not stabilized will be watered as needed for dust control to reduce particulate matter emissions. All air quality impacts from construction would be less than significant.

Minimal emissions from operation of the Project are expected. Power for the facility will be provided by the Pacific Gas and Electric Company. As shown in Section 3.3.2, no SJVAPCD operational thresholds will be exceeded. Air quality impacts from operation of the Project will be less than significant.

No cumulatively considerable net increases would be expected in air quality from construction or operation of the Project.

D: Expose sensitive receptors to substantial pollutant concentrations?

Air quality standards are set to protect populations who are sensitive to the adverse health effects of air pollutions. Sensitive receptor locations may include hospitals, schools, day care centers, parks and such other locations as the air district board or CARB may determine (California Health and Safety Code § 42705.5(a)(5)).

While there are residences within 1,000 feet of the Project area, there are no sensitive receptors such as hospitals, schools, day care centers, or parks. Because construction emissions from the Project will short-term and will not exceed SJVAPCD construction thresholds, no sensitive receptors or residential areas will be exposed to substantial pollutant concentrations.

Valley Fever Exposure

San Joaquin Valley Fever (Valley fever: formally known as Coccidioidomycosis) is an infectious disease caused by the fungus *Coccidioides immitis*. The areas in California where Valley fever is considered

highly endemic include the Central Valley region and coastal communities in Monterey and San Luis Obispo Counties. People can become infected with Valley fever by inhaling microscopic spores of the fungus *Coccidioides* that lives in the soil. Exposure occurs after fungal spores become airborne and are inhaled either because of windy conditions that stir up loose topsoil, or soil disruption (such as construction activities). Anyone who lives, works, or visits an area with Valley fever can be infected. Valley fever is not contagious and cannot be spread from one person or animal to another. Possible exposure reductions are discussed in the following paragraphs.

The California Department of Industrial Relations (Cal/OSHA) requires that employers develop and implement a respiratory protection program in accordance with Cal/OSHA's Respiratory Protection standard (8 CCR 5144). When exposure to dust is unavoidable, employers must provide to their workers National Institute for Occupational Safety and Health (NIOSH) – approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or HEPA (high-efficiency particulate air) (Cal/OSHA 2017).

Furthermore, a new California state law, Assembly Bill (AB) 203 is an amendment to the California Labor Code and requires that employers in certain counties (including Kern County) must offer initial and then annual training for all employees engaged in work expected to involve exposure to substantial dust disturbance. Employers also must provide training for new employees before assigning them to work sites. Employers must have offered initial existing worker training by May 1, 2020.

Construction of the Project is not expected to result in significant Valley fever-related impacts because activities associated with construction of the Project are similar to other localized ground-disturbing activities that occur continually in the county. Further, employers in California are required to provide their workers training (pursuant to new law, AB 203) and respiratory protection (NIOSH-approved respiratory protection) when working in dust-prone areas. As a result, impacts associated with Valley fever on sensitive receptors and construction workers will be less than significant. Implementation of fugitive dust measures as described above will further reduce this already less than significant impact.

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

Construction of the Project may generate odors from the construction equipment exhaust. Any odors from construction will be periodic and temporary in nature since construction equipment will not be in any one area for longer than 15 months. The potential for odors affecting a “substantial number of people” is

further reduced due to the industrial nature of the Project location. Therefore, impacts related to odors during construction will be less than significant.

Operation and maintenance activities of the Project will not cause detectable odors. Vehicles used for maintenance may generate exhaust odors in the immediate vicinity, but because this will be temporary and will not affect a “substantial number of people”. Therefore, no operational odor impacts will occur.

No other emissions aside from those discussed in this study are expected to occur during the construction and operation of this Project.

4.0 GREENHOUSE GASES AND CLIMATE CHANGE

This section describes the existing environmental setting related to climate change and GHGs, regulatory framework applicable climate change/GHGs, and evaluates the potential GHG impacts from the Project.

4.1 Existing Environmental Setting

The “greenhouse” effect is a naturally occurring phenomenon in which various gases in the earth’s atmosphere (classified as GHGs) play a critical role in determining the earth’s temperature. Solar radiation enters the earth’s atmosphere from space and a portion of the radiation is absorbed by the earth’s surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are CO₂, methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. Primary GHGs attributed to global climate change, are discussed, as follows:

4.1.1 CO₂

CO₂ is a colorless, odorless gas. It is emitted both naturally and through human activities. CO₂ is naturally present in the atmosphere as part of the Earth's carbon cycle (the natural circulation of carbon among the atmosphere, oceans, soil, plants, and animals). Human activities are altering the carbon cycle—by adding more CO₂ to the atmosphere, by influencing the ability of natural sinks, like forests, to remove CO₂ from the atmosphere, and by influencing the ability of soils to store carbon. While CO₂ emissions come from a variety of natural sources, human-related emissions are responsible for the increase that has occurred in the atmosphere since the industrial revolution. CO₂ is the primary GHG emitted through human activities, primarily from the combustion of fossil fuels such as coal, oil, and gas. The transportation and electricity sectors are the largest CO₂ emitters in the United States (EPA, 2017).

4.1.2 CH₄

CH₄ is a colorless, odorless gas that is not flammable under most circumstances. CH₄ is the major component of natural gas, about 87 percent by volume. In 2017, CH₄ accounted for about 10.2 percent of all United States GHGs from human activities. Human activities emitting CH₄ include leaks from natural gas systems and the raising of livestock. CH₄ is also emitted by natural sources such as natural wetlands. In addition, natural processes in soil and chemical reactions in the atmosphere help remove CH₄ from the atmosphere. CH₄'s lifetime in the atmosphere is much shorter than CO₂, but CH₄ is more efficient at

trapping radiation than CO₂. Pound for pound, the comparative impact of CH₄ is more than 25 times greater than CO₂ over a 100-year period (EPA, 2017).

4.1.3 N₂O

N₂O is a clear, colorless gas with a slightly sweet odor. In 2017, N₂O accounted for about 5.6 percent of all United States GHGs emissions from human activities. Human activities such as agriculture, fuel combustion, wastewater management, and industrial processes are increasing the amount of N₂O in the atmosphere. N₂O is also naturally present in the atmosphere as part of the Earth's nitrogen cycle and has a variety of natural sources. N₂O molecules stay in the atmosphere for an average of 114 years before being removed by a sink or destroyed through chemical reactions. The impact of 1 pound of N₂O on warming the atmosphere is almost 300 times that of 1 pound of CO₂ (EPA, 2017).

4.1.4 Fluorinated Gases

Unlike many other GHGs, fluorinated gases have no natural sources and only come from human-related activities. They are emitted through their use as substitutes for ozone-depleting substances (e.g., as refrigerants) and through a variety of industrial processes such as aluminum and semiconductor manufacturing. Many fluorinated gases have very high global warming potentials (GWPs) relative to other GHGs, so small atmospheric concentrations can have disproportionately large effects on global temperatures. They can also have long atmospheric lifetimes—in some cases, lasting thousands of years. Like other long-lived GHGs, most fluorinated gases are well-mixed in the atmosphere, spreading around the world after they are emitted. Many fluorinated gases are removed from the atmosphere only when they are destroyed by sunlight in the far upper atmosphere. In general, fluorinated gases are the most potent and longest lasting type of GHGs emitted by human activities. There are four main categories of fluorinated gases—hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride. The major emissions source of HFC compounds is their use as refrigerants—for example, in air conditioning systems in both vehicles and buildings. These chemicals were developed as a replacement for chlorofluorocarbons because they do not deplete the stratospheric ozone layer. PFCs are produced as a byproduct of aluminum production and are used in the manufacturing of semiconductors. PFCs generally have long atmospheric lifetimes and GWPs near 10,000. SF₆ is used in magnesium processing and semiconductor manufacturing, as well as a tracer gas for leak detection. SF₆ is also used as an insulating gas in electrical transmission equipment, including circuit breakers. The GWP of SF₆ is 22,800, making it the most potent GHG that the Intergovernmental Panel on Climate Change has evaluated (EPA, 2017).

4.1.5 Global Warming Potentials

GHGs vary widely in the power of their climatic effects; therefore, climate scientists have established a unit called Global Warming Potentials (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO₂. The GWP of CO₂ is set to equal 1. CH₄ and N₂O are approximately 25 and 298 times more powerful than CO₂, respectively, in their ability to trap heat in the atmosphere; thus, they have GWPs of 25 and 298, respectively. Carbon dioxide equivalent (CO₂e) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWPs. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO₂e. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 4-1.

Table 4-1: Global Warming Potentials and Atmospheric Lifetimes

Greenhouse Gas	Atmospheric Lifetime (years)¹	Global Warming Potential (100-year time horizon)²
Carbon dioxide (CO ₂)	50–200	1
Methane (CH ₄)	12	25
Nitrous oxide (N ₂ O)	114	298
Sulfur hexafluoride (SF ₆)	3,200	22,800

Source:

(1) IPCC, 2007

(2) 40 CFR 98 Subpart A

4.2 Effects of Climate Change

Primarily due to the increase in GHGs released to the atmosphere due to human activity, the earth is warming on a global scale. Earth's average temperature has risen by 1.5 °F over the past century and is projected to rise another 0.5 to 8.6 °F over the next hundred years. Rising global temperatures have been accompanied by changes in weather and climate. Many places have seen changes in rainfall, resulting in more droughts, floods/intense rain as well as heat waves. Oceans are warming and becoming more acidic (EPA, 2019). Ice caps and glaciers are melting, causing sea levels to rise. Other effects include, but are not limited to, the spread of diseases out of their normal range, habitat loss, negative impacts to agriculture production, increased air pollution episodes, and impacts to the economy are expected to result from climate change. Within California, climate change is expected to impact and alter ecosystems throughout the State. As the climate warms, less precipitation is expected to fall as snow and as a result, less snowpack would result. This could cause the tree line to shift, which would decrease the extent of alpine tundra ecosystems and threaten some species. Climate change is expected to increase the need for water but reduce the supply. Increasing temperatures and declining rainfall have reduced the flow to the

Colorado River, a key source of irrigation in California. Increased floods, fires, and sea level rise are among other impacts expected to affect the State because of climate change (EPA, 2016).

4.3 Regulatory Standards

Federal, State, and regional climate change regulatory standards applicable to the Project are described in the following paragraphs.

4.3.1 Federal Standards

Parties to the United Nations Framework Convention on Climate Change (including the United States) reached a landmark agreement on December 12, 2015, referred to as the Paris Agreement. The central aim of Paris Agreement is to keep global temperature rise well below 2 degrees Celsius above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5 degrees Celsius. A framework has been developed in order to reach these goals. On June 1, 2017, President Trump announced the decision to withdraw the United States from the Paris Agreement. Upon taking office on January 20, 2021, President Biden signed an executive order to have the United States rejoin the Paris Agreement and the formally rejoined on February 19, 2021.

On April 2, 2007, the Supreme Court found that GHGs are air pollutants covered by the CAA and that the EPA has the authority to regulate GHGs in the *Massachusetts v. U.S. EPA*, 549 U.S. 497 decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs—CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles. After a lengthy legal challenge, the United States Supreme Court declined to review an Appeals Court ruling upholding the EPA Administrator findings. While the United States does not have an overarching policy for GHG reduction, there are some GHG reduction regulations and tracking. However, there are no Federal regulations applicable to the Project.

4.3.2 State Standards

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

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

In order to help avert these potential consequences, AB 32 established a State goal of reducing GHG emissions to 1990 levels by the year 2020, which is a reduction of approximately 16 percent from forecasted emission levels, with further reductions to follow. In 2016, Senate Bill 32 (SB 32) was passed, which increased the required reduction to 40 percent below 1990 levels by 2030.

4.3.3 Council on Environmental Quality

Based on criteria derived from Appendix G of the CEQA Guidelines, the Project would result in a significant GHG impact if the Project were to:

- a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

In addition to the thresholds identified above, criteria for GHG emissions have been established for the Project based on guidance from the Council on Environmental Quality (CEQ). Each of the identified criteria are described herein.

Revised draft guidance from the CEQ, dated June 21, 2019, recommends agencies consider both the potential effects of a proposed action on climate change, as indicated by its estimated GHG emissions, and the implications of climate change for the environmental effects of a proposed action. The guidance also emphasizes that agency analyses should be commensurate with projected GHG emissions and climate impacts and should employ appropriate quantitative or qualitative analytical methods to provide useful information to inform the public and the decision-making process in distinguishing among alternatives and mitigations.

4.3.4 SJVAPCD CEQA GHG Guidance

In August 2008, the SJVAPCD's Governing Board adopted the Climate Change Action Plan (CCAP). The CCAP directed the District Air Pollution Control Officer to develop guidance to assist Lead Agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific GHG emissions on global climate change.

On December 17, 2009, the SJVAPCD adopted the *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The guidance and policy rely on the use of performance-based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project specific GHG emissions on global climate change during the environmental review process, as required by CEQA. Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual, is required to determine that a project would have a less than cumulatively significant impact. The guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project related impacts on global climate change.

In accordance with the SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* (SJVAPCP, 2009), a project would be considered to have less than a significant impact on climate change if it complies with at least one of the following criteria:

- a) Comply with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency;
- b) Implement approved BPS; or
- c) Quantify project GHG emissions and reduce those emissions by at least 29 percent compared to the business-as-usual (BAU) case.

Quantification of project-generated GHG emissions in comparison to BAU conditions to determine consistency with AB 32's reduction goals may be considered appropriate in some instances. However, based on a recent California Supreme Court's decision in *Center for Biological Diversity v. California Department of Fish and Wildlife and Newhall Land and Farming* (2015) 224 Cal.App.4th 1105 (CBD vs. CDFW; also known as the "Newhall Ranch case"), substantial evidence would need to be provided to document that project-level reductions in comparison to a BAU approach would be consistent with achieving AB 32's overall statewide reduction goal. Given that AB 32's statewide goal includes reductions that are not necessarily related to an individual development project, the use of this approach may be difficult to support given the lack of substantial evidence to adequately demonstrate a link between the data contained in the AB 32 Scoping Plan and individual development projects. Alternatively, the Court identified potential options for evaluating GHG impacts for individual development projects, which included the use of GHG efficiency metrics, compliance with regulatory programs designed to reduce GHG emissions, or the use of numerical GHG significance thresholds.

At this time, the SJVAPCD has not developed recommended numerical GHG significance thresholds. However, other air districts within the State of California have adopted recommended numerical CEQA significance thresholds for GHG emissions. On March 28, 2012 the San Luis Obispo Air Pollution Control District (SLOAPCD) Board approved thresholds of significance for the evaluation of project-related increases of GHG emissions. The SLOAPCD's significance thresholds include both qualitative and quantitative threshold options, which include a bright-line threshold of 1,150 metric tons carbon dioxide equivalents per year (MTCO₂e/year). On October 23, 2014, the Sacramento Metropolitan Air Quality Management District adopted a similar significance threshold of 1,100 MTCO₂e/year. The Bay Area Air Quality Management District also recommends a GHG significance threshold of 1,100 MTCO₂e/year. In addition, San Diego County recommends a numerical threshold of 2,500 MTCO₂e/year. These GHG significance thresholds are based on AB 32 GHG emission reduction goals, which take into consideration the emission reduction strategies outlined in ARB's Scoping Plan. Development projects located within these jurisdictions that would not exceed these thresholds would be considered to have a less-than-significant impact on the environment and would not conflict with applicable GHG-reduction plans, policies and regulations. For purposes of this analysis, project-generated emissions (excluding stationary sources) in excess of 1,100 MTCO₂e/year would be considered to have a potentially significant impact. As a conservative approach, construction-generated GHG emissions were amortized based on an estimated 30-year project life and included in annual operational GHG emissions estimates. Because no stationary operational sources are associated with the Project, a stationary source operational threshold was not evaluated.

4.4 Greenhouse Gas Impact Analysis

The same methodology and assumptions described in Section 3.0 were used to calculate GHG emissions from construction and operation of the Project using CalEEMod (Version 2020.4.0).

4.4.1 Construction Assumptions

GHGs emitted from construction of the Project are CO₂, CH₄, and N₂O. CalEEMod was used to estimate emissions of from CO₂, CH₄, N₂O, construction. The construction assumptions described in Section 3.1 were used to calculate GHG emissions from construction.

4.4.2 Operational Assumptions

GHGs emitted from the operation of the Project are CO₂, CH₄ and N₂O. The operation assumptions described in Section 3.2 were used to calculate emissions of CO₂, CH₄, and N₂O from operation and CalEEMod was used to calculate these emissions.

4.5 Findings

Based on this analysis performed in CalEEMod, the Project GHG emissions will not have a significant impact on the environment. The findings of the GHG impact analysis are described in the following sections.

4.5.1 Construction Greenhouse Gas Findings

CalEEMod GHG annual outputs estimated for the Project construction period were used in this analysis. Construction of the Project would result in the short-term generation of GHG emissions. The majority of GHG emissions from construction are generated from construction equipment used for the various construction phases as well as on-road vehicle emissions associated with worker commuting and hauling trips. Table 4-2 summarizes the annual construction emissions calculated using CalEEMod in metric tons. Construction occurs over a 11-month period, so all GHG emissions from construction will occur in one year. Detailed GHG emission calculations are shown in Appendix A.

The SJVAPCD has not adopted guidance that would apply to construction GHG emissions. For the purposes of this analysis, emissions from construction of the Project were amortized over a 30-year period and included with operational emissions. When amortized over a 30-year lifetime, construction emissions total approximately 10.55 MTCO₂e/year.

Table 4-2: Anticipated Construction GHG Emissions Summary

Biogenic CO ₂	Non-biogenic CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e
Metric tons per year^a					
0.00	312.29	312.29	0.05	0.01	316.63
Amortized construction emissions (30-year project life)					10.55

(a) CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalents

4.5.2 Operational Greenhouse Gas Findings

Emissions from operation will be generated from electricity usage at the facility, vehicle usage, consumer products, architectural coatings, landscaping, water usage and waste disposal. Table 4-3 summarizes the annual operational GHG emissions from the Project and includes the amortized construction emissions. Detailed CalEEMod operational emissions calculations are included in Appendix A.

Table 4-3: Anticipated Operational GHG Emissions Summary

Biogenic CO ₂	Non-biogenic CO ₂	Total CO ₂	CH ₄	N ₂ O	CO ₂ e
Metric tons per year					
39.74	198.87	238.61	2.75	0.03	316.71
Amortized operational emissions (30-year project life)					10.55
Total					327.26

(a) CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; SF₆ = sulfur hexafluoride; CO₂e = carbon dioxide equivalents

With the addition of the amortized construction emissions, the Project would generate approximately 327.26 MTCO₂e/year. The magnitude of these emissions does not exceed the threshold of 1,100 MTCO₂e/year. Over the long term, operational GHG emissions are expected to decrease, due to more renewable energy and more efficient vehicles. Therefore, GHG emissions from the Project will be less than significant.

5.0 REFERENCES

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APPENDIX A - CALEEMOD EMISSION CALCULATIONS

Bakersfield FMS - Kern-San Joaquin County, Annual

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

Bakersfield FMS
Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	25.00	1000sqft	0.57	25,000.00	0
Other Non-Asphalt Surfaces	70.85	1000sqft	1.63	70,848.00	0
Parking Lot	156.80	1000sqft	3.60	156,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	32
Climate Zone	3			Operational Year	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MW hr)	203.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated construction start date to Third quarter (July 1) 2023

Land Use - This is the building and paving footprint. Half the site will be gravel and stormwater improvement features

Construction Phase - No demolition phase

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - No demolition phase

Off-road Equipment - Site-specific equipment

Off-road Equipment - Site-specific equipment

Off-road Equipment - Site specific equipment

Trips and VMT - Default trips per day

On-road Fugitive Dust - Assume 95% paved roads for worker/vendor/hauling trips

Demolition - No demolition assumed

Grading - 5.8 acre ground disturbance. Assuming no import or export of material.

Bakersfield FMS - Kern-San Joaquin County, Annual

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

Architectural Coating - Project is approximately 25,000 square feet. Non-residential exterior area is assumed to be 1/3 of interior

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating -

Construction Off-road Equipment Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,500.00	8,333.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	37,500.00	25,000.00
tblArchitecturalCoating	ConstArea_Parking	13,659.00	7,860.00
tblAreaCoating	Area_Nonresidential_Exterior	12500	61120
tblAreaCoating	Area_Nonresidential_Interior	37500	183360
tblAreaCoating	Area_Parking	13659	7860
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblFleetMix	HHD	0.04	0.00
tblFleetMix	LDA	0.48	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	9.8160e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.17	0.00
tblFleetMix	MH	4.7320e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	5.9100e-004	0.00
tblFleetMix	SBUS	1.5170e-003	0.00
tblFleetMix	UBUS	2.4100e-004	0.00
tblGrading	AcresOfGrading	20.00	5.80
tblGrading	AcresOfGrading	15.00	5.80

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

tblLandUse	LandUseSquareFeet	70,850.00	70,848.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Paving
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblSolidWaste	SolidWasteGenerationRate	31.00	151.58

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

tblTripsAndVMT	VendorTripNumber	41.00	42.00
tblTripsAndVMT	WorkerTripNumber	15.00	8.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00
tblWater	IndoorWaterUseRate	5,781,250.00	28,268,000.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0980	0.8795	0.9213	2.0700e-003	1.7117	0.0377	1.7494	0.2058	0.0353	0.2411	0.0000	183.6407	183.6407	0.0327	5.6500e-003	186.1396
2024	0.2980	1.2884	1.6301	3.5200e-003	3.1140	0.0534	3.1674	0.3256	0.0501	0.3758	0.0000	312.2863	312.2863	0.0504	0.0103	316.6275
Maximum	0.2980	1.2884	1.6301	3.5200e-003	3.1140	0.0534	3.1674	0.3256	0.0501	0.3758	0.0000	312.2863	312.2863	0.0504	0.0103	316.6275

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0980	0.8795	0.9213	2.0700e-003	1.7117	0.0377	1.7494	0.2058	0.0353	0.2411	0.0000	183.6406	183.6406	0.0327	5.6500e-003	186.1394
2024	0.2980	1.2884	1.6300	3.5200e-003	3.1140	0.0534	3.1674	0.3256	0.0501	0.3758	0.0000	312.2861	312.2861	0.0504	0.0103	316.6272

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

Maximum	0.2980	1.2884	1.6300	3.5200e-003	3.1140	0.0534	3.1674	0.3256	0.0501	0.3758	0.0000	312.2861	312.2861	0.0504	0.0103	316.6272
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2023	9-30-2023	0.3861	0.3861
2	10-1-2023	12-31-2023	0.6063	0.6063
3	1-1-2024	3-31-2024	0.5643	0.5643
4	4-1-2024	6-30-2024	0.5607	0.5607
5	7-1-2024	9-30-2024	0.4492	0.4492
		Highest	0.6063	0.6063

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2003	2.0000e-005	2.3200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.5100e-003	4.5100e-003	1.0000e-005	0.0000	4.8100e-003
Energy	2.7900e-003	0.0254	0.0213	1.5000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	52.6092	52.6092	4.5700e-003	1.0000e-003	53.0205
Mobile	0.0625	0.1262	0.5924	1.4300e-003	0.1257	1.3800e-003	0.1271	0.0337	1.3000e-003	0.0350	0.0000	132.1062	132.1062	6.9800e-003	8.0900e-003	134.6902
Waste						0.0000	0.0000		0.0000	0.0000	30.7694	0.0000	30.7694	1.8184	0.0000	76.2298
Water						0.0000	0.0000		0.0000	0.0000	8.9681	14.1523	23.1204	0.9234	0.0220	52.7695
Total	0.2656	0.1516	0.6160	1.5800e-003	0.1257	3.3200e-003	0.1291	0.0337	3.2400e-003	0.0369	39.7375	198.8721	238.6097	2.7534	0.0311	316.7148

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2003	2.0000e-005	2.3200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.5100e-003	4.5100e-003	1.0000e-005	0.0000	4.8100e-003
Energy	2.7900e-003	0.0254	0.0213	1.5000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	52.6092	52.6092	4.5700e-003	1.0000e-003	53.0205
Mobile	0.0625	0.1262	0.5924	1.4300e-003	0.1257	1.3800e-003	0.1271	0.0337	1.3000e-003	0.0350	0.0000	132.1062	132.1062	6.9800e-003	8.0900e-003	134.6902
Waste						0.0000	0.0000		0.0000	0.0000	30.7694	0.0000	30.7694	1.8184	0.0000	76.2298
Water						0.0000	0.0000		0.0000	0.0000	8.9681	14.1523	23.1204	0.9234	0.0220	52.7695

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Total	0.2656	0.1516	0.6160	1.5800e-003	0.1257	3.3200e-003	0.1291	0.0337	3.2400e-003	0.0369	39.7375	198.8721	238.6097	2.7534	0.0311	316.7148
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2023	7/28/2023	5	20	
2	Site Preparation	Site Preparation	7/29/2023	8/11/2023	5	10	
3	Grading	Grading	8/12/2023	9/8/2023	5	20	
4	Building Construction	Building Construction	9/9/2023	7/26/2024	5	230	
5	Paving	Paving	7/27/2024	8/23/2024	5	20	
6	Architectural Coating	Architectural Coating	8/24/2024	9/20/2024	5	20	

Acres of Grading (Site Preparation Phase): 5.8**Acres of Grading (Grading Phase): 5.8****Acres of Paving: 5.23****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 25,000; Non-Residential Outdoor: 8,333; Striped Parking Area: 7,860**

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

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	106.00	42.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Unmitigated Construction On-Site

[illegible]

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

[illegible][illegible]

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

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

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.0800e-003	0.0000	3.0800e-003	3.3000e-004	0.0000	3.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6100e-003	0.0724	0.0503	1.2000e-004		2.7600e-003	2.7600e-003		2.5400e-003	2.5400e-003	0.0000	10.9432	10.9432	3.5400e-003	0.0000	11.0317
Total	6.6100e-003	0.0724	0.0503	1.2000e-004	3.0800e-003	2.7600e-003	5.8400e-003	3.3000e-004	2.5400e-003	2.8700e-003	0.0000	10.9432	10.9432	3.5400e-003	0.0000	11.0317

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	8.0000e-005	9.5000e-004	0.0000	0.0119	0.0000	0.0119	1.2400e-003	0.0000	1.2400e-003	0.0000	0.2597	0.2597	1.0000e-005	1.0000e-005	0.2621
Total	1.2000e-004	8.0000e-005	9.5000e-004	0.0000	0.0119	0.0000	0.0119	1.2400e-003	0.0000	1.2400e-003	0.0000	0.2597	0.2597	1.0000e-005	1.0000e-005	0.2621

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.0800e-003	0.0000	3.0800e-003	3.3000e-004	0.0000	3.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6100e-003	0.0724	0.0503	1.2000e-004		2.7600e-003	2.7600e-003		2.5400e-003	2.5400e-003	0.0000	10.9432	10.9432	3.5400e-003	0.0000	11.0317
Total	6.6100e-003	0.0724	0.0503	1.2000e-004	3.0800e-003	2.7600e-003	5.8400e-003	3.3000e-004	2.5400e-003	2.8700e-003	0.0000	10.9432	10.9432	3.5400e-003	0.0000	11.0317

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	8.0000e-005	9.5000e-004	0.0000	0.0119	0.0000	0.0119	1.2400e-003	0.0000	1.2400e-003	0.0000	0.2597	0.2597	1.0000e-005	1.0000e-005	0.2621
Total	1.2000e-004	8.0000e-005	9.5000e-004	0.0000	0.0119	0.0000	0.0119	1.2400e-003	0.0000	1.2400e-003	0.0000	0.2597	0.2597	1.0000e-005	1.0000e-005	0.2621

3.4 Grading - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0633	0.0000	0.0633	0.0334	0.0000	0.0334	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0137	0.1485	0.0926	2.1000e-004		6.2300e-003	6.2300e-003		5.7300e-003	5.7300e-003	0.0000	18.7879	18.7879	6.0800e-003	0.0000	18.9398
Total	0.0137	0.1485	0.0926	2.1000e-004	0.0633	6.2300e-003	0.0695	0.0334	5.7300e-003	0.0392	0.0000	18.7879	18.7879	6.0800e-003	0.0000	18.9398

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.0000e-004	2.3900e-003	1.0000e-005	0.0298	0.0000	0.0298	3.1000e-003	0.0000	3.1100e-003	0.0000	0.6492	0.6492	2.0000e-005	2.0000e-005	0.6552
Total	2.9000e-004	2.0000e-004	2.3900e-003	1.0000e-005	0.0298	0.0000	0.0298	3.1000e-003	0.0000	3.1100e-003	0.0000	0.6492	0.6492	2.0000e-005	2.0000e-005	0.6552

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0633	0.0000	0.0633	0.0334	0.0000	0.0334	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0137	0.1485	0.0926	2.1000e-004		6.2300e-003	6.2300e-003		5.7300e-003	5.7300e-003	0.0000	18.7879	18.7879	6.0800e-003	0.0000	18.9398
Total	0.0137	0.1485	0.0926	2.1000e-004	0.0633	6.2300e-003	0.0695	0.0334	5.7300e-003	0.0392	0.0000	18.7879	18.7879	6.0800e-003	0.0000	18.9398

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	2.0000e-004	2.3900e-003	1.0000e-005	0.0298	0.0000	0.0298	3.1000e-003	0.0000	3.1100e-003	0.0000	0.6492	0.6492	2.0000e-005	2.0000e-005	0.6552
Total	2.9000e-004	2.0000e-004	2.3900e-003	1.0000e-005	0.0298	0.0000	0.0298	3.1000e-003	0.0000	3.1100e-003	0.0000	0.6492	0.6492	2.0000e-005	2.0000e-005	0.6552

3.5 Building Construction - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0629	0.5754	0.6498	1.0800e-003		0.0280	0.0280		0.0263	0.0263	0.0000	92.7219	92.7219	0.0221	0.0000	93.2733
Total	0.0629	0.5754	0.6498	1.0800e-003		0.0280	0.0280		0.0263	0.0263	0.0000	92.7219	92.7219	0.0221	0.0000	93.2733

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9500e-003	0.0744	0.0241	3.4000e-004	0.3404	4.9000e-004	0.3409	0.0361	4.7000e-004	0.0365	0.0000	32.7516	32.7516	1.3000e-004	4.8400e-003	34.1966
Worker	0.0124	8.5900e-003	0.1011	3.0000e-004	1.2632	1.9000e-004	1.2634	0.1316	1.7000e-004	0.1318	0.0000	27.5273	27.5273	8.3000e-004	7.8000e-004	27.7809
Total	0.0143	0.0830	0.1253	6.4000e-004	1.6036	6.8000e-004	1.6043	0.1677	6.4000e-004	0.1683	0.0000	60.2789	60.2789	9.6000e-004	5.6200e-003	61.9775

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0629	0.5754	0.6498	1.0800e-003		0.0280	0.0280		0.0263	0.0263	0.0000	92.7218	92.7218	0.0221	0.0000	93.2732
Total	0.0629	0.5754	0.6498	1.0800e-003		0.0280	0.0280		0.0263	0.0263	0.0000	92.7218	92.7218	0.0221	0.0000	93.2732

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9500e-003	0.0744	0.0241	3.4000e-004	0.3404	4.9000e-004	0.3409	0.0361	4.7000e-004	0.0365	0.0000	32.7516	32.7516	1.3000e-004	4.8400e-003	34.1966
Worker	0.0124	8.5900e-003	0.1011	3.0000e-004	1.2632	1.9000e-004	1.2634	0.1316	1.7000e-004	0.1318	0.0000	27.5273	27.5273	8.3000e-004	7.8000e-004	27.7809
Total	0.0143	0.0830	0.1253	6.4000e-004	1.6036	6.8000e-004	1.6043	0.1677	6.4000e-004	0.1683	0.0000	60.2789	60.2789	9.6000e-004	5.6200e-003	61.9775

3.5 Building Construction - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1104	1.0083	1.2125	2.0200e-003		0.0460	0.0460		0.0433	0.0433	0.0000	173.8868	173.8868	0.0411	0.0000	174.9148
Total	0.1104	1.0083	1.2125	2.0200e-003		0.0460	0.0460		0.0433	0.0433	0.0000	173.8868	173.8868	0.0411	0.0000	174.9148

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5700e-003	0.1396	0.0442	6.3000e-004	0.6382	9.2000e-004	0.6391	0.0676	8.8000e-004	0.0685	0.0000	60.4355	60.4355	2.3000e-004	8.9200e-003	63.1002
Worker	0.0214	0.0142	0.1756	5.4000e-004	2.3686	3.3000e-004	2.3689	0.2468	3.0000e-004	0.2471	0.0000	49.9275	49.9275	1.4000e-003	1.3600e-003	50.3672
Total	0.0250	0.1538	0.2198	1.1700e-003	3.0068	1.2500e-003	3.0080	0.3144	1.1800e-003	0.3156	0.0000	110.3630	110.3630	1.6300e-003	0.0103	113.4674

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1104	1.0083	1.2125	2.0200e-003		0.0460	0.0460		0.0433	0.0433	0.0000	173.8866	173.8866	0.0411	0.0000	174.9146
Total	0.1104	1.0083	1.2125	2.0200e-003		0.0460	0.0460		0.0433	0.0433	0.0000	173.8866	173.8866	0.0411	0.0000	174.9146

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5700e-003	0.1396	0.0442	6.3000e-004	0.6382	9.2000e-004	0.6391	0.0676	8.8000e-004	0.0685	0.0000	60.4355	60.4355	2.3000e-004	8.9200e-003	63.1002
Worker	0.0214	0.0142	0.1756	5.4000e-004	2.3686	3.3000e-004	2.3689	0.2468	3.0000e-004	0.2471	0.0000	49.9275	49.9275	1.4000e-003	1.3600e-003	50.3672
Total	0.0250	0.1538	0.2198	1.1700e-003	3.0068	1.2500e-003	3.0080	0.3144	1.1800e-003	0.3156	0.0000	110.3630	110.3630	1.6300e-003	0.0103	113.4674

3.6 Paving - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1134	0.1717	2.7000e-004		5.4900e-003	5.4900e-003		5.0600e-003	5.0600e-003	0.0000	23.2224	23.2224	7.4100e-003	0.0000	23.4076
Paving	4.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0166	0.1134	0.1717	2.7000e-004		5.4900e-003	5.4900e-003		5.0600e-003	5.0600e-003	0.0000	23.2224	23.2224	7.4100e-003	0.0000	23.4076

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.7000e-004	3.3100e-003	1.0000e-005	0.0447	1.0000e-005	0.0447	4.6600e-003	1.0000e-005	4.6600e-003	0.0000	0.9420	0.9420	3.0000e-005	3.0000e-005	0.9503
Total	4.0000e-004	2.7000e-004	3.3100e-003	1.0000e-005	0.0447	1.0000e-005	0.0447	4.6600e-003	1.0000e-005	4.6600e-003	0.0000	0.9420	0.9420	3.0000e-005	3.0000e-005	0.9503

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1134	0.1717	2.7000e-004		5.4900e-003	5.4900e-003		5.0600e-003	5.0600e-003	0.0000	23.2224	23.2224	7.4100e-003	0.0000	23.4076
Paving	4.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0166	0.1134	0.1717	2.7000e-004		5.4900e-003	5.4900e-003		5.0600e-003	5.0600e-003	0.0000	23.2224	23.2224	7.4100e-003	0.0000	23.4076

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	2.7000e-004	3.3100e-003	1.0000e-005	0.0447	1.0000e-005	0.0447	4.6600e-003	1.0000e-005	4.6600e-003	0.0000	0.9420	0.9420	3.0000e-005	3.0000e-005	0.9503
Total	4.0000e-004	2.7000e-004	3.3100e-003	1.0000e-005	0.0447	1.0000e-005	0.0447	4.6600e-003	1.0000e-005	4.6600e-003	0.0000	0.9420	0.9420	3.0000e-005	3.0000e-005	0.9503

3.7 Architectural Coating - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1432					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	0.1450	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	3.8000e-004	4.6400e-003	1.0000e-005	0.0626	1.0000e-005	0.0626	6.5200e-003	1.0000e-005	6.5300e-003	0.0000	1.3188	1.3188	4.0000e-005	4.0000e-005	1.3305
Total	5.7000e-004	3.8000e-004	4.6400e-003	1.0000e-005	0.0626	1.0000e-005	0.0626	6.5200e-003	1.0000e-005	6.5300e-003	0.0000	1.3188	1.3188	4.0000e-005	4.0000e-005	1.3305

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1432					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	0.1450	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	3.8000e-004	4.6400e-003	1.0000e-005	0.0626	1.0000e-005	0.0626	6.5200e-003	1.0000e-005	6.5300e-003	0.0000	1.3188	1.3188	4.0000e-005	4.0000e-005	1.3305
Total	5.7000e-004	3.8000e-004	4.6400e-003	1.0000e-005	0.0626	1.0000e-005	0.0626	6.5200e-003	1.0000e-005	6.5300e-003	0.0000	1.3188	1.3188	4.0000e-005	4.0000e-005	1.3305

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0625	0.1262	0.5924	1.4300e-003	0.1257	1.3800e-003	0.1271	0.0337	1.3000e-003	0.0350	0.0000	132.1062	132.1062	6.9800e-003	8.0900e-003	134.6902
Unmitigated	0.0625	0.1262	0.5924	1.4300e-003	0.1257	1.3800e-003	0.1271	0.0337	1.3000e-003	0.0350	0.0000	132.1062	132.1062	6.9800e-003	8.0900e-003	134.6902

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated
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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	124.00	49.75	125.00	331,469	331,469
Parking Lot	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	124.00	49.75	125.00	331,469	331,469

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.475755	0.052577	0.176436	0.169714	0.032065	0.009816	0.013925	0.037355	0.000591	0.000241	0.025277	0.001517	0.004732
General Light Industry	0.475755	0.052577	0.176436	0.169714	0.032065	0.009816	0.013925	0.037355	0.000591	0.000241	0.025277	0.001517	0.004732
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

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

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	24.9935	24.9935	4.0400e-003	4.9000e-004	25.2406
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	24.9935	24.9935	4.0400e-003	4.9000e-004	25.2406
NaturalGas Mitigated	2.7900e-003	0.0254	0.0213	1.5000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	27.6158	27.6158	5.3000e-004	5.1000e-004	27.7799
NaturalGas Unmitigated	2.7900e-003	0.0254	0.0213	1.5000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	27.6158	27.6158	5.3000e-004	5.1000e-004	27.7799

5.2 Energy by Land Use - NaturalGas
Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	517500	2.7900e-003	0.0254	0.0213	1.5000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	27.6158	27.6158	5.3000e-004	5.1000e-004	27.7799
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		2.7900e-003	0.0254	0.0213	1.5000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	27.6158	27.6158	5.3000e-004	5.1000e-004	27.7799

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

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	517500	2.7900e-003	0.0254	0.0213	1.5000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	27.6158	27.6158	5.3000e-004	5.1000e-004	27.7799
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		2.7900e-003	0.0254	0.0213	1.5000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	27.6158	27.6158	5.3000e-004	5.1000e-004	27.7799

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	215250	19.9157	3.2200e-003	3.9000e-004	20.1127
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	54880	5.0777	8.2000e-004	1.0000e-004	5.1279
Total		24.9934	4.0400e-003	4.9000e-004	25.2406

Bakersfield FMS - Kern-San Joaquin County, Annual

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

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	215250	19.9157	3.2200e-003	3.9000e-004	20.1127
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	54880	5.0777	8.2000e-004	1.0000e-004	5.1279
Total		24.9934	4.0400e-003	4.9000e-004	25.2406

Bakersfield FMS - Kern-San Joaquin County, Annual

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2003	2.0000e-005	2.3200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.5100e-003	4.5100e-003	1.0000e-005	0.0000	4.8100e-003
Unmitigated	0.2003	2.0000e-005	2.3200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.5100e-003	4.5100e-003	1.0000e-005	0.0000	4.8100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0877					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1124					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1000e-004	2.0000e-005	2.3200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.5100e-003	4.5100e-003	1.0000e-005	0.0000	4.8100e-003
Total	0.2003	2.0000e-005	2.3200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.5100e-003	4.5100e-003	1.0000e-005	0.0000	4.8100e-003

Bakersfield FMS - Kern-San Joaquin County, Annual

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

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0877					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1124					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1000e-004	2.0000e-005	2.3200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.5100e-003	4.5100e-003	1.0000e-005	0.0000	4.8100e-003
Total	0.2003	2.0000e-005	2.3200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.5100e-003	4.5100e-003	1.0000e-005	0.0000	4.8100e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	23.1204	0.9234	0.0220	52.7695
Unmitigated	23.1204	0.9234	0.0220	52.7695

7.2 Water by Land Use

Unmitigated

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

Indoor/Outdoor Use		Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	28.268 / 0	23.1204	0.9234	0.0220	52.7695
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		23.1204	0.9234	0.0220	52.7695

Mitigated

Indoor/Outdoor Use		Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	28.268 / 0	23.1204	0.9234	0.0220	52.7695
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		23.1204	0.9234	0.0220	52.7695

8.0 Waste Detail

8.1 Mitigation Measures Waste

Bakersfield FMS - Kern-San Joaquin County, Annual

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

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	30.7694	1.8184	0.0000	76.2298
Unmitigated	30.7694	1.8184	0.0000	76.2298

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	151.58	30.7694	1.8184	0.0000	76.2298
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		30.7694	1.8184	0.0000	76.2298

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

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	151.58	30.7694	1.8184	0.0000	76.2298
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		30.7694	1.8184	0.0000	76.2298

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Bakersfield FMS - Kern-San Joaquin County, Summer

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

Bakersfield FMS
Kern-San Joaquin County, Summer

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	25.00	1000sqft	0.57	25,000.00	0
Other Non-Asphalt Surfaces	70.85	1000sqft	1.63	70,848.00	0
Parking Lot	156.80	1000sqft	3.60	156,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	32
Climate Zone	3			Operational Year	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated construction start date to Third quarter (July 1) 2023

Land Use - This is the building and paving footprint. Half the site will be gravel and stormwater improvement features

Construction Phase - No demolition phase

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - No demolition phase

Off-road Equipment - Site-specific equipment

Off-road Equipment - Site-specific equipment

Off-road Equipment - Site specific equipment

Trips and VMT - Default trips per day

On-road Fugitive Dust - Assume 95% paved roads for worker/vendor/hauling trips

Bakersfield FMS - Kern-San Joaquin County, Summer

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

Demolition - No demolition assumed

Grading - 5.8 acre ground disturbance. Assuming no import or export of material.

Architectural Coating - Project is approximately 25,000 square feet. Non-residential exterior area is assumed to be 1/3 of interior

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating -

Construction Off-road Equipment Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,500.00	8,333.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	37,500.00	25,000.00
tblArchitecturalCoating	ConstArea_Parking	13,659.00	7,860.00
tblAreaCoating	Area_Nonresidential_Exterior	12500	61120
tblAreaCoating	Area_Nonresidential_Interior	37500	183360
tblAreaCoating	Area_Parking	13659	7860
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblFleetMix	HHD	0.04	0.00
tblFleetMix	LDA	0.48	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	9.8160e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.17	0.00
tblFleetMix	MH	4.7320e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	5.9100e-004	0.00

Bakersfield FMS - Kern-San Joaquin County, Summer

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

tblFleetMix	SBUS	1.5170e-003	0.00
tblFleetMix	UBUS	2.4100e-004	0.00
tblGrading	AcresOfGrading	20.00	5.80
tblGrading	AcresOfGrading	15.00	5.80
tblLandUse	LandUseSquareFeet	70,850.00	70,848.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Paving
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00

Bakersfield FMS - Kern-San Joaquin County, Summer

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

tblOnRoadDust

WorkerPercentPave

100.00

98.00

Bakersfield FMS - Kern-San Joaquin County, Summer

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

tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblSolidWaste	SolidWasteGenerationRate	31.00	151.58
tblTripsAndVMT	VendorTripNumber	41.00	42.00
tblTripsAndVMT	WorkerTripNumber	15.00	8.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00
tblWater	IndoorWaterUseRate	5,781,250.00	28,268,000.00

2.0 Emissions Summary**2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	1.9886	16.3581	19.7980	0.0437	43.8563	0.7165	44.5728	4.5712	0.6743	5.2455	0.0000	4,286.8414	4,286.8414	0.7819	0.1538	4,348.4968
2024	14.5672	15.3962	19.4819	0.0433	43.8563	0.6300	44.4863	4.5712	0.5927	5.1639	0.0000	4,245.7202	4,245.7202	0.8196	0.1501	4,306.1294
Maximum	14.5672	16.3581	19.7980	0.0437	43.8563	0.7165	44.5728	4.5712	0.6743	5.2455	0.0000	4,286.8414	4,286.8414	0.8196	0.1538	4,348.4968

Bakersfield FMS - Kern-San Joaquin County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	1.9886	16.3581	19.7980	0.0437	43.8563	0.7165	44.5728	4.5712	0.6743	5.2455	0.0000	4,286.8414	4,286.8414	0.7819	0.1538	4,348.4968
2024	14.5672	15.3962	19.4819	0.0433	43.8563	0.6300	44.4863	4.5712	0.5927	5.1639	0.0000	4,245.7202	4,245.7202	0.8196	0.1501	4,306.1294
Maximum	14.5672	16.3581	19.7980	0.0437	43.8563	0.7165	44.5728	4.5712	0.6743	5.2455	0.0000	4,286.8414	4,286.8414	0.8196	0.1538	4,348.4968

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0987	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589
Energy	0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922
Mobile	0.4582	0.7175	3.8879	9.1700e-003	0.7752	8.3700e-003	0.7835	0.2072	7.8800e-003	0.2151		936.2599	936.2599	0.0448	0.0527	953.0903
Total	1.5721	0.8567	4.0304	1.0000e-002	0.7752	0.0190	0.7942	0.2072	0.0185	0.2258		1,103.1161	1,103.1161	0.0481	0.0558	1,120.9414

Bakersfield FMS - Kern-San Joaquin County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0987	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589
Energy	0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922
Mobile	0.4582	0.7175	3.8879	9.1700e-003	0.7752	8.3700e-003	0.7835	0.2072	7.8800e-003	0.2151		936.2599	936.2599	0.0448	0.0527	953.0903
Total	1.5721	0.8567	4.0304	1.0000e-002	0.7752	0.0190	0.7942	0.2072	0.0185	0.2258		1,103.1161	1,103.1161	0.0481	0.0558	1,120.9414

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2023	7/28/2023	5	20	
2	Site Preparation	Site Preparation	7/29/2023	8/11/2023	5	10	
3	Grading	Grading	8/12/2023	9/8/2023	5	20	
4	Building Construction	Building Construction	9/9/2023	7/26/2024	5	230	
5	Paving	Paving	7/27/2024	8/23/2024	5	20	

Bakersfield FMS - Kern-San Joaquin County, Summer

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

6	Architectural Coating	Architectural Coating	8/24/2024	9/20/2024	5	20
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Acres of Grading (Site Preparation Phase): 5.8**Acres of Grading (Grading Phase): 5.8****Acres of Paving: 5.23****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 25,000; Non-Residential Outdoor: 8,333; Striped Parking Area: 7,860 (Architectural****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Bakersfield FMS - Kern-San Joaquin County, Summer

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	106.00	42.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction**3.2 Demolition - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

[illegible]

Bakersfield FMS - Kern-San Joaquin County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6151	0.0000	0.6151	0.0664	0.0000	0.0664			0.0000			0.0000
Off-Road	1.3216	14.4721	10.0610	0.0249		0.5514	0.5514		0.5073	0.5073		2,412.5605	2,412.5605	0.7803		2,432.0672
Total	1.3216	14.4721	10.0610	0.0249	0.6151	0.5514	1.1665	0.0664	0.5073	0.5737		2,412.5605	2,412.5605	0.7803		2,432.0672

Bakersfield FMS - Kern-San Joaquin County, Summer

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0276	0.0151	0.2234	6.2000e-004	2.6076	3.5000e-004	2.6080	0.2709	3.2000e-004	0.2712		62.6316	62.6316	1.6600e-003	1.5600e-003	63.1370
Total	0.0276	0.0151	0.2234	6.2000e-004	2.6076	3.5000e-004	2.6080	0.2709	3.2000e-004	0.2712		62.6316	62.6316	1.6600e-003	1.5600e-003	63.1370

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6151	0.0000	0.6151	0.0664	0.0000	0.0664			0.0000			0.0000
Off-Road	1.3216	14.4721	10.0610	0.0249		0.5514	0.5514		0.5073	0.5073	0.0000	2,412.5605	2,412.5605	0.7803		2,432.0672
Total	1.3216	14.4721	10.0610	0.0249	0.6151	0.5514	1.1665	0.0664	0.5073	0.5737	0.0000	2,412.5605	2,412.5605	0.7803		2,432.0672

Bakersfield FMS - Kern-San Joaquin County, Summer

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0276	0.0151	0.2234	6.2000e-004	2.6076	3.5000e-004	2.6080	0.2709	3.2000e-004	0.2712		62.6316	62.6316	1.6600e-003	1.5600e-003	63.1370
Total	0.0276	0.0151	0.2234	6.2000e-004	2.6076	3.5000e-004	2.6080	0.2709	3.2000e-004	0.2712		62.6316	62.6316	1.6600e-003	1.5600e-003	63.1370

3.4 Grading - 2023Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3296	0.0000	6.3296	3.3434	0.0000	3.3434			0.0000			0.0000
Off-Road	1.3709	14.8515	9.2616	0.0214		0.6233	0.6233		0.5734	0.5734		2,071.0089	2,071.0089	0.6698		2,087.7540
Total	1.3709	14.8515	9.2616	0.0214	6.3296	0.6233	6.9529	3.3434	0.5734	3.9169		2,071.0089	2,071.0089	0.6698		2,087.7540

Bakersfield FMS - Kern-San Joaquin County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0345	0.0189	0.2792	7.7000e-004	3.2596	4.4000e-004	3.2600	0.3387	4.0000e-004	0.3391		78.2895	78.2895	2.0800e-003	1.9500e-003	78.9213
Total	0.0345	0.0189	0.2792	7.7000e-004	3.2596	4.4000e-004	3.2600	0.3387	4.0000e-004	0.3391		78.2895	78.2895	2.0800e-003	1.9500e-003	78.9213

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3296	0.0000	6.3296	3.3434	0.0000	3.3434			0.0000			0.0000
Off-Road	1.3709	14.8515	9.2616	0.0214		0.6233	0.6233		0.5734	0.5734	0.0000	2,071.0089	2,071.0089	0.6698		2,087.7540
Total	1.3709	14.8515	9.2616	0.0214	6.3296	0.6233	6.9529	3.3434	0.5734	3.9169	0.0000	2,071.0089	2,071.0089	0.6698		2,087.7540

Bakersfield FMS - Kern-San Joaquin County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0345	0.0189	0.2792	7.7000e-004	3.2596	4.4000e-004	3.2600	0.3387	4.0000e-004	0.3391		78.2895	78.2895	2.0800e-003	1.9500e-003	78.9213
Total	0.0345	0.0189	0.2792	7.7000e-004	3.2596	4.4000e-004	3.2600	0.3387	4.0000e-004	0.3391		78.2895	78.2895	2.0800e-003	1.9500e-003	78.9213

3.5 Building Construction - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

Bakersfield FMS - Kern-San Joaquin County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0505	1.7726	0.5943	8.5400e-003	9.3051	0.0122	9.3173	0.9815	0.0116	0.9932		901.7628	901.7628	3.5500e-003	0.1331	941.5253
Worker	0.3654	0.2006	2.9596	8.2100e-003	34.5512	4.6500e-003	34.5558	3.5896	4.2800e-003	3.5939		829.8687	829.8687	0.0220	0.0206	836.5655
Total	0.4158	1.9732	3.5540	0.0168	43.8563	0.0168	43.8731	4.5712	0.0159	4.5871		1,731.6314	1,731.6314	0.0256	0.1538	1,778.0908

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

Bakersfield FMS - Kern-San Joaquin County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0505	1.7726	0.5943	8.5400e-003	9.3051	0.0122	9.3173	0.9815	0.0116	0.9932		901.7628	901.7628	3.5500e-003	0.1331	941.5253
Worker	0.3654	0.2006	2.9596	8.2100e-003	34.5512	4.6500e-003	34.5558	3.5896	4.2800e-003	3.5939		829.8687	829.8687	0.0220	0.0206	836.5655
Total	0.4158	1.9732	3.5540	0.0168	43.8563	0.0168	43.8731	4.5712	0.0159	4.5871		1,731.6314	1,731.6314	0.0256	0.1538	1,778.0908

3.5 Building Construction - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

Bakersfield FMS - Kern-San Joaquin County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0493	1.7750	0.5809	8.4100e-003	9.3051	0.0123	9.3174	0.9815	0.0117	0.9933		887.4609	887.4609	3.4100e-003	0.1310	926.5681
Worker	0.3368	0.1774	2.7341	7.9400e-003	34.5512	4.4000e-003	34.5556	3.5896	4.0500e-003	3.5937		802.5604	802.5604	0.0198	0.0191	808.7537
Total	0.3861	1.9524	3.3151	0.0164	43.8563	0.0167	43.8729	4.5712	0.0158	4.5870		1,690.0213	1,690.0213	0.0232	0.1501	1,735.3217

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

Bakersfield FMS - Kern-San Joaquin County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0493	1.7750	0.5809	8.4100e-003	9.3051	0.0123	9.3174	0.9815	0.0117	0.9933		887.4609	887.4609	3.4100e-003	0.1310	926.5681
Worker	0.3368	0.1774	2.7341	7.9400e-003	34.5512	4.4000e-003	34.5556	3.5896	4.0500e-003	3.5937		802.5604	802.5604	0.0198	0.0191	808.7537
Total	0.3861	1.9524	3.3151	0.0164	43.8563	0.0167	43.8729	4.5712	0.0158	4.5870		1,690.0213	1,690.0213	0.0232	0.1501	1,735.3217

3.6 Paving - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1908	11.3410	17.1697	0.0266		0.5493	0.5493		0.5065	0.5065		2,559.8303	2,559.8303	0.8168		2,580.2504
Paving	0.4716					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6624	11.3410	17.1697	0.0266		0.5493	0.5493		0.5065	0.5065		2,559.8303	2,559.8303	0.8168		2,580.2504

Bakersfield FMS - Kern-San Joaquin County, Summer

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0477	0.0251	0.3869	1.1200e-003	4.8893	6.2000e-004	4.8899	0.5080	5.7000e-004	0.5085		113.5699	113.5699	2.8000e-003	2.7100e-003	114.4463
Total	0.0477	0.0251	0.3869	1.1200e-003	4.8893	6.2000e-004	4.8899	0.5080	5.7000e-004	0.5085		113.5699	113.5699	2.8000e-003	2.7100e-003	114.4463

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1908	11.3410	17.1697	0.0266		0.5493	0.5493		0.5065	0.5065	0.0000	2,559.8303	2,559.8303	0.8168		2,580.2504
Paving	0.4716					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6624	11.3410	17.1697	0.0266		0.5493	0.5493		0.5065	0.5065	0.0000	2,559.8303	2,559.8303	0.8168		2,580.2504

Bakersfield FMS - Kern-San Joaquin County, Summer

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0477	0.0251	0.3869	1.1200e-003	4.8893	6.2000e-004	4.8899	0.5080	5.7000e-004	0.5085		113.5699	113.5699	2.8000e-003	2.7100e-003	114.4463
Total	0.0477	0.0251	0.3869	1.1200e-003	4.8893	6.2000e-004	4.8899	0.5080	5.7000e-004	0.5085		113.5699	113.5699	2.8000e-003	2.7100e-003	114.4463

3.7 Architectural Coating - 2024Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.3197					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	14.5005	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

Bakersfield FMS - Kern-San Joaquin County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0667	0.0351	0.5417	1.5700e-003	6.8450	8.7000e-004	6.8459	0.7112	8.0000e-004	0.7120		158.9978	158.9978	3.9200e-003	3.7900e-003	160.2248
Total	0.0667	0.0351	0.5417	1.5700e-003	6.8450	8.7000e-004	6.8459	0.7112	8.0000e-004	0.7120		158.9978	158.9978	3.9200e-003	3.7900e-003	160.2248

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.3197					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	14.5005	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443

Bakersfield FMS - Kern-San Joaquin County, Summer

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0667	0.0351	0.5417	1.5700e-003	6.8450	8.7000e-004	6.8459	0.7112	8.0000e-004	0.7120		158.9978	158.9978	3.9200e-003	3.7900e-003	160.2248
Total	0.0667	0.0351	0.5417	1.5700e-003	6.8450	8.7000e-004	6.8459	0.7112	8.0000e-004	0.7120		158.9978	158.9978	3.9200e-003	3.7900e-003	160.2248

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4582	0.7175	3.8879	9.1700e-003	0.7752	8.3700e-003	0.7835	0.2072	7.8800e-003	0.2151		936.2599	936.2599	0.0448	0.0527	953.0903
Unmitigated	0.4582	0.7175	3.8879	9.1700e-003	0.7752	8.3700e-003	0.7835	0.2072	7.8800e-003	0.2151		936.2599	936.2599	0.0448	0.0527	953.0903

Bakersfield FMS - Kern-San Joaquin County, Summer

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	124.00	49.75	125.00	331,469	331,469
Parking Lot	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	124.00	49.75	125.00	331,469	331,469

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.475755	0.052577	0.176436	0.169714	0.032065	0.009816	0.013925	0.037355	0.000591	0.000241	0.025277	0.001517	0.004732
General Light Industry	0.475755	0.052577	0.176436	0.169714	0.032065	0.009816	0.013925	0.037355	0.000591	0.000241	0.025277	0.001517	0.004732
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

Bakersfield FMS - Kern-San Joaquin County, Summer

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

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922
NaturalGas Unmitigated	0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	1417.81	0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922

Bakersfield FMS - Kern-San Joaquin County, Summer

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

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	1.41781	0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0987	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589
Unmitigated	1.0987	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589

Bakersfield FMS - Kern-San Joaquin County, Summer

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

Bakersfield FMS - Kern-San Joaquin County, Summer

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4807					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6156					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.3900e-003	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589
Total	1.0987	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4807					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6156					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.3900e-003	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589
Total	1.0987	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589

Bakersfield FMS - Kern-San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**7.0 Water Detail**

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

Fire Pumps and Emergency Generators

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Bakersfield FMS - Kern-San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**Bakersfield FMS**
Kern-San Joaquin County, Winter**1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	25.00	1000sqft	0.57	25,000.00	0
Other Non-Asphalt Surfaces	70.85	1000sqft	1.63	70,848.00	0
Parking Lot	156.80	1000sqft	3.60	156,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	32
Climate Zone	3	Operational Year	2023		
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated construction start date to Third quarter (July 1) 2023

Land Use - This is the building and paving footprint. Half the site will be gravel and stormwater improvement features

Construction Phase - No demolition phase

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - No demolition phase

Off-road Equipment - Site-specific equipment

Off-road Equipment - Site-specific equipment

Off-road Equipment - Site specific equipment

Trips and VMT - Default trips per day

On-road Fugitive Dust - Assume 95% paved roads for worker/vendor/hauling trips

Bakersfield FMS - Kern-San Joaquin County, Winter

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

Demolition - No demolition assumed

Grading - 5.8 acre ground disturbance. Assuming no import or export of material.

Architectural Coating - Project is approximately 25,000 square feet. Non-residential exterior area is assumed to be 1/3 of interior

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating -

Construction Off-road Equipment Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,500.00	8,333.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	37,500.00	25,000.00
tblArchitecturalCoating	ConstArea_Parking	13,659.00	7,860.00
tblAreaCoating	Area_Nonresidential_Exterior	12500	61120
tblAreaCoating	Area_Nonresidential_Interior	37500	183360
tblAreaCoating	Area_Parking	13659	7860
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblFleetMix	HHD	0.04	0.00
tblFleetMix	LDA	0.48	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	9.8160e-003	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.17	0.00
tblFleetMix	MH	4.7320e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	5.9100e-004	0.00

Bakersfield FMS - Kern-San Joaquin County, Winter

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

tblFleetMix	SBUS	1.5170e-003	0.00
tblFleetMix	UBUS	2.4100e-004	0.00
tblGrading	AcresOfGrading	20.00	5.80
tblGrading	AcresOfGrading	15.00	5.80
tblLandUse	LandUseSquareFeet	70,850.00	70,848.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Paving
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00

Bakersfield FMS - Kern-San Joaquin County, Winter

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

tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblSolidWaste	SolidWasteGenerationRate	31.00	151.58
tblTripsAndVMT	VendorTripNumber	41.00	42.00
tblTripsAndVMT	WorkerTripNumber	15.00	8.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00
tblWater	IndoorWaterUseRate	5,781,250.00	28,268,000.00

2.0 Emissions Summary**2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	1.9387	16.5151	19.3262	0.0427	43.8563	0.7166	44.5729	4.5712	0.6744	5.2455	0.0000	4,190.8692	4,190.8692	0.7821	0.1561	4,253.2699
2024	14.5589	15.5496	19.0568	0.0424	43.8563	0.6300	44.4863	4.5712	0.5927	5.1639	0.0000	4,153.1870	4,153.1870	0.8199	0.1523	4,214.2904
Maximum	14.5589	16.5151	19.3262	0.0427	43.8563	0.7166	44.5729	4.5712	0.6744	5.2455	0.0000	4,190.8692	4,190.8692	0.8199	0.1561	4,253.2699

Bakersfield FMS - Kern-San Joaquin County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	1.9387	16.5151	19.3262	0.0427	43.8563	0.7166	44.5729	4.5712	0.6744	5.2455	0.0000	4,190.8692	4,190.8692	0.7821	0.1561	4,253.2699
2024	14.5589	15.5496	19.0568	0.0424	43.8563	0.6300	44.4863	4.5712	0.5927	5.1639	0.0000	4,153.1870	4,153.1870	0.8199	0.1523	4,214.2904
Maximum	14.5589	16.5151	19.3262	0.0427	43.8563	0.7166	44.5729	4.5712	0.6744	5.2455	0.0000	4,190.8692	4,190.8692	0.8199	0.1561	4,253.2699

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0987	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589
Energy	0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922
Mobile	0.3627	0.7915	3.6457	8.4300e-003	0.7752	8.3800e-003	0.7835	0.2072	7.8900e-003	0.2151		862.0084	862.0084	0.0488	0.0551	879.6495
Total	1.4767	0.9307	3.7882	9.2600e-003	0.7752	0.0190	0.7942	0.2072	0.0185	0.2258		1,028.8647	1,028.8647	0.0521	0.0582	1,047.5006

Bakersfield FMS - Kern-San Joaquin County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0987	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589
Energy	0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922
Mobile	0.3627	0.7915	3.6457	8.4300e-003	0.7752	8.3800e-003	0.7835	0.2072	7.8900e-003	0.2151		862.0084	862.0084	0.0488	0.0551	879.6495
Total	1.4767	0.9307	3.7882	9.2600e-003	0.7752	0.0190	0.7942	0.2072	0.0185	0.2258		1,028.8647	1,028.8647	0.0521	0.0582	1,047.5006

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2023	7/28/2023	5	20	
2	Site Preparation	Site Preparation	7/29/2023	8/11/2023	5	10	
3	Grading	Grading	8/12/2023	9/8/2023	5	20	
4	Building Construction	Building Construction	9/9/2023	7/26/2024	5	230	
5	Paving	Paving	7/27/2024	8/23/2024	5	20	

Bakersfield FMS - Kern-San Joaquin County, Winter

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

6	Architectural Coating	Architectural Coating	8/24/2024	9/20/2024	5	20
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Acres of Grading (Site Preparation Phase): 5.8**Acres of Grading (Grading Phase): 5.8****Acres of Paving: 5.23****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 25,000; Non-Residential Outdoor: 8,333; Striped Parking Area: 7,860 (Architectural****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Bakersfield FMS - Kern-San Joaquin County, Winter

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	106.00	42.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction**3.2 Demolition - 2023****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

[illegible]

Bakersfield FMS - Kern-San Joaquin County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6151	0.0000	0.6151	0.0664	0.0000	0.0664			0.0000			0.0000
Off-Road	1.3216	14.4721	10.0610	0.0249		0.5514	0.5514		0.5073	0.5073		2,412.5605	2,412.5605	0.7803		2,432.0672
Total	1.3216	14.4721	10.0610	0.0249	0.6151	0.5514	1.1665	0.0664	0.5073	0.5737		2,412.5605	2,412.5605	0.7803		2,432.0672

Bakersfield FMS - Kern-San Joaquin County, Winter

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0241	0.0173	0.1863	5.5000e-004	2.6076	3.5000e-004	2.6080	0.2709	3.2000e-004	0.2712		55.2447	55.2447	1.8100e-003	1.7000e-003	55.7970
Total	0.0241	0.0173	0.1863	5.5000e-004	2.6076	3.5000e-004	2.6080	0.2709	3.2000e-004	0.2712		55.2447	55.2447	1.8100e-003	1.7000e-003	55.7970

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6151	0.0000	0.6151	0.0664	0.0000	0.0664			0.0000			0.0000
Off-Road	1.3216	14.4721	10.0610	0.0249		0.5514	0.5514		0.5073	0.5073	0.0000	2,412.5605	2,412.5605	0.7803		2,432.0672
Total	1.3216	14.4721	10.0610	0.0249	0.6151	0.5514	1.1665	0.0664	0.5073	0.5737	0.0000	2,412.5605	2,412.5605	0.7803		2,432.0672

Bakersfield FMS - Kern-San Joaquin County, Winter

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0241	0.0173	0.1863	5.5000e-004	2.6076	3.5000e-004	2.6080	0.2709	3.2000e-004	0.2712		55.2447	55.2447	1.8100e-003	1.7000e-003	55.7970
Total	0.0241	0.0173	0.1863	5.5000e-004	2.6076	3.5000e-004	2.6080	0.2709	3.2000e-004	0.2712		55.2447	55.2447	1.8100e-003	1.7000e-003	55.7970

3.4 Grading - 2023Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3296	0.0000	6.3296	3.3434	0.0000	3.3434			0.0000			0.0000
Off-Road	1.3709	14.8515	9.2616	0.0214		0.6233	0.6233		0.5734	0.5734		2,071.0089	2,071.0089	0.6698		2,087.7540
Total	1.3709	14.8515	9.2616	0.0214	6.3296	0.6233	6.9529	3.3434	0.5734	3.9169		2,071.0089	2,071.0089	0.6698		2,087.7540

Bakersfield FMS - Kern-San Joaquin County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0301	0.0217	0.2328	6.8000e-004	3.2596	4.4000e-004	3.2600	0.3387	4.0000e-004	0.3391		69.0559	69.0559	2.2600e-003	2.1300e-003	69.7463
Total	0.0301	0.0217	0.2328	6.8000e-004	3.2596	4.4000e-004	3.2600	0.3387	4.0000e-004	0.3391		69.0559	69.0559	2.2600e-003	2.1300e-003	69.7463

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3296	0.0000	6.3296	3.3434	0.0000	3.3434			0.0000			0.0000
Off-Road	1.3709	14.8515	9.2616	0.0214		0.6233	0.6233		0.5734	0.5734	0.0000	2,071.0089	2,071.0089	0.6698		2,087.7540
Total	1.3709	14.8515	9.2616	0.0214	6.3296	0.6233	6.9529	3.3434	0.5734	3.9169	0.0000	2,071.0089	2,071.0089	0.6698		2,087.7540

Bakersfield FMS - Kern-San Joaquin County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0301	0.0217	0.2328	6.8000e-004	3.2596	4.4000e-004	3.2600	0.3387	4.0000e-004	0.3391		69.0559	69.0559	2.2600e-003	2.1300e-003	69.7463
Total	0.0301	0.0217	0.2328	6.8000e-004	3.2596	4.4000e-004	3.2600	0.3387	4.0000e-004	0.3391		69.0559	69.0559	2.2600e-003	2.1300e-003	69.7463

3.5 Building Construction - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

Bakersfield FMS - Kern-San Joaquin County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0472	1.9005	0.6142	8.5600e-003	9.3051	0.0122	9.3173	0.9815	0.0117	0.9932		903.6671	903.6671	3.4000e-003	0.1336	943.5534
Worker	0.3188	0.2297	2.4680	7.2400e-003	34.5512	4.6500e-003	34.5558	3.5896	4.2800e-003	3.5939		731.9922	731.9922	0.0240	0.0226	739.3104
Total	0.3660	2.1302	3.0822	0.0158	43.8563	0.0168	43.8731	4.5712	0.0159	4.5871		1,635.6592	1,635.6592	0.0274	0.1561	1,682.8638

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

Bakersfield FMS - Kern-San Joaquin County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0472	1.9005	0.6142	8.5600e-003	9.3051	0.0122	9.3173	0.9815	0.0117	0.9932		903.6671	903.6671	3.4000e-003	0.1336	943.5534
Worker	0.3188	0.2297	2.4680	7.2400e-003	34.5512	4.6500e-003	34.5558	3.5896	4.2800e-003	3.5939		731.9922	731.9922	0.0240	0.0226	739.3104
Total	0.3660	2.1302	3.0822	0.0158	43.8563	0.0168	43.8731	4.5712	0.0159	4.5871		1,635.6592	1,635.6592	0.0274	0.1561	1,682.8638

3.5 Building Construction - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

Bakersfield FMS - Kern-San Joaquin County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0461	1.9028	0.6008	8.4200e-003	9.3051	0.0123	9.3174	0.9815	0.0118	0.9933		889.3423	889.3423	3.2600e-003	0.1314	928.5687
Worker	0.2946	0.2030	2.2892	7.0100e-003	34.5512	4.4000e-003	34.5556	3.5896	4.0500e-003	3.5937		708.1458	708.1458	0.0217	0.0209	714.9141
Total	0.3407	2.1059	2.8900	0.0154	43.8563	0.0167	43.8730	4.5712	0.0158	4.5870		1,597.4881	1,597.4881	0.0249	0.1523	1,643.4827

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

Bakersfield FMS - Kern-San Joaquin County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0461	1.9028	0.6008	8.4200e-003	9.3051	0.0123	9.3174	0.9815	0.0118	0.9933		889.3423	889.3423	3.2600e-003	0.1314	928.5687
Worker	0.2946	0.2030	2.2892	7.0100e-003	34.5512	4.4000e-003	34.5556	3.5896	4.0500e-003	3.5937		708.1458	708.1458	0.0217	0.0209	714.9141
Total	0.3407	2.1059	2.8900	0.0154	43.8563	0.0167	43.8730	4.5712	0.0158	4.5870		1,597.4881	1,597.4881	0.0249	0.1523	1,643.4827

3.6 Paving - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1908	11.3410	17.1697	0.0266		0.5493	0.5493		0.5065	0.5065		2,559.8303	2,559.8303	0.8168		2,580.2504
Paving	0.4716					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6624	11.3410	17.1697	0.0266		0.5493	0.5493		0.5065	0.5065		2,559.8303	2,559.8303	0.8168		2,580.2504

Bakersfield FMS - Kern-San Joaquin County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0417	0.0287	0.3240	9.9000e-004	4.8893	6.2000e-004	4.8899	0.5080	5.7000e-004	0.5085		100.2093	100.2093	3.0600e-003	2.9600e-003	101.1671
Total	0.0417	0.0287	0.3240	9.9000e-004	4.8893	6.2000e-004	4.8899	0.5080	5.7000e-004	0.5085		100.2093	100.2093	3.0600e-003	2.9600e-003	101.1671

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1908	11.3410	17.1697	0.0266		0.5493	0.5493		0.5065	0.5065	0.0000	2,559.8303	2,559.8303	0.8168		2,580.2504
Paving	0.4716					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6624	11.3410	17.1697	0.0266		0.5493	0.5493		0.5065	0.5065	0.0000	2,559.8303	2,559.8303	0.8168		2,580.2504

Bakersfield FMS - Kern-San Joaquin County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0417	0.0287	0.3240	9.9000e-004	4.8893	6.2000e-004	4.8899	0.5080	5.7000e-004	0.5085		100.2093	100.2093	3.0600e-003	2.9600e-003	101.1671
Total	0.0417	0.0287	0.3240	9.9000e-004	4.8893	6.2000e-004	4.8899	0.5080	5.7000e-004	0.5085		100.2093	100.2093	3.0600e-003	2.9600e-003	101.1671

3.7 Architectural Coating - 2024**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.3197					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	14.5005	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

Bakersfield FMS - Kern-San Joaquin County, Winter

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0584	0.0402	0.4535	1.3900e-003	6.8450	8.7000e-004	6.8459	0.7112	8.0000e-004	0.7120		140.2930	140.2930	4.2900e-003	4.1400e-003	141.6339
Total	0.0584	0.0402	0.4535	1.3900e-003	6.8450	8.7000e-004	6.8459	0.7112	8.0000e-004	0.7120		140.2930	140.2930	4.2900e-003	4.1400e-003	141.6339

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	14.3197					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	14.5005	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443

Bakersfield FMS - Kern-San Joaquin County, Winter

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0584	0.0402	0.4535	1.3900e-003	6.8450	8.7000e-004	6.8459	0.7112	8.0000e-004	0.7120		140.2930	140.2930	4.2900e-003	4.1400e-003	141.6339
Total	0.0584	0.0402	0.4535	1.3900e-003	6.8450	8.7000e-004	6.8459	0.7112	8.0000e-004	0.7120		140.2930	140.2930	4.2900e-003	4.1400e-003	141.6339

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3627	0.7915	3.6457	8.4300e-003	0.7752	8.3800e-003	0.7835	0.2072	7.8900e-003	0.2151		862.0084	862.0084	0.0488	0.0551	879.6495
Unmitigated	0.3627	0.7915	3.6457	8.4300e-003	0.7752	8.3800e-003	0.7835	0.2072	7.8900e-003	0.2151		862.0084	862.0084	0.0488	0.0551	879.6495

Bakersfield FMS - Kern-San Joaquin County, Winter

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	124.00	49.75	125.00	331,469	331,469
Parking Lot	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	124.00	49.75	125.00	331,469	331,469

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.475755	0.052577	0.176436	0.169714	0.032065	0.009816	0.013925	0.037355	0.000591	0.000241	0.025277	0.001517	0.004732
General Light Industry	0.475755	0.052577	0.176436	0.169714	0.032065	0.009816	0.013925	0.037355	0.000591	0.000241	0.025277	0.001517	0.004732
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

Bakersfield FMS - Kern-San Joaquin County, Winter

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

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922
NaturalGas Unmitigated	0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	1417.81	0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922

Bakersfield FMS - Kern-San Joaquin County, Winter

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

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	1.41781	0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0153	0.1390	0.1168	8.3000e-004		0.0106	0.0106		0.0106	0.0106		166.8010	166.8010	3.2000e-003	3.0600e-003	167.7922

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0987	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589
Unmitigated	1.0987	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589

Bakersfield FMS - Kern-San Joaquin County, Winter

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4807					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6156					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.3900e-003	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589
Total	1.0987	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4807					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6156					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.3900e-003	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589
Total	1.0987	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0553	0.0553	1.5000e-004		0.0589

Bakersfield FMS - Kern-San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**7.0 Water Detail**

7.1 Mitigation Measures Water**8.0 Waste Detail**

8.1 Mitigation Measures Waste**9.0 Operational Offroad**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation



CREATE AMAZING.

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Kansas City, MO 64114
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www.burnsmcd.com

**Appendix B: Biological Resources Evaluation Field Maintenance Shop Bakersfield Readiness
Center Project**

BIOLOGICAL RESOURCES EVALUATION

FIELD MAINTENANCE SHOP AT BAKERSFIELD READINESS CENTER PROJECT

**Section 4, T30S, R28E, M. D. B. & M.
Bakersfield, California**

December 2021

Prepared for:
Burns and McDonnell
617 W. 7th Street, Suite 202
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Prepared by:

A handwritten signature in black ink, appearing to read 'Blaine Grant', is positioned above the printed name.

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Figure 1-2: Aerial Photograph of the Proposed Project Site – Project Site

Figure 3-1: California Natural Diversity Database Special-status Plant Results

Figure 3-2: California Natural Diversity Database Special-status Reptile and Amphibian Results

Figure 3-3: California Natural Diversity Database Special-status Bird Results

Figure 3-4: California Natural Diversity Database Special-status Mammal Results

Figure 3-5: California Natural Diversity Database Natural Communities Results

Figure 3-6: SSURGO Soil Data Results

Figure 3-7: Biological resources identified on the Project site during biological surveys (2021)

Appendices

Appendix A Special-Status Plant and Wildlife Evaluation

Appendix B Photographs of the Project Site and Surrounding Area

Appendix C Plants and Wildlife Observed During the Biological Surveys 2021

EXECUTIVE SUMMARY

This report documents the biological resources found during reconnaissance-level and focused biological survey conducted during 2021 on approximately 5.80 acres (2.35 hectares) of undeveloped land in Bakersfield, California. The proposed project consists of construction of a vehicle maintenance facility and associated paving for access and parking within Assessor's Parcel Map Number (APN) 167-010-27 and is located in the western 1/2 of the northeast 1/4 of Section 4, Township (T) 30 South (S), Range (R) 28 East (E), Mount Diablo Base and Meridian (M. D. B. & M.) henceforth referred to as Project.

The purpose of this report is to document biological resources identified during the survey conducted for the proposed Project and to recommend avoidance and minimization measures for implementation prior to and during Project activities. This report includes an evaluation of the potential for special-status biological resources to occur on the Project site based on the habitat conditions observed. The Project is located within the geographic range of several threatened and/or endangered wildlife taxa including San Joaquin kit fox (*Vulpes macrotis mutica*; SJKF) and Tipton kangaroo rat (*Dipodomys nitratoide nitratoide*). In addition, the site is within the range of listed plant taxa, including Bakersfield cactus (*Opuntia basilaris* var. *treleasei*).

Listed plant and animal species are protected primarily through the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Each of these laws, among other provisions, prohibits *take* of listed threatened and endangered species. Although the definition of *take* under each law varies somewhat, in general, injuring or killing listed species without a permit issued from the United States Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Wildlife (CDFW; formerly the California Department of Fish and Game [CDFG]) is unlawful. Under FESA, harassment and/or harm are also considered *take* for which the USFWS requires a permit. One of the potentially occurring species, BNLL is a California *fully protected* species. Under this designation, no *take* of this species is allowed, even under endangered species act permitting.

Based upon field survey results, the Project will not result in significant impacts to wetlands, riparian habitat or other special-status habitats. Based on evidence observed during the surveys, the Project does have the potential to affect some special-status species. Potential for burrowing owl and San Joaquin kit fox was identified during the evaluation of biological resources potentially occurring on the Project site.

Species-specific recommendations and a series of general recommendations are included that, when implemented, would be expected to mitigate any Project effects to biological resources to a level of "less than significant." The Project will not conflict with existing or adopted Habitat Conservation Plans, Natural Community Conservation Plans, local or regional conservation plans, or local ordinances protecting biological resources. No wetlands, riparian habitat, waters of the U.S., or waters of the State were observed during the biological surveys.

Consideration of potential impacts to plant and animal species are required under the *Federal Endangered Species Act of 1973* (FESA 2021), the *California Endangered Species Act of 1970*



(CESA 2021), and the *California Environmental Quality Act of 1970* (CEQA 2021). Although the proposed Project is located within the boundaries of the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP) CESA Incidental Take Permit (ITP) Number (No.) 2081-2013-058-04, the applicant is not anticipating City or County permits that would require participation.



1.0 INTRODUCTION

1.1 Purpose and Background

The purpose of this report is to document biological resources identified during the biological survey and literature review of the Project site, to assess the potential for special-status biological resources, analyze potential impacts to those resources and to recommend avoidance and minimization measures for implementation prior to and during Project activities. The literature review, survey results, and the professional experience of McCormick Biological, Inc. (MBI) staff were combined to evaluate the potential Project effects on biological resources. An initial reconnaissance survey was performed to evaluate habitat conditions suitable for occupation by potentially occurring special-status species; based on the existing natural vegetative communities, current site conditions, and diagnostic sign detected during the survey.

This report is intended to support the CEQA review of the proposed Project to construct a new Field Maintenance Shop (FMS or Project) at the Bakersfield Readiness Center in the City of Bakersfield, California. For the purposes of this report, potential impacts to the biological resources of the proposed Project were evaluated in accordance with the biological resources section in Appendix G of the *CEQA Guidelines* (2021).

1.2 Project Site and Surrounding Area Descriptions

The Project is a single parcel of land (APN 167-010-27) totaling approximately 5.80 acres in Section 4, T30S, R28E, M. D. B. & M, in eastern Bakersfield, California (Figures 1-1 and 1-2). The topography of the area is generally level as the land appears to have been cleared for development between 2002 and 2005 but no construction was performed. Aerial imagery reflects that the Project site has not been in a natural state since before 1985. The Project site has remained undeveloped and has been repeatedly disturbed since that time. Given the development pattern of Bakersfield, it is likely that the Project site was originally disturbed long before 1985. The Project site has been subject to various disturbances including off-road vehicle trespass and illegal trash dumping.

The Project site is surrounded by urbanized or undeveloped areas of east Bakersfield, with State Route (SR) 58 immediately to the north, Gateway Avenue to the south, and Washington Street to the west. Land uses include commercial development to the north, public service development to the east, commercial development and undeveloped to the south, and residential development and undeveloped to the west. The undeveloped lands outside of the Project site have also been previously disturbed by agriculture and grading, with recovering annual grassland that has been periodically disturbed by off-road vehicle trespass. The average elevation of the Project area is approximately 381 feet (116 meters) above sea-level.

The Project is located in central San Joaquin Valley; a broad, treeless plain in the rain shadow of the Coast Ranges. The region's climate can be characterized as Mediterranean; with hot, dry summers and cool, moist winters. Summer high temperatures typically exceed 100 degrees Fahrenheit (°F; 38 degrees Celsius [°C]); with an average of 110 days per year over 90 °F (32 °C).

Winter temperatures in the San Joaquin Valley are mild, with an average of only 16 days per year with frost (Twisselmann 1967).

Rainfall varies, increasing from west to east, with the west side of the valley receiving an average of around 4 inches (10 centimeters) per year and the east side averaging about 6 inches (15 centimeters) per year. Winter fog, called tule fog, sometimes forms during the months of November, December, and January, supplementing the annual precipitation. Approximately 90% of the rainfall in the region occurs between the 1st of November and the 1st of April. Drought cycles occur periodically, becoming severe enough that plant and animal populations can experience large fluctuations. The vegetation communities in the San Joaquin Valley are distinguishable from the Mojave Desert to the east due to tule fog, higher humidity, and isolation from continental climatic influences by mountain ranges (Twisselmann 1967).

1.3 Regulatory Background

The following section identifies the regulatory compliance framework that has been considered during both the field work and development of this biological evaluation. The regulatory framework establishes criteria in which significance is determined and whether a project will have a significant impact on species, biological resources, or the environment.

1.3.1 Federal and State Endangered Species Acts

The Project site is within the range of several state- and federal-listed species which are protected through various statutes. Listed plant and animal species are protected primarily through FESA and/or CESA. Each of these laws, among other provisions, prohibits *take* of listed threatened and endangered species. Although the definition of *take* under each law varies, in general, injuring or killing listed species without a permit issued from the USFWS and/or the CDFW is unlawful. Under FESA, harassment and/or harm could also be considered take, which requires a permit. The California Fish and Game Code (CFGC) has classified some species as *fully protected*. Under this designation, no take of these species is allowed, even with authorization under CESA or FESA permitting.

1.3.2 Migratory Bird Treaty Act

Among other provisions, the *Migratory Bird Treaty Act (MBTA) of 1918* (2021) prohibits the destruction of nests, eggs, and/or young of all designated migratory bird species. With very limited exceptions, all birds are included in this prohibition (MBTA 2021).

1.3.3 California Fish and Game Code (C.F.G.C. § 1580 et seq.)

The following paragraphs summarize several sections of the CFGC and are applicable to analysis of biological resource impacts that may be associated with the Project.



Figure 1-1: Aerial Photograph of the Proposed Project Site – Vicinity



Figure 1-2: Aerial Photograph of the Proposed Project Site

Section 1580

This section declares the policy of the state is to protect threatened or endangered native plants; wildlife; aquatic organisms or specialized habitat types; both terrestrial and non-marine aquatic, or large, heterogeneous natural gene pools for the future use of mankind through the establishment of ecological reserves.

Sections 1600–1616

This portion of the CFGC requires notification to the CDFW if any of the following may occur within a river, stream, or lake in the state of California:

- Substantial diversion or obstruction of the natural flow,
- Substantially changing or using any material from the bed, channel, or bank,
- Depositing or disposing of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

This notification may result in a Streambed Alteration Agreement between the Project applicant and the CDFW. Activities in intermittent streams and canals may require Streambed Alteration Agreements.

Section 1900, et seq.

This portion of the CFGC is known as the *California Native Plant Protection Act of 1977* (2021). The purpose of this chapter is to preserve, protect and enhance endangered or rare native plants of California. Many species and subspecies of native plants are endangered because their habitats are threatened with destruction, drastic modification, or severe curtailment. Commercial exploitation, disease, and other factors also represent threats to species and subspecies of native plants. This portion of the code designates rare, threatened, and endangered plant taxa of California.

Section 1930–1933

These sections established the Significant Natural Areas Program and declared it to be administered by the CDFW, because areas containing diverse ecological and geological characteristics are vital to the continual health and well-being of the state's citizens and natural resources. The CDFW is responsible for obtaining access to the most recent information with respect to natural resources by maintaining, expanding, and keeping a current data management system (California Natural Diversity Database [CNDDB]), designed to document information on these resources. This data is required to be made available to interested parties on request, and costs are to be shared by all who use the data management system.

The state's most significant natural areas are to be designated and; after consultation with federal, state, and local agencies; educational institutions, civic and public interest organizations, private organizations, landowners, and other private individuals; periodic reports regarding the most significant natural areas are to be prepared. The CDFW is required to

maintain and perpetuate these significant natural areas for present and future generations in the most feasible manner. The code also requires that the CDFW coordinate services to federal, state, local and private interests wishing to aid in the maintenance and perpetuation of significant natural areas.

Section 3503

This section prohibits taking, possessing, or needlessly destroying the nest or eggs or any bird. Birds of prey are included in Section 3503.5.

Section 3513

California's migratory birds are protected under this section by making it unlawful to take or possess any migratory, non-game bird (or any part of such bird) as designated in the MBTA.

Section 3511, 4700, 5050, and 5515

These sections prohibit take of animals that are classified as fully protected in California. Take of fully protected species is specifically prohibited, even if other sections of the CFGC provide for incidental take of the species.

Title 14 California Code of Regulations (CCR) Section 15000 et seq.

This portion of the CCR prescribes the regulations to be followed by all local and state agencies in implementing CEQA.

Porter-Cologne Water Quality Control Act (Clean Water Act Section 401 Certification or Waiver)

The state of California regulates water quality related to discharge of fill material into waters of the state pursuant to Section 401 of the *Clean Water Act* (CWA) of 1972 (2021). Section 401 compliance is a federal mandate implemented by the state. The local Regional Water Quality Control Board (RWQCB) has jurisdiction over all those areas defined as jurisdictional under Section 404 of the CWA and regulates water quality for all waters of the State. These waters may include isolated wetlands as defined under the California *Porter-Cologne Water Quality Control Act* (2021). Regulated discharges include those that can affect water quality, even if there is no significant nexus to a traditional navigable water body required for the United States (U.S.) Army Corps of Engineers (ACOE) determination of jurisdiction over waters of the U.S. A Waste Discharge Permit may be required to comply with the Porter-Cologne Water Quality Control Act even if the CWA (including Section 401 water quality certifications or Section 404 permits) would not apply.

The ACOE, under Section 404 of the CWA, regulates discharges of dredged or fill material in waters of the U.S. In addition to designated and traditional navigable waters, these terms include:

waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: 1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or 2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or 3) Which are used or could be used for industrial purpose by industries in interstate commerce.

Tributaries to waters of the U.S. and adjacent wetlands would also be included. Some intermittent washes may be included in the defined waters of the U.S. depending on connection or nexus to navigable waters. Both wetlands and non-wetland areas can be included within the regulated area. Within non-wetlands that are classified as waters of the U.S., the ACOE maintains jurisdiction up to the ordinary high-water mark. If wetlands are present that meet the criteria established by the ACOE, the limit of jurisdiction is the ordinary high-water mark or the limit of the adjacent or associated wetland, whichever is greater. If waters are determined to be under the jurisdiction of the ACOE, the RWQCB would be the state-permitting authority. At the discretion of the ACOE, impacts to these areas could require a permit, depending on the type and size of the activity within ACOE jurisdiction.

1.3.4 Local Jurisdictions

Metropolitan Bakersfield Habitat Conservation Plan (Including CESA ITP No. 2081-2013-058-04)

The proposed Project is within the geographic area covered by the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP); however, the Project is not expressly covered by its provisions because it is not subject to City or County development permits. The MBHCP (City of Bakersfield 1994; CDFW 2014) was developed to obtain permits that meet both federal and state environmental regulations regarding incidental “take” of listed species set for in the ESA and CESA. Urban development outlined in the Metropolitan Bakersfield 2010 General Plan proceeds while the goal of the MBHCP is to acquire, preserve, and enhance native habitats that support endangered and sensitive species. Since development on open lands in Metropolitan Bakersfield could potentially result in the incidental “take” of habitat and/or federal and state listed species, permits acquired under the MBHCP include Section 10(a)(1)(B) of the ESA and Section 2081 of the CESA. The MBHCP is funded through the collection of mitigation fees associated with urban development that is subject to grading plan, building permits and some other urban development permits occurring within the HCP permit area. The fee is paid to the City or County at the time of grading permit approval, grading plan approval, issuance of building permit, or another urban development permit. Upon payment and provided that all applicable measures required in the HCP and associated CESA ITP have been implemented, the applicant becomes a sub-permittee and would be allowed the incidental take of species in accordance with federal and state endangered species laws and the provisions of the HCP.

2.0 METHODS

2.1 Literature and Records Review

For the purposes of this document, special status wildlife and plants include all species that meet one or more of the following criteria:

- Special-status species considered in this evaluation include those that may occur in the project vicinity that have statutory protections and include federal- and state-listed (rare, threatened, or endangered; fully protected) species and candidates for listing under the respective endangered species acts.
 - Listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code §2050 et seq.). A species, subspecies, or variety of plant is endangered when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors (Fish and Game Code §2062). A plant is threatened when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures (Fish and Game Code §2067).
 - Listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish and Game Code §1901).
- Meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
 - Species considered by the California Native Plant Society (CNPS) to be “rare, threatened or endangered in California” (Lists 1A, 1B and 2);
 - Species that may warrant consideration on the basis of local significance or recent biological information.
 - Some species included on the California Natural Diversity Database’s (CNDDDB) Special Plants, Bryophytes, and Lichens List (CDFW 2021a) or Special Animals List (CDFW 2021b).
 - Considered as sensitive by groups such as the Western Bat Working Group (WBWG), where such a group has concluded based on published and/or empirical data that the species is declining and warrants concern.
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Data sources included in the literature review included the following:

- **California Natural Diversity Data Base information (CNDDDB – RareFind 5)**, which is administered by the California Department of Fish and Wildlife (CDFW), formerly known as the California Department of Fish and Game (CDFG). This database covers sensitive plant and animal species as well as sensitive natural communities that occur in California. Records from nine USGS quadrangles surrounding the project site (*Oildale, Oil Center, Rio Bravo Ranch, Gosford, Lamont, Edison, Conner, Weed Patch, Arvin*) were obtained from this database to inform the field survey (CNDDDB 2021). For the purposes of this report, the term “historic” records refer to those occurrences that are more than 20 years old. Observations recorded in CNDDDB noted in this report as “recent” are no more than 20 years old.
- **California Native Plant Society’s (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants**, which utilizes four ranks of sensitive plant species to assist with the conservation of rare or endangered botanical resources. Records from the nine USGS quadrangles surrounding the project site were obtained from this database to inform the field survey (CNPS 2021).
- **Designated and Proposed USFWS Critical Habitat Polygons** were reviewed to determine whether critical habitat has been designated or proposed within or in the vicinity of the project site (USFWS 2021a).
- **The USFWS National Wetlands Inventory** was reviewed to determine whether any wetlands or surface waters of the United States have been previously identified in the survey area (USFWS 2021b).
- **The USFWS Information for Planning and Consultation Database (IPaC)** was reviewed to determine federal listed plant and wildlife species, as well as critical habitats that occur in in the vicinity of the project (USFWS 2021c).
- **The Western Bat Working Group (WBWG) Bat Species Regional Priority Matrix** was reviewed to determine whether any bat species which hold a high level of conservation concern that may occur in the vicinity (WBWG 2021).

“Special-status” or “sensitive” wildlife and plant species considered in this evaluation include those that may occur in the project vicinity that have statutory protections, such as federal- and state-listed (rare, threatened, or endangered; fully protected) species and candidates for listing under the respective endangered species acts. In addition, species that are of “concern” to either USFWS or CDFW have been included in the evaluation if the project site or vicinity (generally, 10-mile radius) includes habitat that may be occupied by such species. Special-status bird species that are not listed as threatened or endangered have been included if the project site or observed vicinity includes potential nesting habitat or the species was observed during biological survey activities. In addition, potential impacts to special-status bird species have been considered if habitat that may be important to the species outside of breeding season was

observed. Species may meet the criteria for inclusion on the lists consulted during the literature review if a special interest group, such as the Western Bat Working Group (WBWG), has concluded through empirical or published data that the species is declining and warrants concern and, potential habitat is present on the project site or vicinity. Species evaluated in this biological resource assessment have been collectively referred to as “special-status species.”

In addition to the databases listed above, historic and current aerial imagery, existing environmental reports for development in the project vicinity, regional habitat conservation plans, and local land use policies related to biological resources were reviewed.

The list of special-status species that was evaluated was additionally compiled by consulting pertinent literature, obtaining the USFWS List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project, and accessing the CNDDDB (USFWS 2021; CNDDDB 2021). The CNDDDB contains records for special-status species, as well as special-status natural communities that have been reported to the CDFW. Updates to the database are provided monthly for subscribers (CNDDDB 2021). A standard 10-mile (16-kilometer) report was generated for the project location (i.e., USGS 7.5-minute topographic quadrangle in which the project site is found as well as the quadrangles located within a 10-mile (16-kilometer) radius of the project footprint: *Rosedale, Stevens, Oildale, Oil Center, Rio Bravo Ranch, Gosford, Lamont, Edison, Conner, Weed Patch, Arvin*. For clarity, a map was generated illustrating those species reported in close proximity to the project area by the CNDDDB. Species that are recorded by the CNDDDB that have no official status (e.g., Watch List) were not further considered in the impact evaluation unless observed during the reconnaissance site visits.

A literature review and records search was conducted to identify the previously reported observations and potential for occurrence of sensitive or special-status plant and wildlife species in the vicinity of the project site. MBI staff reviewed these lists and other pertinent information to complete the list of special-status species evaluated. The list was then reviewed based on-site characteristics, the project description, and observations, to assess the potential for occurrence. Potential impacts were determined in relation to the special-status species that may occur on the proposed project site and the aspects of the Project that could result in impacts to those species. Species whose occurrence in the vicinity and life history makes them vulnerable to impacts even if they are not known to occur directly on the project site were also evaluated.

2.2 *Field Survey*

A reconnaissance-level survey was conducted on the project site. Survey methods consisted of walking line transects of the Project site spaced no more than 100 feet (30 meters) apart. Additionally, trees on and near (within 300 ft.) the project site were inspected via line-of-sight using binoculars for birds, nesting activity, or nesting materials. Field notes included documentation of all plant and wildlife species observed. Supporting documentation regarding species findings included direct observations and/or significant species *sign* (e.g., scat, tracks, feather/fur, prey remains, nests/burrows or any other indication of wildlife presence) deemed necessary to document potential occupation.

If observed, San Joaquin kit fox dens were classified as potential, known, natal, or atypical as defined in the *United States Fish and Wildlife Service (USFWS) Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (2011). If encountered, coordinates for important habitat elements (such as dens and burrows) and direct observations of special-status species were recorded using a handheld global positioning system (accuracy ± 20 feet, ± 6 meters). Small mammal burrows were examined to identify suitability for special-status small mammals based on scat, tracks, and tail drags if present.

All plant taxa encountered were identified to the extent possible given the diagnostic features present. Identifications were made using keys contained in *The Jepson Manual: Vascular Plants of California* and online updates containing revisions to taxonomic treatments (Baldwin et al. 2012; Jepson Flora Project 2021). When necessary, plant identifications were made using a 10X or greater magnification field hand lens and/or were collected and identified using a dissecting microscope. Locations of special-status plant species or tentatively identified special-status plant species were recorded using a handheld global positioning system unit.

General habitat and site conditions were photographed to visually depict conditions during the field surveys. In addition, special-status species or habitat features, such as vegetation communities or ephemeral channels, were also photographically documented when encountered.

Subsequent to conducting the reconnaissance-level survey, special-status resource occurrence information from the existing databases and literature was reviewed against field survey results to complete an occurrence evaluation. A table was prepared that presents an evaluation of the potential for each species identified during the literature review to occur on the Project site. Each special-status species was then categorized as follows: no potential to occur (none); low potential; moderate potential; high potential; or known to occur. A brief explanation is provided in the table and additional information is presented in Section 3.0. Potential impacts to each identified special-status resource were compiled based on this occurrence evaluation. If potentially significant impacts were identified during the evaluation process, recommendations for reducing these impacts are included in this report, with a goal of reducing impacts to “less than significant.” If impacts could not be reduced to “less than significant”, those impacts are identified. The sources of these recommendations include agency guidelines and protocols, previously prepared environmental documents for similar projects, and MBI’s experience and professional judgment.

3.0 RESULTS

The literature review resulted in identification of 29 special-status plants and 41 special-status wildlife taxa for evaluation that could occur in the vicinity of the proposed Project (Appendix A; Tables A1–A2). Figures 3-1 through 3-5 provide the results of the 2021 CNDDDB records query within 10 miles (16 kilometers) for the proposed Project. The general site conditions combined with the habitat requirements and known ranges of these species were evaluated to determine potential for occurrence on the proposed Project site.

3.1 *General Conditions*

A reconnaissance-level survey was conducted on October 22, 2021, by Blaine Grant, an MBI Associate Biologist. Photographs taken during the site visit are shown in Appendix B. During the site visit 8 plant species and 6 wildlife species were observed (Appendix C). No nesting bird activity or nesting material was observed on or adjacent to the project site during the reconnaissance survey. Due to the timing of the survey, nesting bird activity was not expected. No direct observations of special-status species were recorded during the site visit.

The Project site is currently undeveloped with heavily disturbed annual grassland and ruderal vegetation where vegetation is present. Some portions of the Project site are barren, containing no vegetation. No existing permanent structures were present on the Project site. At the time of the survey, evidence of ongoing disturbance such as foot traffic, vehicle traffic, illegal dumping, and transient encampments were observed. No undisturbed, natural lands were present on or in the vicinity of the Project site.

The SSURGO soil survey map describes the soil at the Project area as Calflax clay loam and Panoche-Urban land complex, 0 to 2 % slopes (Figure 3-6). Observed conditions were consistent with the soil survey, but surface soils were heavily disturbed.

The remainder of this section discusses the 2021 field survey results for special-status biological resources and evaluation of those results based on the literature review and professional judgment of MBI personnel.

3.2 *Special-status Biological Resources*

As a result of the literature review, 29 special-status plants and 41 wildlife taxa were identified through database queries as potentially occurring on or in the vicinity of the Project site. Special-status plant and animal species identified with at least a low potential to be impacted by the Project are further discussed in Sections 3.2.1 and 3.2.2, below.

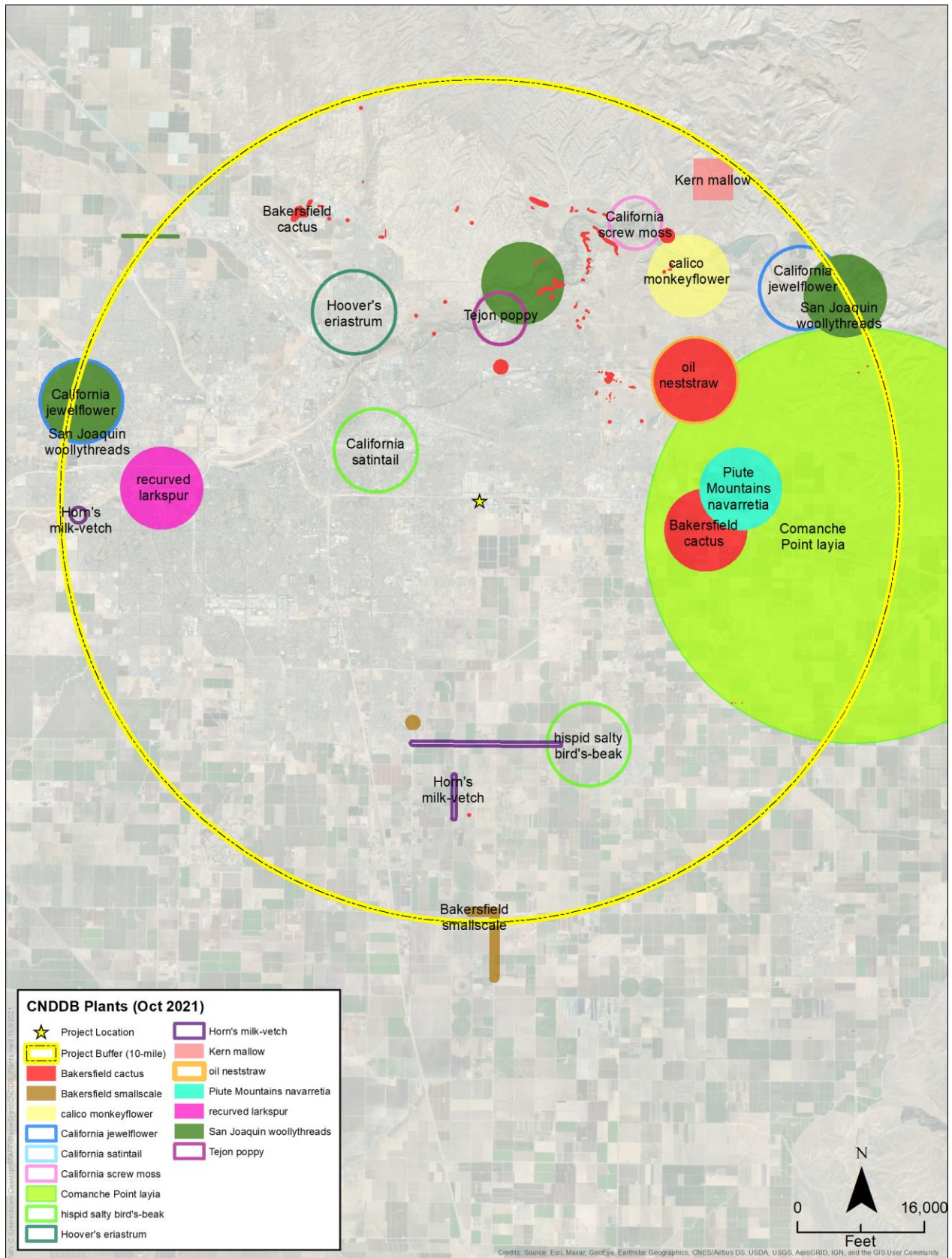


Figure 3-1: California Natural Diversity Database (CNDDDB) special-status plant results

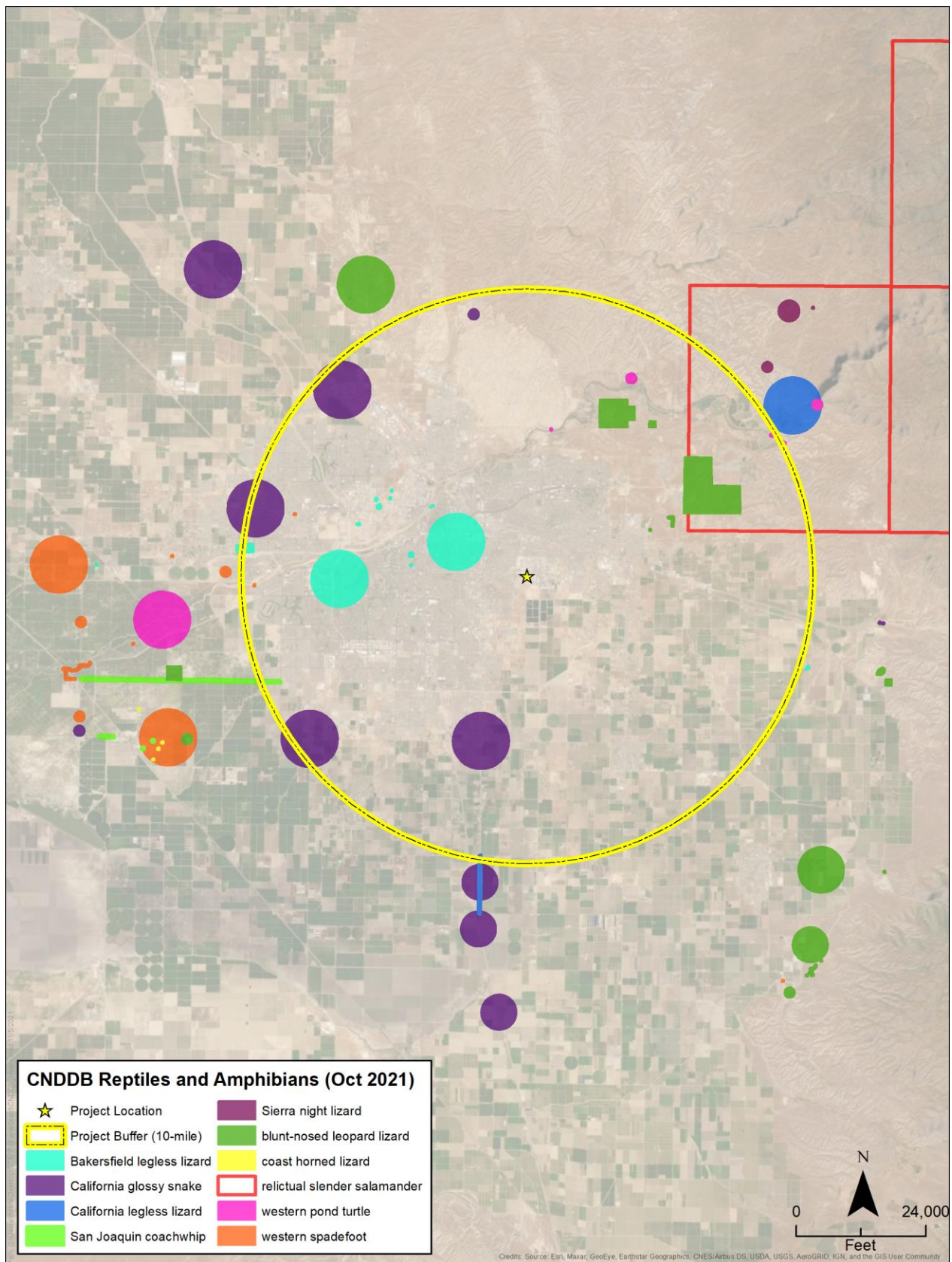


Figure 3-2: California Natural Diversity Database (CNDDB) special-status reptile and amphibian results

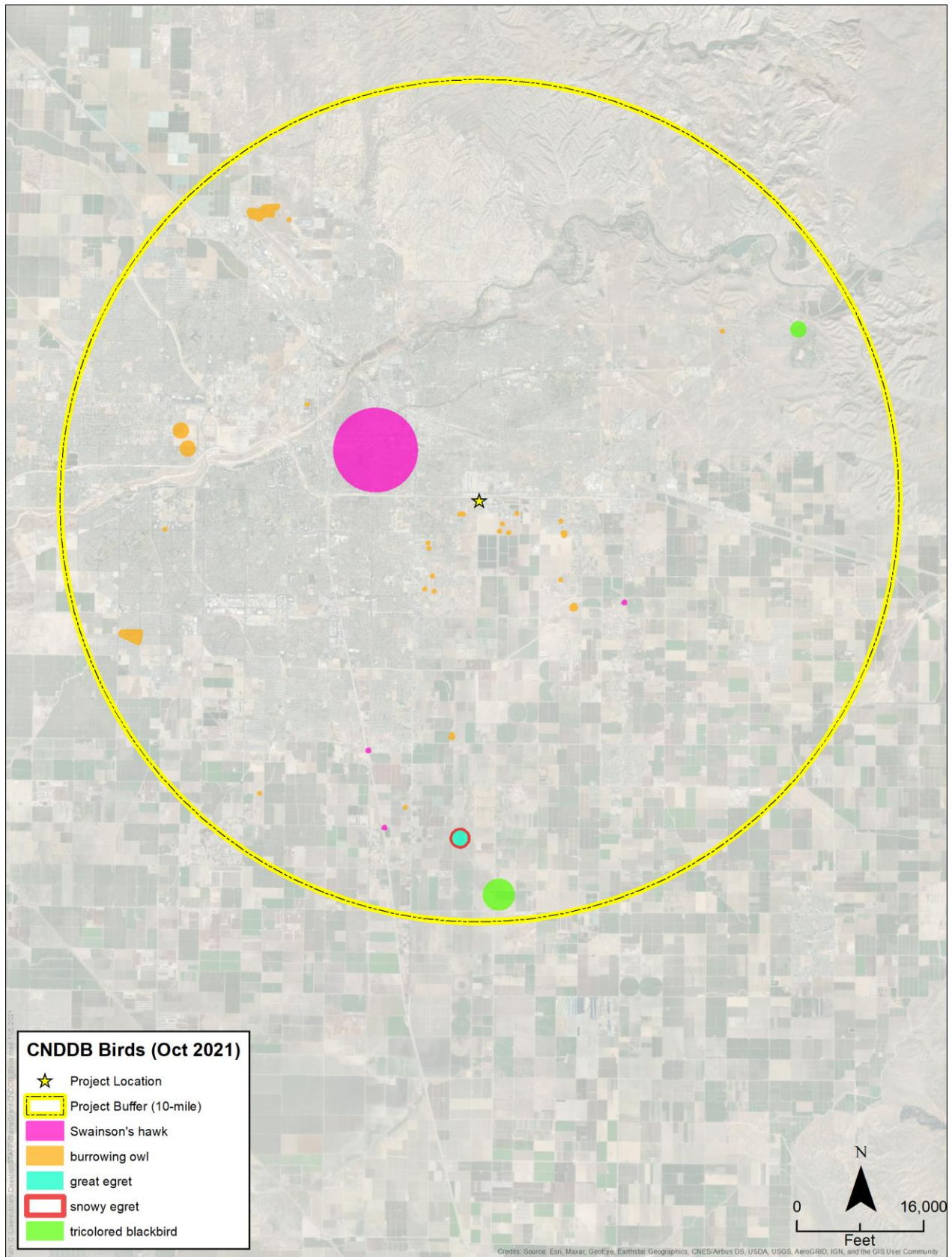


Figure 3-3: California Natural Diversity Database (CNDDB) special-status bird results.

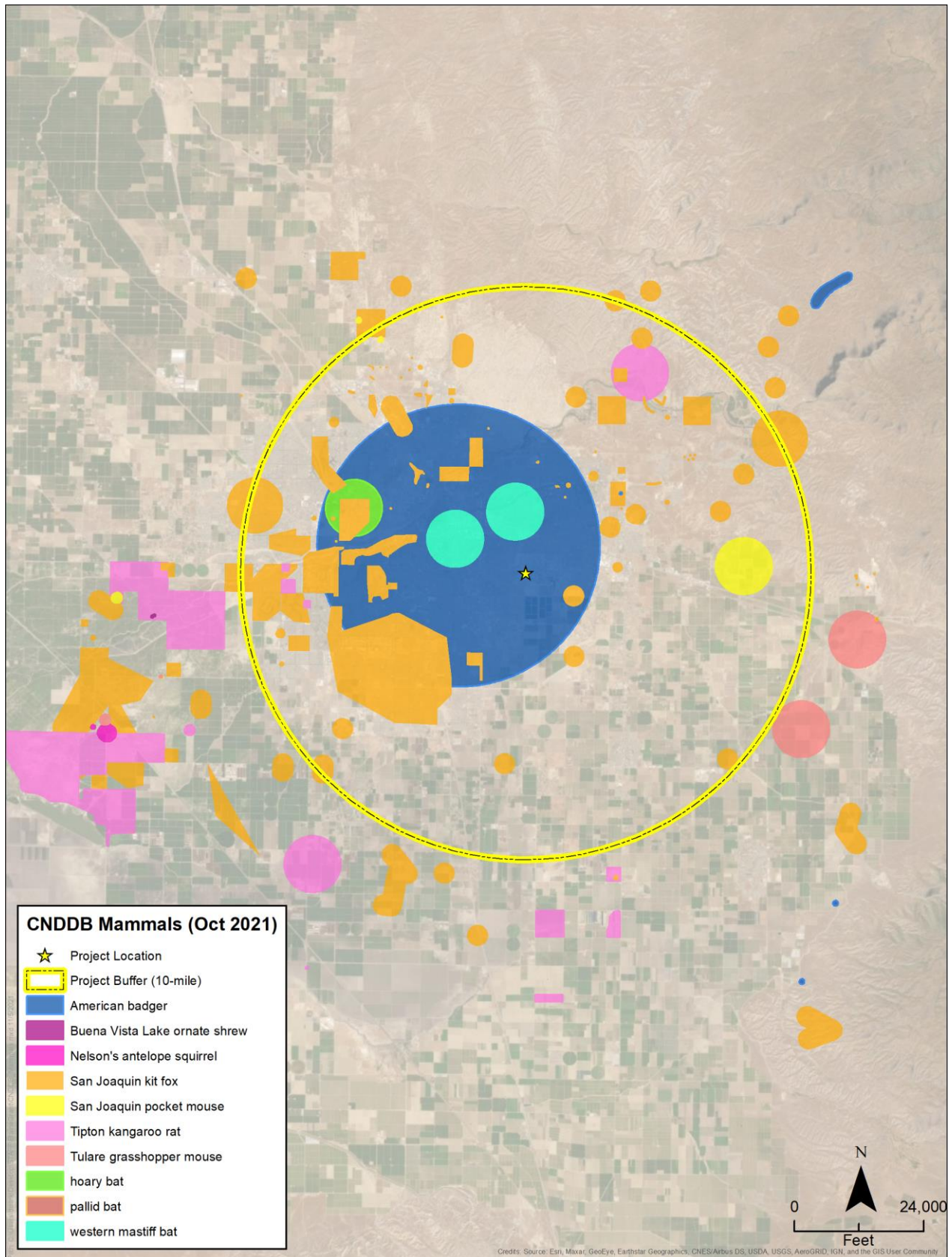


Figure 3-4: California Natural Diversity Database (CNDDB) special-status mammal results.

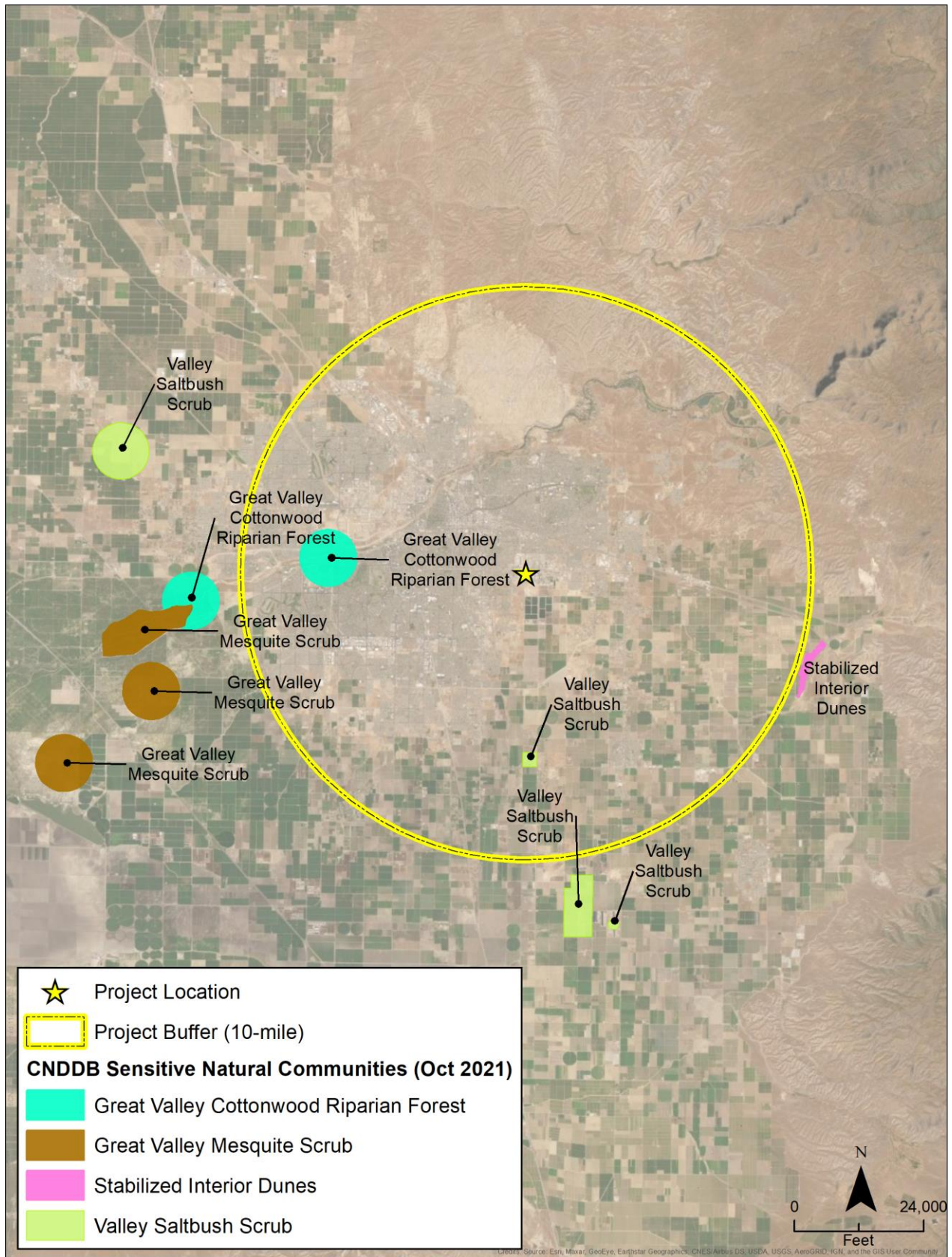


Figure 3-5: California Natural Diversity Database (CNDDB) sensitive natural communities results.

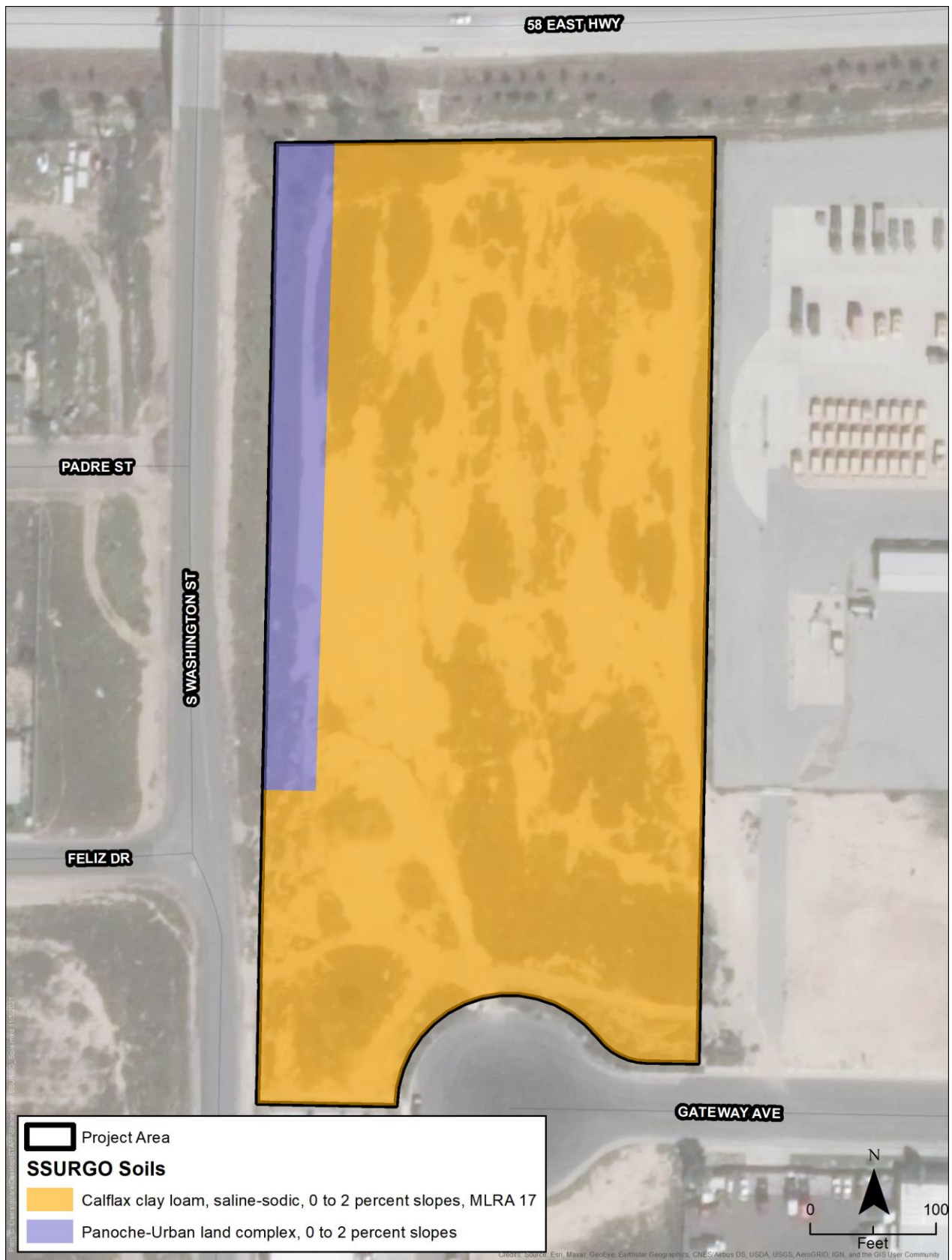


Figure 3-6: Soil Survey Geographic Database (SSURGO) soil results.

Potential dens for San Joaquin kit fox were observed on the Project site and given this species' tolerance of human activity and known occurrence in urban Bakersfield, a high potential for occurrence was identified. A low potential for burrowing owl was also concluded. Those that the initial evaluation found with no potential to occur, and therefore, not anticipated to be impacted by the proposed Project are not discussed further in this report.

3.2.1 Special-status Plant Species

Twenty-nine special-status plants were evaluated as a result of the literature review. Only 8 of these plant taxa are state and/or federally listed. CEQA requires consideration of impacts to locally significant plant species and those that meet the criteria for listing but which may not be officially listed under CESA or FESA. Those plants that are not officially listed but have been identified as rare, threatened, endangered or of limited distribution by the California Plant Society were also evaluated.

No listed or other special-status plant species were observed during the fieldwork conducted for the preparation of this report; however, the survey was conducted outside of the flowering period for all of these species. No listed or other special-status plant species have been recorded as occurring within the Project site footprint by any of the literature sources consulted. Even though the site visit was conducted outside of the appropriate period for identification of special-status plants, all special-status plant species were eliminated from further consideration based on one of the following: 1) the Project site does not provide suitable habitat due to the high existing disturbance level and lack of natural lands; or, 2) the proposed Project site is out of the known range of the taxon. Based on the evaluation, no additional discussion is provided for special-status plant species beyond the evaluation included in Appendix A (Table A-1).

3.2.2 Special-status Wildlife Species

Appendix A (Table A-2) contains a discussion of the potential for each species to occur on the Project site and whether there is a potential for impacts based on a combination of the literature review and conditions observed on and in the vicinity of the Project site. Two special-status wildlife species were found to have at least low potential for occurrence but were not observed. Additional discussion regarding burrowing owl and San Joaquin kit fox is provided in the following paragraphs.

Burrowing Owl (*Athene cunicularia*)

The burrowing owl is a California species of special concern, and documented population declines have occurred in the state since at least the 1970s. It has no federal listing but is protected by the Migratory Bird Treaty Act and potential habitat may be protected through the California Environmental Quality Act (CDFG 2012; CNDDDB 2021; MBTA 2021). The burrowing owl is a small, ground-dwelling owl with a round head that lacks ear tufts. Adults are sandy brown overall with bold spotting and barring, have white eyebrows above yellow eyes, and can be

distinguished from all other small owls by their long legs. Adult burrowing owls have an average weight of 6 ounces (170 grams), a full body length of 8.5 to 11 inches (22–28 centimeters), and average wingspan of 20- to 24-inches (51- to 61-centimeters) wingspan (Brown 2006).

Within California, this species is found throughout the Central Valley, in the San Francisco Bay Area, Carrizo Plain, and Imperial Valley. Typical habitat includes open grasslands, agricultural or range lands, and desert lands with short, sparse vegetation at elevations from 200 feet (61 meters) below sea level to 9,000 feet (2,743 meters) above sea level (Brown 2006). The Central Valley population resides in the area year-round in the annual and perennial grasslands or other vegetation communities that support little to no tree or shrub cover. The state of California is also considered an important wintering ground for migrants; thus, California's burrowing owl population increases during the winter season (CDFG 2012; Dunn & Alderfer 2008; Shuford & Gardali 2008). Nesting season begins late March and breeding pairs exhibit biparental care in which the female incubates the eggs and the male cares for the young.

Burrowing owls are active daytime and nighttime but are mostly active during dawn and dusk. In California, the species is typically found in close association with California ground squirrels that create burrows that are used by burrowing owls as year-round shelter and seasonal nesting habitat; however, burrowing owls may also use human-made structures such as culverts, corrugated metal pipes, debris piles, or openings beneath pavement as shelter and nesting habitat. During active periods of the year, they may be observed above ground in the vicinity of their burrows or roosting on the ground or nearby high spots such as berms, fence posts, or shrubs. They have a varied diet that includes insects, small rodents, birds, amphibians, reptiles, and carrion, and there is some evidence that population sizes of California vole (*Microtus californicus*) influence their survival and reproductive success (Poulin et al., 1998). Pellets including animal bones and exoskeletons may be found near burrow entrances, along with whitewash and tracks.

Based on initial survey, several California ground squirrel burrows were identified with potential suitability for burrowing owl; however, no direct or indirect evidence of occupation by burrowing owl was noted during the reconnaissance survey conducted on the Project site.

San Joaquin Kit Fox (*Vulpes macrotis mutica*)

The SJKF currently federal-listed as endangered and state-listed as threatened, resembles a small, lanky dog in appearance, with disproportionately large ears containing an abundance of large white, inner guard hairs. This species is the largest subspecies of kit fox, with adults weighing 4.5 to 5 pounds (2–2.3 kilograms). Total length is about 32 inches (81 centimeters), including a bushy, black-tipped tail up to 12 inches (30 centimeters) long, and total height is about 12 inches (30 centimeters) tall. Coloration ranges from light buff to grayish along the back and tail; gray, rust, or yellowish along the sides; and white on the belly.

SJKF occur in a variety of open grassland, oak savannah, and shrub vegetation types/habitats as well as oil-producing and urban areas in Kern County. Predation is an appreciable cause of SJKF mortality, with urban kit foxes yielding higher survival rates due to lack of competition with large carnivores such as coyotes (USFWS 2010c). In the southern San Joaquin Valley portion of the



Figure 3-7: Biological resources identified on the Project site during biological surveys (2021).

range, SJKF are generally found in sparse, annual grassland and scrub communities (e.g., valley sink scrub, saltbush scrub) with low annual precipitation. Home ranges for the taxon have been reported by several authors to range from 1 to 12 square miles (1.6–19 square kilometers) with large overlap in home ranges among individuals, though dens are restricted to a single family. They change dens on a regular basis, likely due to prey depletion; in one study, a single kit fox was tracked to 70 dens during a 2-year period (Native fish and wildlife 1967; USFWS 1998). Dens are used for temperature regulation, shelter, reproduction, and safety from potential predators, but characteristics such as number of entrances varies across the taxon's range. In the southern portion of its range the taxon often creates dens with two entrances, and natal dens generally have multiple entrances. Entrances are usually 8 to 10 inches (20–25 centimeters) in diameter and are normally greater in height than width, but kit foxes can utilize dens with entrances as small as 4 inches (10 centimeters) in diameter. Kit foxes do not typically excavate their own dens, but rather enlarge the burrows of other species, such as California ground squirrels and American Badgers, or utilize human-made structures such as culverts and pipelines.

The diet of this taxon consists largely of nocturnal kangaroo rats and other small mammals, though they may also eat ground-nesting birds or insects (USFWS 2010c). Similar to many desert species, kit fox do not need drinking water and obtain hydration from their diet. Breeding season is December-March with pups typically born between February and March. Adult breeding pairs remain monogamous within the same year, but pairs may change between years (Morrell 1972; USFWS 1998).

SJKF are primarily nocturnal but can be seen during the day when activities on the surface get their attention or when pups are present and play outside of the den in late afternoon. Potential site occupation is determined based on observation of canid scat and/or tracks within a size range appropriate for this species, and presence of dens that meet the criteria for classification as known or natal/pupping per the USFWS guidelines (USFWS 2011b).

Two dens were identified and evaluated for possible use by San Joaquin kit fox (SJKF). Both were determined to be "potential dens" per the definitions in USFWS guidelines (2011b). This designation was based on the size of the dens and the absence of any SJKF sign (scat, tracks, or prey remains) that would indicate prior or current use by SJKF (Figure 3-6). No other direct or indirect evidence of SJKF occupation was noted during surveys conducted on the Project site.

3.2.3 Riparian Habitat, Wetlands, and Other Waters

A search of the USFWS National Wetlands Inventory resulted in no wetlands mapped on the Project site (USFWS 2021b). These results are consistent with the observed conditions within the survey area. No wetlands, riparian habitat, potential waters of the U.S., or potential waters of the State were observed.

3.2.4 Critical Habitat

There is no USFWS-designated Critical Habitat within a 10-mile radius of the proposed Project site.

4.0 IMPACT ANALYSIS AND RECOMMENDATIONS

4.1 *Effects of the Proposed Project*

This section provides an analysis of the potential impacts of the Project following the standards of CEQA and CEQA Guidelines.

CEQA Appendix G thresholds have been used to evaluate potential impacts to the biological resources from the proposed Project. The Project would create a significant impact to biological resources, based on the specifications in the biological resources section in Appendix G of the CEQA Guidelines, if the following were to occur:

1. 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 CDFW or the USFWS;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations; or by the CDFW or the USFWS;
3. Have a substantial adverse effect on federally protected wetlands as defined by section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
4. 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;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The following analysis discusses potential impacts associated with the development of the Project and provides recommendations where appropriate to further reduce potential impacts.

- 1. Would the project 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 CDFW, or the USFWS?**

Effects to Special-status Plants:

The CNDDDB, USFWS, and CNPS Rare and Endangered Plant Inventory queries returned a total of 29 special-status plants that have been documented as potentially occurring in the vicinity of the proposed Project site. Based on MBI's habitat suitability analysis, none of the special-status plant species had the potential to occur within the proposed Project site (Appendix A, Table A-1). During the survey a total of 8 plant species were observed, 5 of which are non-native species. No listed or California Rare Plant Rank (CRPR) species were identified on the proposed Project site during the field survey and the site does not represent suitable habitat for any of the special-status plants evaluated. Therefore, there is no potential for direct and indirect impacts to special-status plant species within the Project site. As described above, the Project site has undergone frequent disturbance, was completely graded in 2005, and is surrounded by urban and agricultural lands. No special-status plant species have potential to occur onsite; therefore, no significant impacts to special-status plants would occur. No additional measures or recommendations are necessary.

Effects to Special-status Wildlife:

Burrowing Owl

Although no burrowing owls or sign of species presence was observed during the reconnaissance survey, California ground squirrel burrows, which are frequently used by burrowing owls for nesting and shelter, along with potential SJKF dens, were observed. The site is likely to support small mammals that are potential prey items in the diet of burrowing owl. Given that this species may occur in urban situations, the Project site provides suitable foraging and nesting habitat. Absent additional measures, if the site were subsequently occupied by this species, burrowing owl burrows could be crushed or destroyed by vehicles during construction activities. Provided that the measures recommended in Section 4.2 are implemented, impacts can be reduced to "less than significant".

San Joaquin Kit Fox

The Project provides suitable denning habitat for San Joaquin kit fox. Two suitably sized California ground squirrel burrows were observed during the survey effort. However, no sign indicating SJKF presence was observed. Individual kit fox could use either of the potential dens identified on the site. If the site becomes occupied by SJKF, Project activities could result in harm or injury to kit fox that would constitute a significant impact.

Measures described in Section 4.2, below, are intended to avoid, minimize, and reduce the potential for these effects to occur, reducing the potential to less than significant.

Nesting and Migratory Birds

The Project site contains remnant trees and minimal shrubs which can be used by nesting birds. The annual grassland present is suitable for ground nesting birds, but frequent disturbance reduces that suitability. Birds nesting on or in the immediate vicinity of the Project site could be



disturbed if the project is conducted during nesting season when active nests are present. If these nests are disturbed to the extent that eggs are destroyed, young are injured or killed, or adults abandon the nests, a violation of the MBTA and California Fish and Game Code could result. Measures described in Section 4.2 will reduce these potential impacts to “less than significant.”

General Wildlife

Wildlife is known to commonly enter open pipes, materials stockpiles and storage containers as well as get on, under, or in vehicles and equipment. In addition, terrestrial wildlife may fall into open excavations. Closing or moving pipes with wildlife inside could lead to direct mortality of individuals. If present under pallets, wildlife could be killed or injured by equipment when moving materials. If present in, on, or under equipment or vehicles when started or moving, wildlife could be crushed by tires, injured or killed by moving parts, or threatened through harassment by workers needing to access the vehicles. If deep enough in comparison to the animal size, wildlife falling into open excavations could be injured by the fall or otherwise become entrapped thereby increasing risks to the individual.

Measures described in Section 4.2, below, are intended to avoid, minimize, and reduce the potential for these effects to occur as a result of work activities. The following measures are also intended to result in compliance with applicable state and federal statutes and regulations protecting biological resources. In some cases, if effects cannot be definitively determined based on the reconnaissance-level survey, additional surveys are recommended. In addition, if it is determined that the effects to these species cannot be avoided, state and/or federal permits may be warranted to obtain the appropriate authorization for such project effects on federal and/or state listed species.

2. Would the project 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 CDFW or the USFWS?

No riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations; or by the CDFW or the USFWS will be disturbed by the proposed Project; therefore, no further measures are recommended.

3. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The proposed Project does not propose any disturbance to wetland vegetation. No wetland features or vegetation indicative of wetland conditions were observed during the field survey nor were any identified during the literature review. Consequently, no impacts will occur as a result of Project development.

4. Would the project 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?

Wildlife corridors can be defined as connections between wildlife blocks that meet specific habitat needs for species movement generally during migratory periods, but seasonally as well. Wildlife corridors generally contain habitat dissimilar to the surrounding vicinity and include examples such as riparian areas along rivers and streams, washes, canyons, or otherwise undisturbed areas within urbanization. Corridor width requirements can vary based on the needs of the species utilizing them. The Project site is an isolated and relatively small parcel of impacted annual grassland habitat. No impacts are expected; consequently, no additional measures are included.

5. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

There are no biological resources on the site which are separately protected by local policies. Therefore, conflicts with local policies will not occur.

6. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

While the Project is not subject to urban development permits required of private projects in the MBHCP boundary, if a permit is obtained from either the City or the County, it will be subject to the provisions of the MBHCP.

4.2 Recommendations

The following measures are intended to reduce identified potential effects to special-status species as a result of the Project; and are intended to result in compliance with applicable state and/or federal statutes and regulations protecting biological resources.

BIO-1: Biologists conducting activities in measures BIO-2 through BIO-6 shall submit resumes to the CEQA lead agency and as required for any subsequently applicable biological resource permits for review and approval prior to implementation of these measures. Resumes shall document sufficient species-specific experience to show that each biologist is qualified to determine presence of that species. At a minimum, approved biologists shall have obtained a bachelor's degree in biological or environmental sciences or show equivalent experience, have 2 years of experience detecting the target species, and have experience in construction monitoring sufficient to understand potential effects on the species for which they are approved.

BIO-2: Surveys to detect SJKF should be conducted no more than 30 days prior to any ground disturbance activities on the Project site. Survey protocols and den definitions should be consistent with the USFWS *Standardized recommendations for the protection of the San Joaquin*

kit fox prior to or during ground disturbance (USFWS 2011; Guidelines) or current agency protocols and requirements. Den buffer zones and excavation procedures should be consistent with the Guidelines. Should SJKF dens be found, protection measures should include the following:

- Potential and known SJKF dens (as defined in the Guidelines) should be avoided by 50-foot (15-meter) and 100-foot (30-meter) buffers, respectively, if possible. If it is not possible to avoid potential or known SJKF dens, then the procedures specified below that pertain to SJKF should be followed.
- Potential dens with no sign of SJKF presence should be monitored for 4 nights using tracking material and/or an infrared camera. Potential dens may be excavated once it is confirmed that no SJKF is present. If SJKF or sign of SJKF is observed at any time during the monitoring or excavation of a potential den, its status becomes *known* and procedures described below for treatment of *known* dens must be implemented.
- If a known den cannot be avoided by Project activities and the Project is not covered by the MBHCP, USFWS and CDFW should be contacted regarding FESA and CESA compliance, respectively. Unavoidable known SJKF dens may be excavated under the supervision of an agency-approved SJKF biologist provided that each are shown through the following monitoring methods (at a minimum) to be unoccupied, and the appropriate federal and/or state authorizations have been acquired.
 - Known SJKF dens should be monitored by placing tracking material and remote sensing cameras at each den entrance and checking each morning until no SJKF activity is recorded for 4 consecutive nights;
 - An agency-approved SJKF biologist should be present during all SJKF den monitoring and excavations.
- If a SJKF natal/pupping den cannot be avoided by 500 feet (152 meters), the CDFW and the USFWS should be contacted for further guidance.

BIO-3: Surveys to detect burrowing owls should be conducted no more than 30 days prior to any ground disturbance activities on the Project site and can be conducted concurrently with SJKF surveys required in BIO-2. Occupied burrows should not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. If burrowing owls are observed using burrows during the surveys, owls shall be excluded from all active burrows through the use of exclusion devices placed in occupied burrows in accordance with CDFG protocols (CDFG 2012), *Staff report on burrowing owl mitigation*, shall be implemented. In such case, exclusion devices shall not be placed until the young have fledged and are no longer dependent upon the burrow, as determined by a qualified biologist. Specifically, exclusion devices, utilizing one-way doors, shall be installed in the entrance of all

active burrows. The devices shall be left in the burrows for at least 48 hours to ensure that all owls have been excluded from the burrows. Each of the burrows shall then be excavated by hand and refilled to prevent reoccupation. Exclusion shall continue until the owls have been successfully excluded from the site, as determined by a qualified biologist.

BIO-4: If project activities occur during nesting season (February 1 to August 31) a qualified avian biologist shall conduct a nesting bird survey to identify any active nests present within the proposed work area. Surveys should be conducted no more than 10 days prior to any ground disturbance activities on the Project Site. If active nests are found, initial ground disturbance shall be postponed or halted within a buffer area, established by the qualified avian biologist, that is suitable to the particular bird species and location of the nest, until juveniles have fledged or the nest has been abandoned, as determined by the biologist. The construction avoidance area shall be clearly demarcated in the field with highly visible construction fencing or flagging, and construction personnel shall be instructed on the sensitivity of nest areas.

BIO-5: If any previously unidentified protected species that is not addressed in this document, or any previously unreported protected species is found to be present, occupied areas shall be avoided and a qualified biologist shall notify the USFWS and CDFW of any previously unreported protected species. Any take of protected wildlife shall be reported immediately to USFWS and CDFW.

BIO-6: The following additional general measures should be implemented that represent *best management practices* for reducing the potential for impacts on biological resources:

- A) Traffic restraints and signs should be established to minimize temporary disturbances during construction where potential biological resources have been confirmed by qualified biologist. All construction traffic should be restricted to designated access roads and routes, Project site, storage areas, and staging and parking areas. Off-road traffic outside designated Project boundaries should be prohibited. A 15 mile-per-hour (24 kilometer-per-hour) speed limit should be observed in all Project construction areas, except as otherwise posted on county roads and state and federal highways.
- B) All equipment storage and parking during construction activities should be confined to the designated construction area or to previously disturbed offsite areas that are not habitat for listed species.
- C) Project construction activities involving initial surface disturbance should be limited to daylight hours.
- D) Trenches should be covered or ramped (no steeper than 2:1) to allow wildlife to escape. Such trenches should be inspected for entrapped wildlife each morning prior to the onset of construction. Before such holes or trenches are filled, they should be thoroughly inspected for entrapped animals. Any wildlife so discovered should be allowed to escape voluntarily, without harassment, before construction activities resume. A qualified biologist may remove wildlife from a trench, hole, or other entrapment out of harm's way if the immediate welfare of the individual is in jeopardy. State or federal listed

species may not be handled. Should any state or federal listed species become entrapped, CDFW and USFWS should be contacted as appropriate by a qualified biologist.

- E) All exposed pipes, culverts, and other similar structures with a diameter 3 inches or greater shall be properly capped in order to prevent entry by SJKF or other wildlife. Any of these materials or structures that are left overnight and are not capped shall be inspected prior to being moved, buried, or closed in order to ensure that San Joaquin kit fox or other wildlife are not present. If a listed species is found within pipe, culverts or similar structures, the animal will be allowed to escape that section of its own accord prior to moving or utilizing that segment.
- F) All food-related trash items such as wrappers, cans, bottles and food scraps generated by Project activities should be disposed of in closed containers and removed at least once each week from the site. Deliberate feeding of wildlife should be prohibited.
- G) To prevent harassment of special-status species, construction personnel should not be allowed to have firearms or pets on the Project.
- H) All liquids should be in closed, covered containers. Any spills of hazardous liquids should not be left unattended until clean-up has been completed.
- I) Use of rodenticides and herbicides on the Project should be prohibited unless approved by the USFWS and the CDFW. This is necessary to prevent primary or secondary poisoning of special-status species using adjacent habitats, and to avoid the depletion of prey upon which they depend. Label restrictions and other restrictions imposed by the United States Environmental Protection Agency, the California Department of Food and Agricultural, and other state and federal legislation should be implemented. If rodent control must be conducted, zinc phosphide should be used because of its proven lower risk to SJKF.
- J) Any employee who inadvertently kills or injures a listed species, or who finds any such wildlife dead, injured, or entrapped, should be required to report the incident immediately to a designated site representative (e.g., foreman, project manager, environmental inspector, etc.), except animals killed on state and county roads when such mortality is not associated with Project traffic.
- K) In the case of injured special-status wildlife, the CDFW should be notified immediately. During business hours Monday through Friday, the phone number is (559) 243-4017. For non-business hours, report to (800) 952-5400. Notification should include the date, time, location, and circumstances of the incident. Instructions provided by the CDFW for the care of the injured animal should be followed by the contractor onsite.
- L) In the case of dead wildlife that are listed as threatened or endangered, the USFWS and the CDFW should be immediately (within 24 hours) notified by phone or in person and should document the initial notification in writing within 2 working days of the findings



of any such wildlife. Notification should include the date, time, location, and circumstances of the incident.

- M) Prior to commencement of construction on any phase of work, work areas should be clearly marked with fencing, stakes with rope or cord, or other means of delineating the work area boundaries.



5.0 SUMMARY OF FINDINGS

The Project will not impact special-status plants as the entire site has had and continues to have disturbance. Ruderal weedy species dominate the Project site and no special-status plant species were observed during the field surveys.

While no burrowing owls were observed, implementation of pre-activity clearance surveys and avoidance of active nests during nesting season, combined with implementation of measures included in Section 4.2 will reduce impacts to this species to less than significant.

While no nesting birds were observed during 2021 field surveys, conducting pre-activity nesting bird surveys and implementing appropriate avoidance measures will reduce potential impacts to this species to less than significant.

While no SJKF were observed, two potential dens were discovered, and SJKF are known to occur in the area; therefore, measures have been recommended to reduce potential impacts to SJKF to a level of less than significant.

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Appendix A
Special-Status Plant and Wildlife Evaluation

Table A-1: Special-status Plants That May Occur in the Vicinity of the Project Site

<i>Scientific Name</i> Common Name	¹ Status Fed/State/CNPS	Brief Description	Known Records	Potential to Occur
<i>Astragalus hornii</i> var. <i>hornii</i> Horn’s milk vetch	-/-/1B.1	Annual herb in the Fabaceae found in meadows and seeps, and on playas and lake margins on alkaline soils between 197 and 2,789 feet (60–850 meters) in elevation. Known from occurrences in the Southern San Joaquin Valley, the Tehachapi Mountains and the Western Transverse Ranges in Kern, Los Angeles, and San Bernardino Counties. Blooming period: May - October	Closest known record is a historic record from 1932, 1.7 miles northwest of the project. No modern records appear within 10 miles of the project site. The most recent record within 10 miles of the project site is from 1962.	No Horn’s milk vetch was observed during the fieldwork conducted. Soils on the Project site and in the vicinity are not alkaline and have been manipulated multiple times over the years. No habitat features typical of known occurrences are present and it is not expected. No significant impacts are anticipated. No Potential
<i>Atriplex cordulata</i> var. <i>cordulata</i> Heartscale	-/-/1B.2	Herbaceous annual in the Chenopodiaceae found in chenopod scrub, meadows and seeps, and valley and foothill grasslands in sandy, saline, or alkaline soils below 1,837 feet (560 meters) in elevation. Known to occur in the Great Central Valley from Kern County north to southern Butte County. Blooming period: April - October	Closest known record is a historic record from 1983, 16 miles southwest of the project. Record was associated with Old Rim Ditch, which appears to be covered by extensive agriculture according to 2012 aerial photography. No records appear within 10 miles of the project site.	No annual <i>Atriplex</i> were observed during the fieldwork conducted and site conditions are highly impacted. No occurrence is expected. No significant impacts are anticipated. No Potential
<i>Atriplex coronata</i> var. <i>vallicola</i> Lost Hills crownscale	-/-/1B.2	Annual herb in the Chenopodiaceae that occurs between 164 and 2,083 feet (50–635 meters) in elevation in chenopod scrub, valley and foothill grasslands, and vernal pools on alkaline soils. Known from occurrences in Southeastern San Joaquin Valley from Kern County north to Fresno County and on the Carrizo Plain. Blooming period: April - September	Closest known record is a historic record from 1995, 15 miles southwest of the project site along Old River Road. No records appear within 10 miles of the project site.	No annual <i>Atriplex</i> were observed during the fieldwork conducted and site conditions are highly impacted. No occurrence is expected. No significant impacts are anticipated. No Potential
<i>Atriplex tularensis</i> Bakersfield smallscale	-/E/1A	Herbaceous annual in the Chenopodiaceae found in chenopod scrub, between 295 and 656 feet (90–200 meters) in elevation. Known to occur in the Southern San Joaquin Valley in Kern County. Blooming period: June - October	Closest known record is a historic record from 1921, 5 mile south of the project site. The species has been extirpated at this location according to a record update (1983). No modern records appear within 10 miles of the project site and the CNPS classifies this species as presumed extinct.	No annual <i>Atriplex</i> were observed during the fieldwork conducted and site conditions are highly impacted. No occurrence is expected. No significant impacts are anticipated. No Potential
<i>Calochortus palmeri</i> var. <i>palmeri</i> Palmer’s mariposa lily	-/-/1B.2	Perennial bulbiferous herb in the Liliaceae found in chaparral, lower montane coniferous forest, and meadows and seeps on mesic soils between 3,281 and 7,841 feet (1,000–2,390 meters) in elevation. Known to occur in the Outer South Coast Ranges in San Luis Obispo and Santa Barbara Counties, in the Western Transverse Ranges in Ventura and Los Angeles Counties, the Southern Sierra Nevada Foothills through the Western Transverse Ranges in Kern County, the San Gabriel and San Bernardino Mountains in San Bernardino County, and the San Jacinto Mountains in Riverside County. Blooming period: April to July	Closest known record is from 2014, 17 miles southeast of the project site in the foothills south of Tejon Hwy and Herring Rd. No records exist within 10 miles of the project site.	No Palmer’s mariposa lily was observed during the fieldwork conducted. Soils on the Project site and in the vicinity have been manipulated multiple times over the years. No habitat features typical of known occurrences are present and project site is outside of the elevation range for the species. No significant impacts are anticipated. No Potential
<i>Calochortus striatus</i> Alkali mariposa lily	-/-/1B.2	Bulbiferous perennial herb in the Liliaceae found in chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps on alkaline, mesic soils, between 230 and 5,234 feet (70–1,595 meters) in elevation. Known to occur in the Southern San Joaquin Valley and Southern Sierra Nevada in Kern County and the Mojave Desert in Kern, Los Angeles, and San Bernardino Counties. Blooming period: April - June	Closest known record is 14 miles southwest of the project site, south of Taft Hwy and east of the West Side Freeway (2006). 500 plants were observed in the area at that time. No records exist within 10 miles of the project site.	No alkali mariposa lily was observed during the fieldwork conducted. Soils on the Project site and in the vicinity are not alkaline and have been manipulated multiple times over the years. No habitat features typical of known occurrences are present and it is not expected. No significant impacts are anticipated. No Potential

Scientific Name Common Name	¹ Status Fed/State/CNPS	Brief Description	Known Records	Potential to Occur
<i>Caulanthus californicus</i> California jewelflower	E/E/1B.1	Herbaceous annual in the Brassicaceae that occurs between 200 and 3,281 feet (61–1,000 meters) in elevation on sandy soils in chenopod scrub, pinyon and juniper woodland, and valley and foothill grasslands. Although many populations are thought to have been extirpated from the San Joaquin Valley, occurrences are known from Kern, Kings, Tulare, San Luis Obispo, Santa Barbara, and Fresno Counties. Blooming period: February - May	Closest known record is a historic record from 1933, 8 miles northeast of the project site. All historic occurrences on the floor of the San Joaquin Valley are presumed to be extirpated. No modern records appear within 10 miles of the project site.	No California jewelflower was observed during the fieldwork conducted. Soils on the Project site and in the vicinity have been manipulated multiple times over the years and this species is not tolerant of the type of disturbance that has occurred. No suitable habitat is present, and no significant impacts are anticipated. No Potential
<i>Chloropyron molle</i> ssp. <i>hispidum</i> Hispid salty bird’s-beak	-/-/1B.1	Hemiparasitic annual herb in the Orobanchaceae found on alkaline soils in meadows and seeps, playas, and valley and foothill grasslands below 509 feet (155 meters) in elevation. Blooming period: June - September	Two historic records were documented within 10 miles of the project site, the closest being 1.7 miles northwest, from the year 1927. No modern records appear within 10 miles of the project site.	No hispid bird’s-beak was observed during the fieldwork conducted. Soils on the Project site and in the vicinity are not alkaline and have been manipulated multiple times over the years. No habitat features typical of known occurrences are present and it is not expected. No significant impacts are anticipated. No Potential
<i>Clarkia tembloriensis</i> ssp. <i>calientensis</i> Vasek’s clarkia	-/-/1B.1	Annual herb in the Onagraceae found in valley and foothill grasslands, from 902 and 1,640 feet (275–500 meters) in elevation. Known from occurrences near Caliente Creek in Kern County. Blooming period: April	Closest known record is a historic record from 1986, 13 miles east of the project site. No records appear within 10 miles of the project site.	No Vasek’s clarkia was observed during the fieldwork conducted. Soils on the Project site and in the vicinity have been manipulated multiple times over the years. Project site is outside of the elevation range for the species. No significant impacts are anticipated. No Potential
<i>Delphinium purpusii</i> Rose-flowered larkspur	-/-/1B.3	Perennial herb in the Ranunculaceae found in chaparral, cismontane woodland, and pinyon and juniper woodland on rocky, carbonate soils between 984 and 4,396 feet (300–1,340 meters) in elevation. Known to occur in Kern and Tulare Counties. Blooming period: April to May	Closest known record is a historic record from 1965, 11 miles northeast of the project site. No records appear within 10 miles of the project site.	No Rose-flowered larkspur was observed during the fieldwork conducted. Soils on the Project site and in the vicinity have been manipulated multiple times over the years. No habitat features typical of known occurrences are present and project site is outside of the elevation range for the species. No significant impacts are anticipated. No Potential
<i>Delphinium recurvatum</i> Recurved larkspur	-/-/1B.2	Perennial herb in the Ranunculaceae occurring between 10 and 2,461 feet (3–750 meters) in elevation in chenopod scrub, cismontane woodland, and valley and foothill grasslands on alkaline soils. Known to occur in the Mojave Desert and Southern San Joaquin Valley in Kern County north to Solano County; the South Inner Coastal Ranges from San Luis Obispo County north to Stanislaus County, and the Sacramento Valley from San Joaquin County north to Butte County. Blooming period: March - June	Closest known record is a historic record from 1935, 6.5 miles west of the project site. Several recent occurrences have been reported, the closest being 13 miles southwest of the project along Taft Highway (2009).	No recurved larkspur was observed during the fieldwork conducted. Soils on the Project site and in the vicinity are not alkaline and have been manipulated multiple times over the years. No habitat features typical of known occurrences are present and it is not expected. No significant impacts are anticipated. No Potential
<i>Diplacus pictus</i> Calico monkeyflower	-/-/1B.2	Annual herb in the Phrymaceae found in broadleafed upland forest and cismontane woodlands between 328 and 4,691 feet (100–1430 meters) in elevation in Kern and Tulare counties. Blooming period: March - May	Closest known record is a historic record from 1935, 6.2 miles northwest of the project site. No recent records appear within 10 miles of the project site.	No calico monkeyflower was observed during the fieldwork conducted. No suitable habitat for this species is present and soils have been manipulated multiple times over the years. This species is not expected, and no significant impacts are anticipated. No Potential
<i>Eremalche parryi</i> ssp. <i>kernensis</i> Kern mallow	E/-/1B.2	Annual herb in the Malvaceae that occurs between 230 and 4,232 feet (70–1,290 meters) in elevation in chenopod scrub, and valley and foothill grasslands. Distribution includes Kern and Tulare Counties and the Inner South Coast Ranges in San Luis Obispo and Santa Barbara Counties. Blooming period: January (February) March - May	Closest known record is a historic record from 1988, 8.7 miles northeast of the project site, north of Lake Ming. The closest recent record is from 2020, 13 miles southwest of the project site. Several other records, recent and historic, have been reported over 10 miles from the project site.	No Kern mallow was observed during the fieldwork conducted. Soils on the Project site and in the vicinity have been manipulated multiple times over the years and no habitat features typical of known occurrences are present. It is not expected, and no significant impacts are anticipated. No Potential

Scientific Name Common Name	¹ Status Fed/State/CNPS	Brief Description	Known Records	Potential to Occur
<i>Eriastrum hooveri</i> Hoover’s eriastrum	D/-/4.2	Annual herb in the Polemoniaceae that occurs between 164 and 3,002 feet (50–915 meters) in elevation in pinyon-juniper woodland, and valley and foothill grasslands, occasionally on gravelly soils. Known to occur in the southern San Joaquin Valley in Kern and Fresno Counties and on the Carrizo Plain in San Luis Obispo County. Blooming period: March - July	Closest known record was documented 4.3 miles northwest of the project site (date unknown). No other records appear within 10 miles of the project site.	No Hoover’s eriastrum was observed during the fieldwork conducted. Soils have been manipulated multiple times over the years and no habitat features typical of known occurrences are present. It is not expected, and no significant impacts are anticipated. No Potential
<i>Eriastrum tracyi</i> Tracy’s eriastrum	-/R/3.2	Annual herb in the Polemoniaceae found in chaparral and cismontane woodland between 1,033 and 3,199 feet (315–975 meters) in elevation. Known to occur in the Southern Sierra Nevada Foothills from Fresno County south to Kern County, the Santa Clara County in the San Francisco Bay Area, and the Inner North Coast Ranges from Colusa County north to Trinity County. Blooming period: June to July	Closest known record is a historic record from 1957, in mountains 12 miles northeast of the project site. No records appear within 10 miles of the project site.	No Tracy’s eriastrum was observed during the fieldwork conducted. Soils on the Project site and in the vicinity have been manipulated multiple times over the years. No habitat features typical of known occurrences are present and project site is outside of the elevation range for the species. No significant impacts are anticipated. No Potential
<i>Eschscholzia lemmonii</i> ssp. <i>kernensis</i> Tejon poppy	-/-/1B.1	Annual herb in the Papaveraceae that occurs between 525 and 3,281 feet (160–1000 meters) in elevation in chenopod scrub, and valley and foothill grasslands. Known from occurrences in the southern Sierra Nevada Foothills and the southern San Joaquin Valley in Kern County. Blooming period: (February) March - May	Closest known record is a historic record from 1937, 3.7 miles north of the project site at Panorama Dr and Alfred Harrell Hwy. No other records appear within 10 miles of the project site.	No Tejon poppy was observed during the fieldwork conducted. The Project site is below the published elevation range for this species. Soils have been manipulated multiple times over the years and no habitat features typical of known occurrences are present. It is not expected, and no significant impacts are anticipated. No Potential
<i>Fritillaria striata</i> Striped adobe-lily	-/T/1B.1	Perennial bulbiferous herb in the Liliaceae found in cismontane woodland, and valley and foothill grasslands between 443 and 4,774 feet (135–1,455 meters) in elevation. Known to occur in the Southern Sierra Nevada Foothills from Kern and Tulare Counties. Blooming period: February to April	Closest known record is a historic record from 1963, over 10 miles northeast of the project site east of Lake Ming. No records appear within 10 miles of the project site.	No striped adobe-lily was observed during the fieldwork conducted. Soils on the Project site and in the vicinity have been manipulated multiple times over the years and no habitat features typical of known occurrences are present. It is not expected, and no significant impacts are anticipated. No Potential
<i>Heterotheca shevockii</i> Shevock’s golden aster	-/-/1B.3	Perennial herb in the Asteraceae found in chenopod scrub and cismontane woodland between 755 and 2,953 feet (230–900 meters) in elevation. Known to occur in the Southeastern San Joaquin Valley and Sierra Nevada Foothills. Blooming period: August to November	Closest known record was documented 12 miles northeast of the project site along the Kern River(date unknown). No other records appear within 10 miles of the project site.	No Shevock’s golden aster was observed during the fieldwork conducted. The Project site is below the published elevation range for this species. Soils have been manipulated multiple times over the years and no habitat features typical of known occurrences are present. It is not expected, and no significant impacts are anticipated. No Potential
<i>Imperata brevifolia</i> California satintail	-/-/2B.1	Perennial rhizomatous herb in the Poaceae found in chaparral, Coastal scrub, Mojavean desert scrub, meadows and seeps on alkaline soils, and riparian scrub usually found on mesic soils below 3,986 feet (1,215 meters) in elevation. Known from occurrences in the Eastern San Joaquin Valley from Kern County to Fresno County. It is more widespread in the southwestern portion of the state. Blooming period: September - May	One historic record was documented within 10 miles of the project site, 1.7 miles northwest, from the year 1896. No modern records appear within 10 miles of the project site.	No California satintail was observed during the fieldwork conducted. No alkaline or mesic conditions typical of known occurrences for this species were present and soils have been manipulated multiple times over the years. It is not expected, and no significant impacts are anticipated. No Potential
<i>Layia leucopappa</i> Comanche Point layia	-/-/1B.1	Annual herb in the Asteraceae found in chenopod scrub, and valley and foothill grassland between 328 and 1,148 feet (100–350 meters) in elevation. Known to occur in Kern County. Blooming period: March - April	Closest known record is a historic record from 1935, 4 miles east of the project site. The closest recent record is one of several in the foothills 17 miles southeast of the project site (2016)	No Comanche Point layia was observed during the fieldwork conducted. Soils have been manipulated multiple times over the years and no habitat features typical of known occurrences are present. It is not expected, and no significant impacts are anticipated. No Potential

Scientific Name Common Name	¹ Status Fed/State/CNPS	Brief Description	Known Records	Potential to Occur
<i>Layia munzii</i> Munz's tidy-tips	-/-/1B.2	Annual herb in the Asteraceae found between 492 and 2,297 feet (150–700 meters) in elevation in chenopod scrub, and valley and foothill grasslands in alkaline clay soils. Known to occur in the San Joaquin Valley from Kern County north to Madera County, and the South Inner Coastal Ranges from San Luis Obispo County north to San Benito County. Blooming period: March to April	Closest known record is a historic record from 1935, 12 miles southeast of the project site. No records exist within 10 miles of the project site.	No Munz's tidy-tips was observed during the fieldwork conducted. Soils on the Project site and in the vicinity are not alkaline and have been manipulated multiple times over the years. No habitat features typical of known occurrences are present and it is not expected. No significant impacts are anticipated. No Potential
<i>Monolopia congdonii</i> San Joaquin woolly-threads	E/-/1B.2	Annual herb in the Asteraceae found between 197 and 2,625 feet (60–800 meters) in elevation in chenopod scrub, and valley and foothill grasslands, on sandy soils. Known to occur in the San Joaquin Valley from Kern County north to San Benito County, and the Carrizo Plain in San Luis Obispo and Santa Barbara Counties. Blooming period: February - May	Closest known record is a historic record from 1905, 4.2 miles northeast of the project site. The closest recent record is from 2013, 13 miles west of the project site near the Kern River.	No San Joaquin woolly-threads was observed during the fieldwork conducted. Although suitable soils are present, the site has been manipulated multiple times over the years and habitat features typical of known occurrences are no longer present. It is not expected, and no significant impacts are anticipated. No Potential
<i>Navarretia setiloba</i> Piute Mountains navarretia	-/-/1B.1	Herbaceous annual in the Polemoniaceae found on clay or gravelly loam soils in cismontane woodland, pinyon and juniper woodland, and valley and foothill grasslands from 1,001 and 6,890 feet (305–2,100 meters) in elevation. Known from occurrences in the Southern Sierra Nevada in Kern and Tulare Counties. Blooming period: April - June	Closest known record is a historic record from 1937, 5.2 miles east of the project site. Occurrence is presumed extirpated. The closest recent record is from 2011, 12 miles southeast of the project site, in the foothills between Bena Rd and SR-58.	No Piute Mountain navarretia was observed during the fieldwork conducted. The Project site is below the published elevation range for this species and soils are not consistent with reported occurrences. Soils have been manipulated multiple times over the years and this species is not expected. No significant impacts are anticipated. No Potential
<i>Opuntia basilaris</i> var. <i>treleasei</i> Bakersfield cactus	E/E/1B.1	Perennial stem succulent in the Cactaceae found in chenopod scrub, cismontane woodland, and valley and foothill grasslands between 394 and 1,804 feet (120–550 meters) in elevation. Known to occur in the Southeast San Joaquin Valley and Southern Sierra Nevada Foothills in Kern County. Blooming period: April – May (identifiable year-round)	Closest known record is a historic record of unknown date prior to 1987, 3 miles north of the project site. Closest recent record is 3.8 miles northeast of the project site from 2010. Many more records have been reported northeast of the project site.	No Bakersfield cactus was observed during the fieldwork conducted. This species is a perennial succulent and was not observed. No significant impacts are anticipated. No Potential
<i>Pseudobahia peirsonii</i> San Joaquin adobe sunburst	T/E/1B.1	Annual herb in the Asteraceae found in cismontane woodland, and valley and foothill grasslands on adobe clay soils between 295 and 2,625 feet (90–800 meters) in elevation. Known to occur in the Southern Sierra Nevada Foothills from Kern County north to Fresno County. Blooming period: March to April	Closest known record is 13 miles northeast of the project site, south of Taft Hwy and east of the West Side Freeway (2010). 300 plants were observed in the area at that time. No records exist within 10 miles of the project site.	No San Joaquin adobe sunburst was observed during the fieldwork conducted. Soils have been manipulated multiple times over the years and no habitat features typical of known occurrences are present. It is not expected, and no significant impacts are anticipated. No Potential
<i>Puccinellia simplex</i> California alkali grass	-/-/1B.2	Annual herb in the Poaceae found in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools; in alkaline, vernal-mesic sinks, flats, and lake margins between 6 to 3,051 feet (2–930 meters) in elevation. Known from locations in Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kern, Lake, Los Angeles, Madera, Merced, Napa, San Bernardino, Santa Clara, Santa Cruz, San Luis Obispo, Solano, Stanislaus, Tulare, and Yolo Counties. This species is presumed extirpated in Kings County. Blooming period: March - May	Closest known record is a historic record from 1987, 11 miles southeast of the project site. No records appear within 10 miles of the project site.	No California alkali grass was observed during the fieldwork conducted. Soils have been manipulated multiple times over the years and no habitat features typical of known occurrences are present. It is not expected, and no significant impacts are anticipated. No Potential
<i>Stylocline citroleum</i> Oil neststraw	-/-/1B.1	Annual herb in the Asteraceae found in chenopod scrub, coastal scrub, and valley and foothill grasslands on clay soils between 164 and 1,312 feet (50–400 meters) in elevation. Known from locations in Kern and San Diego Counties. Blooming period: March - April	One historic record was documented within 10 miles of the project site, 4.9 miles northeast, from the year 1935. No other records appear within 10 miles of the project site.	No oil neststraw was observed during the fieldwork conducted. Soils on the Project site are sandy and have been manipulated multiple times over the years. No habitat features typical of known occurrences are present and it is not expected. No significant impacts are anticipated. No Potential

Scientific Name Common Name	¹ Status Fed/State/CNPS	Brief Description	Known Records	Potential to Occur
<i>Stylocline masonii</i> Mason’s neststraw	-/-/1B.1	Annual herb in the Asteraceae found in chenopod scrub and pinyon and juniper woodland on sandy soils between 328 and 3,937 feet (100–1,200 meters) in elevation. Known to occur in Kern, Los Angeles, Monterey, and San Luis Obispo Counties. Blooming period: March - May	Closest known record is a historic record from 1937, 14 miles west of the project site. No records appear within 10 miles of the project site.	No Mason’s neststraw was observed during the fieldwork conducted. Although suitable soils are present, the site has been manipulated multiple times over the years and habitat features typical of known occurrences are no longer present. It is not expected, and no significant impacts are anticipated. No Potential
<i>Tortula californica</i> California screw-moss	-/-/1B.2	Moss in the Pottiaceae found in chenopod scrub, and valley and foothill grasslands on arid soil and rock below 4,790 feet (1,460 meters) in elevation. This moss is widely distributed but only known from 15 USGS quadrangles in California. Known to occur in Kern, Los Angeles, Monterey, Modoc, Riverside, Santa Barbara, San Diego, and Ventura Counties, and Santa Rosa Island. Blooming period: N/A	One record was documented within 10 miles of the project site, 6.9 miles northeast, and is undated. No other records appear within 10 miles of the project site.	No California screw moss was observed during the fieldwork conducted. Although potential suitable arid soils are present, the site has been manipulated multiple times over the years and habitat features typical of known occurrences are no longer present. It is not expected, and no significant impacts are anticipated. No Potential

¹STATUS:

Federal and State Listing Code

D Delisted

E Federally or State-listed Endangered

R State-listed as Rare

T Federally or State-listed Threatened

- No listing status

CNPS

1A Plants presumed extirpated in California, and either rare or extinct elsewhere

1B.1 Plants considered rare, threatened, or endangered in California and elsewhere; seriously threatened in California

1B.2 Plants considered rare, threatened, or endangered in California and elsewhere; fairly threatened in California

1B.3 Plants considered rare, threatened, or endangered in California and elsewhere; not very endangered in California

2B.1 Plants considered rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California

Sources: Jepson Flora Project (2021), CNPS (2021), Calflora (2021), CNDDDB (2021) unless otherwise noted

Table A-2: Special-status Wildlife That May Occur in the Vicinity of the Project Site.

<i>Scientific Name</i> Common Name	¹ Status Federal/State	General Habitat	Known Records	Potential to Occur
Invertebrates				
<i>Andrena macswaini</i> An andrenid bee	-/-	Occupies Central Valley and adjacent foothills, from Kern to Madera Counties. Nests in deep sandy soil (Thorp 1969).	Closest known record is a historic record from 1960, 13 miles southeast of project site. No records appear within 10 miles of the project site.	No likely nests detected on site during reconnaissance survey. No deep sandy soil likely to support this species was detected on site. No Potential
<i>Bombus crotchii</i> Crotch bumble bee	-/C	Occupies grasslands and shrublands. They are social insects that live in annual colonies. Nests are often underground in abandoned rodent burrows, rock piles, or dead tree cavities. Historically found primarily in the Central Valley, now this species is most commonly found in the southern California coastal areas; a strong affinity for milkweed as a food source.	Closest known record is a historic record from 1959, 1.7 miles northwest of project site. Closest recent record is from 2020, 5.5 miles southwest of the project site. All other records within 10 miles of project site are historic.	No likely nests detected on site during reconnaissance survey. No milkweed or other flowering plants likely to support this species were detected on site. No Potential
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	T/-	Occupies a variety of different vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. They are most frequently found in pools measuring less than 0.05 acres (0.02 hectares). Distribution in the Central Valley ranges from Shasta County to Tulare County. Kern County has no documented occurrences.	No CNDDB records exist within 10 miles of the project site.	No suitable habitat for this species was present on the project site. No Potential
<i>Danaus plexippus pop. 1</i> Monarch – California overwintering population	C/-	California overwinter populations travel between San Diego and British Colombia. Females deposit eggs on milkweed (<i>Asclepias</i> spp.) throughout the migratory range.	Closest known record is a historic record from 1985, 2.1 miles north of project site. No modern records appear within 20 miles of the project site.	No milkweed or other potential host plants detected on site during reconnaissance survey. No Potential
<i>Desmocerus californicus dimorphus</i> Valley elderberry longhorn beetle	T/-	Central Valley riparian forest; nearly always found on or close to its host plant, elderberry (<i>Sambucus</i> species).	One possible record exists within 10 miles of the project site, 5.1 miles north, and is undated. No other records appear within 10 miles of the project site.	No suitable habitat for this species was present on the project site. Species range was adjusted by USFWS (2006) to exclude Kern County. No Potential
<i>Gonidea undulata</i> Western ridged mussel	-/-	Occurs on the benthos of streams, rivers and lakes with substrates that vary from gravel to firm mud, and include at least some sand, silt or clay (Cosewic 2003)	One possible record exists within 10 miles of the project site, 5 miles north, and is from an unknown date before 1970. No other records appear within 10 miles of the project site. Species is presumed extirpated from Southern California.	No suitable habitat for this species was present on the project site. No Potential
<i>Helminthoglypta callistoderma</i> Kern shoulderband	-/-	Occurs in the lower Kern River Canyon, known only from Tulare and Kern Counties.	Closest known record is a historic record from an unknown date, 4.8 miles west of project site. One recent record exists 9.1 miles northeast of the project site. No other records appear within 10 miles for the project site.	No suitable habitat for this species was present on the project site. No Potential
<i>Lytta moesta</i> Moestan blister beetle	-/-	Adults in this genus are often found on flowers, but there is no published information on habitat or floral visitation records for this species. Known from central California and has been collected in Kern and Tulare Counties.	Closest known record is a historic record from an unknown date, 4.7 miles east of project site. No other records appear within 10 miles of the project site.	Soils on the Project site and in the vicinity have been manipulated multiple times over the years. Historical grading, off-road vehicle travel, and trash dumping have created unsuitable conditions for this species. No Potential
<i>Lyta morrisoni</i> Morrison’s blister beetle	-/-	Adults in this genus are often found on flowers, but there is no published information on habitat or floral visitation records for this species. Known from the southern Central Valley.	Closest known record is a historic record from an unknown date, 4.7 miles east of project site. No other records appear within 10 miles of the project site.	Soils on the Project site and in the vicinity have been manipulated multiple times over the years. Historical grading, off-road vehicle travel, and trash dumping have created unsuitable conditions for this species. No Potential
Fish				
<i>Hypomesus transpacificus</i> Delta smelt	T/T	Found only in the Sacramento-San Joaquin Estuary in the interface between salt and freshwater.	No CNDDB records exist for this species within 10 miles of the project site.	No suitable habitat for this species was present on the project site. No Potential

<i>Scientific Name</i> Common Name	¹ Status Federal/State	General Habitat	Known Records	Potential to Occur
Amphibians				
<i>Batrachoseps relictus</i> Relictual slender salamander	-/CSC	Occur along streams and in moist wooded canyons in valley and foothill riparian habitats, blue oak woodlands, and Sierra mix conifer woodlands. Known from Fresno and Kern Counties.	Closest known record is a historic record from an unknown date, 6.5 miles northeast of project site. No other records appear within 10 miles of the project site.	No suitable habitat for this species was present on the project site. No Potential
<i>Rana draytonii</i> California red-legged frog	T/-	Found in dense, shrubby riparian vegetation associated with deep (0.6 meters; 2 feet), still or slow-moving water; arroyo willow (<i>Salix lasiolepis</i>) seems to be most suitable, but cattails (<i>Typha</i> sp.) and bulrushes (<i>Scirpus</i> sp.) also provide good habitat.	No CNDDB records exist for this species within 10 miles of the project site.	No suitable habitat for this species was present on the project site. No Potential
<i>Spea hammondi</i> Western spadefoot (toad)	-/CSC	Central valley and adjacent foothills, Coast Ranges from Point Conception south to the Mexico border; valley-foothill grasslands and valley-foothill hardwood, shallow temporary pools used for breeding, below 4,472 feet (1,363 meters).	Closest known record is a historic record from 1975, 8.3 miles west of the project site. Closest modern record is from 2008, 9.5 miles west of the project site. Several other records exist on the west and northwest outskirts of Bakersfield, 10 to 15 miles from the project site.	No suitable habitat for this species was present on the project site. No Potential
Reptiles				
<i>Anniella grinnelli</i> Bakersfield legless lizard (including <i>Anniella</i> sp. [California legless lizard])	-/CSC	Inhabits loose soil with plant cover. Occurs in sparsely vegetated areas of arid scrub, sandy washes, and stream terraces with shrub cover or sycamores and/or cottonwood tree cover. Has been documented in undeveloped or lightly developed areas within Bakersfield city limits and unincorporated areas of Bakersfield.	Closest known record is a historic record from 1934, 1.7 miles west of the project site. Closest modern record is from 2020, 4 miles west of the project site. Several more records exist within 10 miles of the project site, north of the Kern River.	The Project site lacks suitable cover; soils and have been manipulated multiple times over the years. Cover consisted of trash and sparse grasses. Historical grading, off-road vehicle travel, and trash dumping reduce the potential for this species. Although it is known to occur in and near the City of Bakersfield in impacted situations, the soils at known locations have not undergone the extensive surface manipulation observed on the Project site. No Potential
<i>Arizona elegans occidentalis</i> California glossy snake	-/CSC	Inhabits arid scrub, rocky washes, grasslands, and chaparral. Appears to prefer microhabitats of open areas and areas with soil loose enough for easy burrowing. Occurs from the eastern part of the San Francisco Bay Area south to northwestern Baja California. It is absent along the Central Coast.	Closest known record is a historic record from 1958, 1.7 miles northeast of the project site. Numerous historic records exist within 10 miles of the project site. No recent records exist within 10 miles of the project site.	No suitable habitat for this species was present on the project site. No Potential
<i>Emys marmorata</i> Western pond turtle	-/CSC	Completely aquatic requiring calm waters such as pools or streams with vegetation banks or logs for basking. Will utilize upland habitat up to about 0.3 miles (0.5 kilometers) from water.	Closest known record is from 2000, 5.1 miles north of the project site along the Kern riverbank. No more recent records exist within 10 miles of the site.	No suitable habitat for this species was present on the project site. No Potential
<i>Gambelia sila</i> Blunt-nosed leopard lizard	E/E, SFP	Found only in the San Joaquin Valley, adjacent Carrizo Plain, Elkhorn Plain, Cuyama Valley, and Panoche Valley; inhabits sparsely vegetated plains, lower canyon slopes, on valley floors, and washes; open grassland, saltbush scrub, and alkali sink are more common habitat types.	Closest known record is from 2006, 4.5 miles northeast of the project site, just south of Hillcrest Memorial Park Cemetery. Several more records exist outside of 10 miles from the project site, in relatively undeveloped land to the west, northeast, and southeast.	Soils have been manipulated multiple times over the years. Historical grading off-road vehicle travel, and trash dumping reduce the potential for this species. Site is a relatively small patch of undeveloped land that is isolated from all known or potentially occupied natural lands by urban development and intensive agriculture. No Potential
<i>Masticophis flagellum ruddocki</i> San Joaquin coachwhip	-/CSC	Found in the San Joaquin Valley in open, dry habitats. Associated with valley grassland and saltbush scrub habitats containing small mammal burrows which are used for refugia and oviposition sites.	Closest known record is from 2000, 9.4 miles southwest of the project site along Panama Ln. All other records exist outside of 10 miles from the project site.	The Project site lacks suitable cover. Soils have been manipulated multiple times over the years. Historical grading, off-road vehicle travel, and trash dumping reduce the potential for this species. Site is isolated from all known or potentially occupied natural lands by urban development and intensive agriculture. No Potential

<i>Scientific Name</i> Common Name	¹ Status Federal/State	General Habitat	Known Records	Potential to Occur
<i>Phrynosoma blainvillii</i> Coast horned lizard	-/CSC	Inhabits valley-foothill hardwood, coniferous and riparian, as well as pine-cypress, juniper, and annual grasslands, in Sierra Nevada below 3,937 feet (1,200 meters) and in mountains of Southern California and into the adjacent valleys.	Closest known record is from 2006, 14 miles southwest of the project site, south of Taft Hwy and east of SR 5. No records appear within 10 miles of the site.	The Project site lacks suitable cover. Soils have been manipulated multiple times over the years. Historical grading, off-road vehicle travel, and trash dumping reduce the potential for this species. Site is isolated from all known or potentially occupied natural lands by urban development and intensive agriculture. No Potential
<i>Thamnophis gigas</i> Giant garter snake	T/T	Highly aquatic; usually found in areas of freshwater marsh low-gradient streams, drainage canals and irrigation ditches, especially those associated with rice farming; historically occurred in the San Joaquin Valley from the vicinity of Sacramento southward to Buena Vista and the Tulare Lake Basin; currently known from near Chico, Butte County, to the vicinity of Burrel, Fresno County.	No CNDDDB records exist for this species within 10 miles of the project site.	No suitable habitat for this species was present on the project site. Species has been extirpated from Kern County. No Potential
<i>Xantusia vigilis sierrae</i> Sierra night lizard	-/CSC	Restricted to the Greenhorn mountains in the southwest Sierra Nevada. Found in association with yucca, foothill pine, chamise, pinyon pine, and juniper. Spends most of its time under yucca logs and other cover.	Closest known record is a historic record from 1979, 11 miles northeast of the project site. No records exist within 10 miles of the project site.	The Project site lacks suitable cover. The Project site is outside of the recorded range for the species. Historical grading, off-road vehicle travel, and trash dumping reduce the potential for this species. Site is isolated from all known or potentially occupied natural lands by urban development and intensive agriculture. No Potential
Birds				
<i>Agelaius tricolor</i> Tricolored blackbird	-/T	Forages in grasslands, wetlands, rice fields, croplands, and weedy uplands dominated by mustards and thistles, etc.; breeds in marshes containing heavy growth of bulrushes, cattails, and blackberries; found throughout the Central Valley.	Closest known record is a historic record from 1990, 8.4 miles northeast of the project site at a man-made pond on Las Palmas Dr. Closest recent record is from 2012, 9 miles south of the project site at E Bear Mountain Blvd and Adobe Rd. No other records exist within 10 miles of the project site.	No suitable nesting habitat was present on the project for this species. The site represents unlikely foraging habitat. No Potential
<i>Ardea alba</i> Great Egret	-/-	Common throughout California. Associated habitats include fresh and saline emergent wetlands, along the margins of estuaries, lakes, and slow0moving streams, on mudflats and salt ponds, and in irrigated croplands and pastures.	Closest known record is 7.8 miles south of the project site in a pond southeast from the corner of Cottonwood Rd and Buena Vista Blvd (date unknown). No other records exist within 10 miles of the project site.	No suitable nesting habitat was present on the project for this species. Although occasional foraging may occur, the foraging value is marginal. No Potential
<i>Asio otus</i> Long-eared owl	-/CSC	Uncommon throughout California. Only an uncommon winter visitor to Central Valley and Southern California Deserts. Requires riparian habitat; uses live oak thickets and other dense stands of trees.	Closest known record is a historic record from 1974, 12 miles southeast of the project site. No records exist within 10 miles of the project site.	No suitable nesting habitat was present on the project for this species. The site represents unlikely foraging habitat. No Potential
<i>Athene cunicularia</i> Burrowing owl	-/CSC	Inhabit dry, open grasslands, rolling hills, desert floors, prairies, savannas, agricultural land, and other areas of open, bare ground. These owls will also inhabit open areas near human habitation, such as airports, golf courses, shoulders of roads, railroad embankments, and the banks of irrigation ditches and reservoirs.	Closest known record is 0.7 miles southwest of the project site east of the intersection of Cottonwood Rd and E Belle Terrace (2007). Over 20 records, recent and historic, exist within 10 miles of the site.	The site represented suitable habitat for the species. Due to the presence of suitable burrows on site and records of burrowing owl in the region, there is a potential that burrowing owl occupation could occur. See further discussion in Section 3.2.2. Low Potential
<i>Buteo swainsoni</i> Swainson's hawk	-/T	Riparian and sometimes large, isolated trees used for nesting; grasslands and agricultural lands used for foraging; in California, breeds primarily in the Sacramento Valley, with occasional nesting to the south through Kern County; migrate through the Central and San Joaquin Valleys to their wintering grounds in South America.	Closest known record is a historic record of a nesting location 1.7 miles northwest of the project site along SR 99 south of Taft Hwy (1935). Closest recent record is from 2016, 4.1 miles southeast of the project site. Several other nesting locations have been documented in CNDDDB in Tulare County, Kings County and Kern County.	No potential nest trees were observed on the Project site and the site is unlikely foraging habitat given the surface impacts and type of urban development. No Potential
<i>Egretta thula</i> Snowy egret	-/-	Common throughout California. Associated habitats include fresh and saline emergent wetlands, along the margins of estuaries, lakes, and slow0moving streams, on mudflats and salt ponds, and in irrigated croplands and pastures.	Closest known record is 7.8 miles southeast of the project site in a pond southeast from the corner of Cottonwood Rd and Buena Vista Blvd (date unknown). No other records exist within 10 miles of the project site.	No suitable nesting habitat was present on the project for this species. Although occasional foraging may occur, the foraging value is marginal. No Potential

<i>Scientific Name</i> Common Name	¹ Status Federal/State	General Habitat	Known Records	Potential to Occur
<i>Elanus leucurus</i> White-tailed kite	-/SFP	Associated habitats include open grasslands, savannahs, agriculture, wetlands, oak woodland and riparian areas with associated open space.	Closest known record is a historic record from 1992, 12 miles west of the project site, near the Kern River. No records exist within 10 miles of the project site.	No suitable nesting habitat was present on the project for this species. Although the site represents marginal foraging habitat due to the high degree of disturbance, this species is not expected to forage onsite. No Potential
<i>Empidonax traillii extimus</i> Southwestern willow flycatcher	E/E	Breeds in dense riparian tree and shrub habitat associated with rivers, lakes, and other wetlands.	No CNDDDB records were found for this species within 10 miles of the Project site.	No suitable nesting habitat was present on the project for this species and there is no likely nesting habitat within at least 20 miles; therefore, foraging is unlikely. No Potential
<i>Eremophila alpestris actia</i> California horned lark	-/-	Associated habitats include level or rolling short-grass prairie, bald hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats. Geographic range is the coastal region of the state, chiefly Sonoma County southeast to Mexican boundary in San Diego County; San Joaquin Valley south to northern Kern County merges into <i>E. a. ammophila</i> , which occurs through most of Kern County, northern (interior) Los Angeles County, and the Mojave Desert (Grinnell and Miller 1944).	Closest known record is 12 miles west of the project site, south from the intersection of Stockdale Hwy and Heath Rd (2006). Record notes the observation of foraging adults but no nesting activity. No records exist within 10 miles of the project site.	Although disturbed grassland was present, the Project site is well west and south of the published range for this subspecies, and it is not expected. No Potential
<i>Vireo bellii pusillus</i> Least Bell's vireo	E/E	Dense, low, shrubby vegetation, generally early successional stages in riparian areas, brushy fields, young second-growth forest or woodland, scrub oak, coastal chaparral, and mesquite brushlands, often near water in arid regions.	Closest known record is a historic record from 1973, 12 miles southeast of the project site, in Arvin California. No records exist within 10 miles of the project site.	No suitable nesting habitat was present on the project for this species. The site represents unlikely foraging habitat. No Potential
Mammals				
<i>Ammospermophilus nelsoni</i> San Joaquin antelope squirrel	-/T	Found in grasslands or open shrublands; formerly more extensive, current range includes southwestern portion of the San Joaquin Valley and in adjacent valleys to the west.	Closest known record is a historic record from 1990, 15 miles southwest of the project site. No records exist within 10 miles of the project site.	No San Joaquin antelope squirrels were observed during the field surveys and this species is not expected. The site is in an area where the species has been extirpated due to past impacts and surrounding development. No Potential
<i>Antrozous pallidus</i> Pallid bat	-/CSC	Throughout Californian except high Sierra Nevada from Shasta County south to Kern County and the northwestern corner of the state; grasslands, shrub lands, woodlands, and forest habitats; roosts in caves, crevices, mines and hollow trees.	Closest known record is 12 miles east of the project site (date unknown). No records exist within 10 miles of the project site.	No suitable roosting habitat was present on the project for this species. The site represents poor foraging habitat. No Potential
<i>Dipodomys nitratooides nitratooides</i> Tipton kangaroo rat	E/E	Found in arid communities on the valley floor portions of Kern, Tulare, and Kings counties in scrub and grassland communities on level to near-level terrain; alluvial fans (fine sands and sandy loams) with sparse grasses and woody vegetation such as iodine bush, saltbush, seep weed, and mesquite.	Closest known record is a historic record from 1999, 6.6 miles east of the project site. Closest recent record is from 2015, 11 miles southeast of the Project site at the corner of Sycamore Road and North Wheeler Ridge Road.	No burrows potentially occupied by Tipton kangaroo rat were observed during the fieldwork conducted for the preparation of this report. No Potential
<i>Eumops perotis californicus</i> Western mastiff bat	-/CSC	Open, semi-arid to arid habitats, including conifer and deciduous woodlands, annual and perennial grasslands, chaparral, desert scrub, and urban areas; roosts in cliff faces, as well as high buildings, trees, and tunnels; uncommon resident in southwestern San Joaquin Valley.	Closest known record is a historic record from of unknown date, 1.1 miles north of the project site. Only one other record exists within 10 miles of project site from 1918. No modern records exist within 10 miles of the project site.	No suitable roosting habitat was present on the project for this species. The site represents poor foraging habitat. No Potential
<i>Lasiurus cinereus</i> Hoary bat	-/-	The most widespread North American bat. Winters along the coast and in southern California, breeding inland and north of the winter range. Breeding habitat includes all woodlands and forests with medium to large-size trees and dense foliage.	Closest known record is a historic record from 1894, 5.4 miles northwest of the project site. No modern records exist within 10 miles of the project site.	No suitable roosting habitat was present on the project for this species. The site represents poor foraging habitat. No Potential
<i>Onychomys torridus tularensis</i> Tulare grasshopper mouse	-/CSC	Found in valley grasslands habitats, blue oak savanna, desert associations dominated by annual grasses and California ephedra, alkali sink scrub, saltbush scrub, and upper Sonoran shrub associations, dominated by ephedra.	Closest known record is just over 10 miles southeast of the project site (date unknown). No records exist within 10 miles of the project site. Several records occur between 10 and 20 miles from the project site.	Historical grading, off-road vehicle travel, and trash dumping have reduced the potential for this species. Site is isolated from all known populations and natural lands by urban development and intensive agriculture. No Potential

<i>Scientific Name</i> Common Name	¹ Status Federal/State	General Habitat	Known Records	Potential to Occur
<i>Perognathus inornatus</i> San Joaquin pocket mouse	-/-	Found in west-central California in the Upper Sacramento Valley, Tehama County, southward through the San Joaquin and Salinas valleys and contiguous areas to the Mojave Desert in Los Angeles, Kern and extreme western San Bernardino counties. Inhabits dry, open, grassy or weedy areas and annual grasslands, savannas, and desert-scrub associations with sandy washes or finely textured soils.	Closest known record is a historic record from 1999, 6.6 miles east of the project site. Closest recent record is from 2002, 9.5 miles northwest of the project site. No other records exist within 10 miles of the site.	Historical grading, off-road vehicle travel, and trash dumping have reduced the potential for this species. Site is isolated from all known populations and natural lands by urban development and intensive agriculture. No Potential
<i>Sorex ornatus relictus</i> Buena Vista Lake shrew	E/CSC	Formerly occupied marshlands of the San Joaquin Valley and the Tulare Basin. Its range has become much restricted due to the loss of lakes and sloughs in the area. It has been recorded from the Kern Lake Preserve area and the Kern National Wildlife Refuge. Current distribution is unknown but likely to be very restricted due to the loss of habitat.	Closest known record is from 2000, 13 miles west of the project site along the Kern River. No records exist within 10 miles of the site.	The site is outside the current known range of the species and no suitable habitat was present. No Potential
<i>Taxidea taxus</i> American badger	-/CSC	Uncommon resident found throughout California; in relatively low disturbance grassland and shrubland habitats in San Joaquin Valley.	Closest known record is a historic record from 1900, which encompasses the project site. The record is of one collected individual with a geospatial margin of error of 4 miles. No other records exist within 10 miles of the project site.	No dens, burrows, or digs indicating presence of American badger occupation or foraging were observed during the fieldwork conducted for the preparation of this report. Project site is isolated from known and potentially occupied lands by urban development and high traffic roadways. Although American badgers occur in similar habitats to those occupied by SJKF, this species is less tolerant of urban development. No Potential
<i>Vulpes macrotis mutica</i> San Joaquin kit fox (SJKF)	E/T	Found in scrub habitats, annual grassland, and valley sacaton grassland in the Central Valley and adjacent foothills and valleys, infrequently to the outer Coast Ranges; generally not found in densely wooded areas, wetland areas, or areas subject to frequent periodic flooding.	Closest known record is a historic record from 1972, 1.4 miles southeast of the project site. Closest recent record is from 2006, 2.9 miles northeast of the project site at Oswell St. and Pico Ave. Over 50 records appear in CNDDDB within the 10-mile buffer. SJKF are known to inhabit developed, agricultural, and rural areas of Bakersfield and Kern County.	Suitable habitat for the species was present on the Project site. Two potential dens were identified during the fieldwork conducted for the preparation of this report. Due to the presence of potential dens on site and records of San Joaquin kit fox in the region, there is a potential that San Joaquin kit fox occupation could occur. See discussion in Section 3.2.2. High Potential

¹STATUS:

Federal

- EListed as Endangered
- TListed as Threatened
- CCandidate for listing

State

- CCandidate for Listing
- CSCCalifornia Department of Fish and Wildlife Designated Species of Special Concern
- EListed as Endangered
- SFPCalifornia Department of Fish and Wildlife Designated Fully Protected
- TListed as Threatened

Sources (unless otherwise noted): Zeiner (1988-1990), CNDDDB (2021)

Appendix B
Photographs of the Project Site and Surrounding Area
October 22, 2021



Photo B-1: Photograph of the project site taken at the southern edge facing north



Photo B-2: Photograph of the project site taken at the center facing north



Photo B-3: Photograph of the project site taken at the southwest corner facing northeast



Photo B-4: Photograph of the project site taken at the southeast corner edge facing northwest



Photo B-5: Photograph of a potential den on project site with California ground squirrel sign. (October 22, 2021)

Appendix C
Plants and Wildlife Observed During Project Site Surveys
2021

Table C-1: Plant Observed During the Survey Conducted in 2021.

<i>Scientific Name</i>	<i>Common Name</i>
Asteraceae	
<i>Ambrosia acanthicarpa</i>	Annual bursage
<i>Heterotheca grandiflora</i>	Telegraph weed
<i>Isocoma acradenia</i>	Alkali goldenbush
Brassicaceae	
<i>Hirschfeldia incana</i>	Summer mustard*
Chenopodiaceae	
<i>Salsola tragus</i>	Russian thistle*
Poaceae	
<i>Bromus madritensis</i> ssp. <i>rubens</i>	Red brome*
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	Farmer's foxtail*
Simaroubaceae	
<i>Ailanthus altissima</i>	Tree of heaven*

* Non-native

Table C-2: Wildlife Species Observed during the Surveys Conducted in 2021

<i>Scientific Name</i>	<i>Common Name</i>
Birds	
<i>Columbia livia</i>	Rock pigeon
<i>Corvus corax</i>	Common raven
<i>Haemorhous mexicanus</i>	House finch
<i>Sayornis saya</i>	Say's phoebe
<i>Zenaida macroura</i>	Mourning dove
Mammals	
<i>Lepus californicus</i>	Black-tailed jackrabbit

Appendix C: Cultural and Tribal Coordination



MILITARY DEPARTMENT
OFFICE OF THE ADJUTANT GENERAL
9800 Goethe Road
Sacramento, California 95827-3561

February 8, 2022

Environmental Programs Directorate

SUBJECT: Construction of a Field Machine Shop, Bakersfield, California

To Whom It May Concern:

We are consulting with you in accordance with 36 CFR Part 800 ("Protection of Historic Properties"), which sets forth procedural guidelines for implementing Section 106 of the National Historic Preservation Act of 1966 (NHPA). More specifically, we are consulting to: (1) inform you of the proposed undertaking; (2) inquire about any tribal or archaeological resources that you may be aware of in the immediate vicinity of the undertaking; and (3) inquire about any concerns you may have regarding the potential for the undertaking to affect such resources.

Project Description

The California Army National Guard (CAARNG) proposes to construct a new Field Machine Shop (FMS) directly west of the Bakersfield Readiness Center in Bakersfield, California (Enclosures 1 & 2). The land adjacent to the Bakersfield Readiness Center, where the Project would be constructed, is state property managed by the California Military Department (CMD). Conceptual site designs prepared for the project present a facility footprint of approximately 25,000-sf with provisions for a 23,959-sf maintenance shop (FMS building), a standalone 275-sf bulk Petroleum, Oil, and Lubricants (POL) storage area, and a 330-sf controlled waste area where hazardous materials will be stored (Enclosure 3). In addition, 17,422 square yards of rigid pavement is planned for military equipment parking, sidewalks, and curbing around the facility. The FMS building would have administrative and technical support rooms in the south side of building and four back-to-back general purpose vehicle work bays in the north section of building. A standalone wash rack for vehicles will be located north of FMS building. Along with the primary facility and paved areas, the project will include fencing, a swale and bio-retention basin for stormwater, and landscaping.

Area of Potential Effect (APE)

The Area of Potential Effect (APE) delineates where all ground disturbing and construction activities will occur, as well as where vehicle parking and equipment staging will take place. The lot where construction will take place covers 7,872 yds². Ground disturbance may occur anywhere within this footprint. The depth of disturbance will not exceed 4 ft. below surface and most excavations will be less than 2 ft. Deeper excavations will be limited to locations where buried services and utilities will be installed. The total ground disturbance for this project will be approximately 5.8 acres.

Identification of Historic Properties: The following information summarizes our analysis of the proposed undertaking and its potential impacts on cultural resources. The project area was previously surveyed for cultural resources and archival research was conducted pursuant to requirements of 36 CFR Part 800.4(b) to identify the presence of resources eligible for inclusion in the National Register of Historic Places (NRHP). Initial construction of the Bakersfield Gateway facility took place in 2004-2005. At that time in 2004, records searches, property surveys and consultations with both local tribes and the State Historic Preservation Officer (SHPO) occurred. **Those efforts, which included the present APE, failed to identify any historic properties, including archaeological resources, on or immediately adjacent to the project area, and no tribal concerns were expressed at that time.**

A records search was subsequently conducted in 2013 as part of a statewide project to update CAARNG cultural resource databases. No resources appeared on or adjacent to the project area during that 2013 study; the nearest recorded archaeological sites identified in the records search consisted of two mid-20th century trash scatters more than a mile from the present APE. Because of the distance separating these resources from the project area, along with prior work and research conducted on the CAARNG property, no cultural resources are believed to exist within the project area.

Assessment of Effects and Protection Measures

The proposed project will result in significant ground disturbance from construction and utility installation. Repeated efforts to identify archaeological resources on the property have concluded that no such deposits exist in the area. Subsequently, inadvertent discovery of unknown archaeological material is considered unlikely and not expected, however the following measures would be followed in the event of a discovery during construction:

Inadvertent Discovery: in the case of an inadvertent discovery of archaeological remains, the CA ARNG would implement its Standard Operating Procedure (SOP) 11- (Inadvertent Discovery) of its Integrated Cultural Resources Management Plan (ICRMP), which states:

“In accordance with Standard Operating Procedure (SOP) 11 of the Integrated Cultural Resources Management Plan, workers/soldiers shall monitor their ground disturbing activities for previously unknown cultural resources. Should cultural resources be inadvertently discovered, all work shall stop and the Environmental Office immediately contacted. Work may resume upon completion of consultation with the State Historic Preservation Officer or other resolution of the discovery.”

Discovery of Human Remains: In the event that human remains are encountered, SOP 4 of the ICRMP will be applied. SOP 4, (Compliance with Laws Relating to the Discovery and Repatriation of Human Remains), provides guidance in the event that human remains are discovered. It should be noted that because the property is state owned and not federal, the Native American Graves and Protection Act (NAGPRA) does not apply.

Request for Comments

We look forward to receiving any information you may have regarding known tribal or archaeological resources in the vicinity of the project area, as well as any concerns you may have regarding the project's potential to affect such resources. We are requesting that you submit any information or comments you may have within 30 days of receipt of this letter, so that we can better incorporate your information/concerns into our planning efforts. Please note that there is no obligation on your part to comment on the project if you have no information or no concerns to share with us.

Comments should be submitted to Ethan Bertrando via email at ethan.b.bertrando.nfg@army.mil, or by mail addressed to: Ethan Bertrando, c/o California Army National Guard, Camp San Luis Obispo, 10 Sonoma Avenue (Building #738), San Luis Obispo, CA 93405-7605. If you need additional information or have any questions about the proposed project, please contact Mr. Bertrando directly via email, or by telephone at (805)594-6463. Finally, thank you for your participation in the Section 106 process for this undertaking.

Sincerely,



ETHAN BERTRANDO
Cultural Resources Coordinator
Environmental Programs
California Military Department

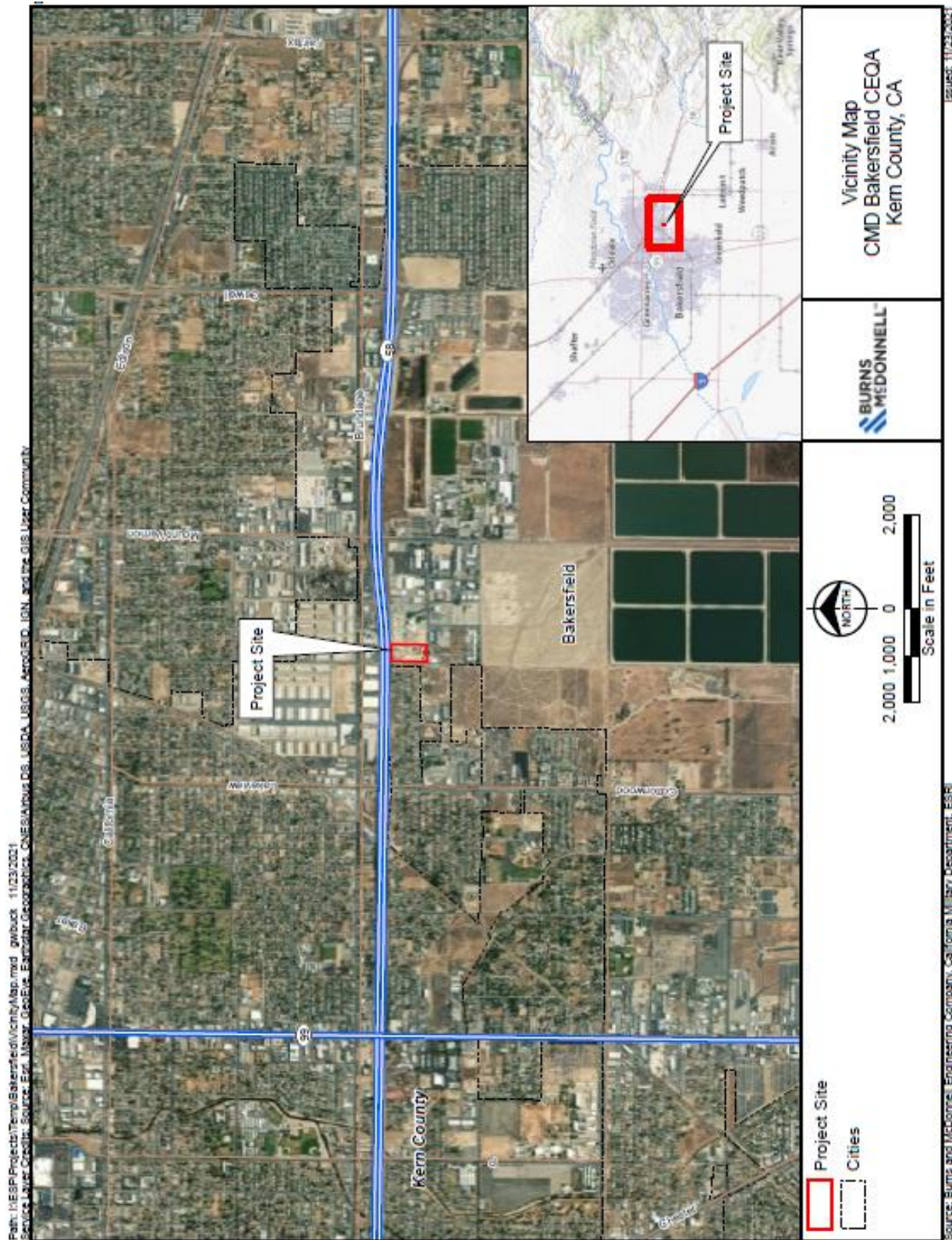
Enclosures:

- (1) Project Vicinity Map
- (2) Project Location Map
- (3) Construction Footprint Map

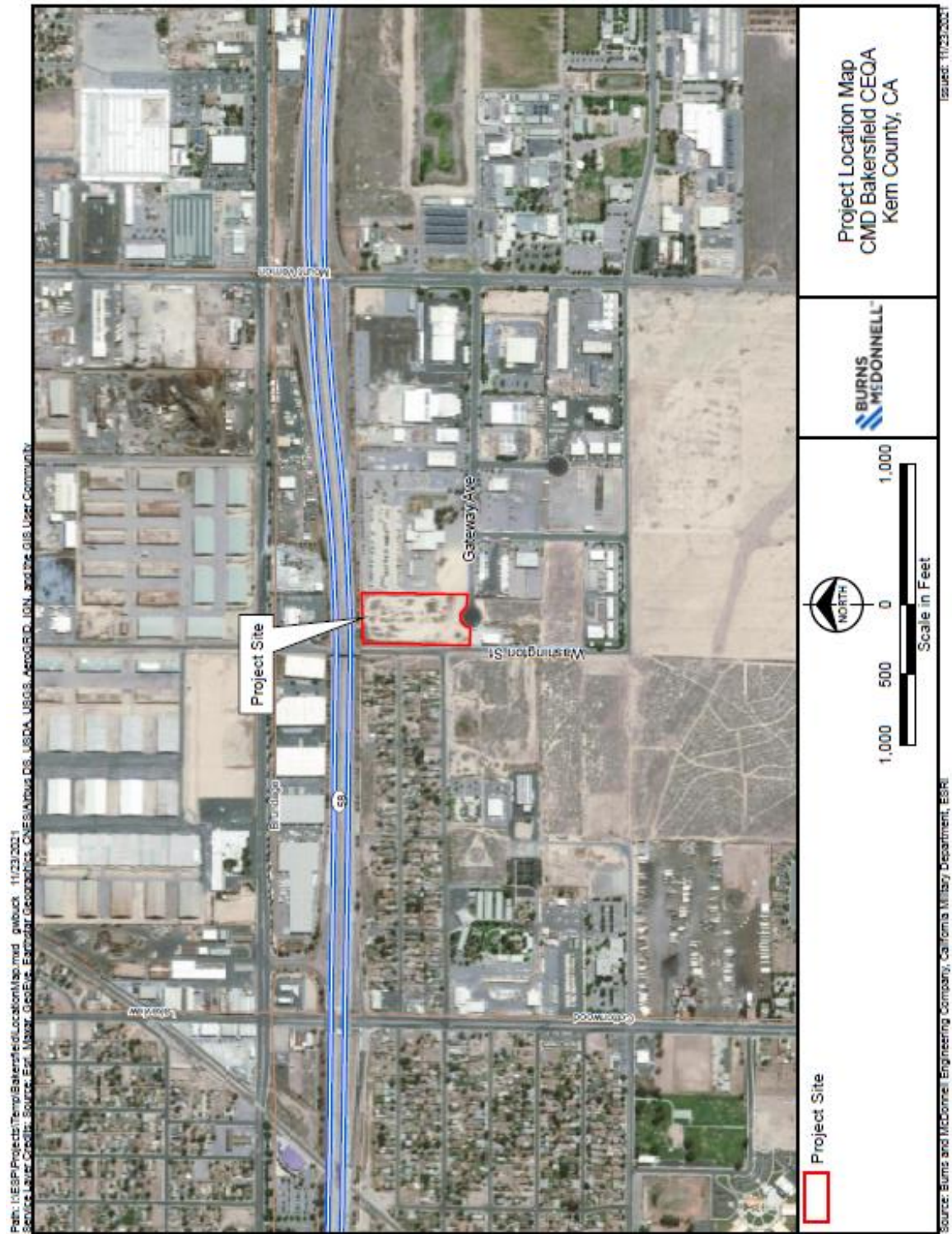
Distribution:

- Tachi-Yokut Tribe
- Tejon Indian Tribe
- Tule River Indian Tribe

Enclosure 1: Project Vicinity



Enclosure 2: Project Location



Enclosure 3: Construction Footprint





**DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION**

Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

May 17, 2022

Reference Number: CAMIL_2022_0411_001

Submitted Via Electronic Mail

Ethan Bertrando
Cultural Resources Coordinator
Environmental Programs
California Military Department
Office of the Adjutant General
Sacramento, CA 95827-3561

Re: Construction of Field Machine Shop, Bakersfield Readiness Center, 2800 Gateway Avenue, Bakersfield, California

Dear Mr. Bertrando:

The California Army National Guard (Guard) is initiating consultation with the State Historic Preservation Officer (SHPO) on the above-referenced undertaking, in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended. The Guard is requesting SHPO concurrence with a finding of No Historic Properties Affected.

The Guard plans to build a field machine shop directly west of the Bakersfield Readiness Center, as described in your April 8, 2022 letter.

The Area of Potential Effects (APE) is defined as the 5.8 acre state-owned lot where construction will occur. The anticipated depth of ground disturbance will range between two and four feet below surface level.

In an effort to identify historic properties in the APE, the Guard referenced prior cultural resources surveys of the center. No historic properties were identified in a 2004 survey conducted for the construction of the readiness center or in a 2013 records search.

The Guard wrote to Native American tribes identified as having potential cultural knowledge of the APE, including representatives of the Tachi-Yokut Tribe, Tejon Indian Tribe, and the Tule River Indian Tribe. No responses were received.

Having reviewed your submittal, SHPO offers the following comments:

- 1) The APE appears adequate to account for direct and indirect effects to historic properties;
- 2) SHPO concurs with the Guard's No Historic Properties Affected finding.

If you have any questions, please contact State Historian Tristan Tozer at (916) 445-7027 or Tristan.Tozer@parks.ca.gov.

Sincerely,



Julianne Polanco
State Historic Preservation Officer

Appendix D: CMD Bakersfield CEQA Sound and Vibration Analysis

CMD Bakersfield Field Maintenance Shop CEQA – Sound and Vibration Analysis

CMD Bakersfield

**CMD-Bakersfield FMS CEQA
Project No. 128331**

**Revision 3
6/14/2022**

CMD Bakersfield Field Maintenance Shop CEQA – Sound and Vibration Analysis

prepared for

**CMD Bakersfield
CMD-Bakersfield FMS CEQA
Bakersfield, California**

Project No. 128331

**Revision 3
6/14/2022**

prepared by

**Burns & McDonnell
Chicago, IL**

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LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
AASHTO	American Association of State Highway and Transportation Officials
APM	Applicant-Proposed Measures
CadnaA	Computer Aided Noise Abatement
Caltrans	California Department of Transportation
CNEL	Community Noise Exposure Level
dB	decibels
dBA	A-weighted decibels
FHWA	Federal Highway Administration
FMS	Field Maintenance Shop
FTA	Federal Transit Administration
in/s	inches per second
ISO	International Organization of Standardization
L _{dn}	day-night sound level
L _{eq}	equivalent sound level
POV	privately owned vehicles
PPV	peak particle velocity
SR58	State Route 58

1.0 NOISE

The Project is expected to have both temporary construction and permanent operational noise sources associated with it. Both construction and operational noise were estimated at the nearest noise-sensitive receivers to determine whether the Project would significantly increase the ambient noise levels.

1.1 Applicable Regulations

A review of federal, state, and municipal regulatory documents was conducted to determine what was applicable to the Project. Noise-sensitive receivers surrounding the Project are in both the City of Bakersfield and unincorporated Kern County. The applicable regulations are described below.

1.1.1 CEQA

The 2021 California Environmental Quality Act (CEQA) Statue & Guidelines, Appendix G (Environmental Checklist Form), Section XIII Noise requires an analysis of the following potential environmental effects of a project related to noise:

- a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- b) Generation of excessive groundborne vibration or groundborne noise levels?
- c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

CEQA checklist Section XIII Noise, questions a, b, and c are applicable to the Project and are discussed in the subsequent Sections of this report. Project activities include both temporary construction noise and permanent operational noise. The Project also includes the potential for groundborne vibration in the construction phase. The Project site is located 2 miles from the Bakersfield Municipal Airport.

1.1.2 Kern County Municipal Code and General Plan

The Kern County Municipal Code and 2009 Kern County General Plan have guidance on construction and operational noise. Kern County Municipal Code Section 8.36.020.H states, “To create noise from construction, between the hours of nine (9:00) p.m. and six (6:00) a.m. on weekdays and nine (9:00) p.m. and eight (8:00) a.m. on weekends, which is audible to a person with average hearing faculties or capacity

at a distance of one hundred fifty (150) feet from the construction site, if the construction site is within one thousand (1,000) feet of an occupied residential dwelling...”.

Kern County utilizes the day-night sound level (L_{dn}) metric for regulatory limits. The L_{dn} is the average A-weighted equivalent sound level over a 24-hour period with the inclusion of a 10-decibel (dB) penalty added to the equivalent sound levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The 10-dB nighttime penalty is added to the nighttime sound levels to account for added sensitivity to noise during the night.

The Noise Element to the 2009 Kern County General Plan Policy 5.a requires new noise-sensitive land uses in noise-impacted areas to be 65 A-weighted decibels (dBA) L_{dn} or less in outdoor activity areas and 45 dBA L_{dn} or less within interior living spaces. If sound levels are above these thresholds, mitigation should be incorporated. Typical residential building construction provides 20 dB of sound reduction when windows and doors are closed. Indoor noise limits are a 20-dB reduction from outdoor limits; therefore, if outdoor sound level limits are met, indoor sound level limits are assumed to also be met.

1.1.3 City of Bakersfield Municipal Code and General Plan

The City of Bakersfield Noise Ordinance Section 9.22.050 prohibits construction noise 1,000 feet from construction sites for the same periods as the Kern County Municipal Code, between the hours of 9:00 p.m. and 6:00 a.m. on weekdays and 9:00 p.m. and 8:00 a.m. on weekends.

The 2002 Metropolitan Bakersfield General Plan provides a land use compatibility matrix which states what sound levels are considered acceptable by land use category. A summary of Table 4.5-2 of the General Plan is included as Table 1-1.

Table 1-1: Noise and Land Use Compatibility Matrix

Land Use Category	Day-Night Sound Level L_{dn} (dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density	50-60	60-70	70-75	75-85
Residential – Multiple Family	50-65	65-70	70-75	75-85

Adapted from: 2002 Metropolitan Bakersfield General Plan Table 4.5-2

1.1.4 Vibration Criteria

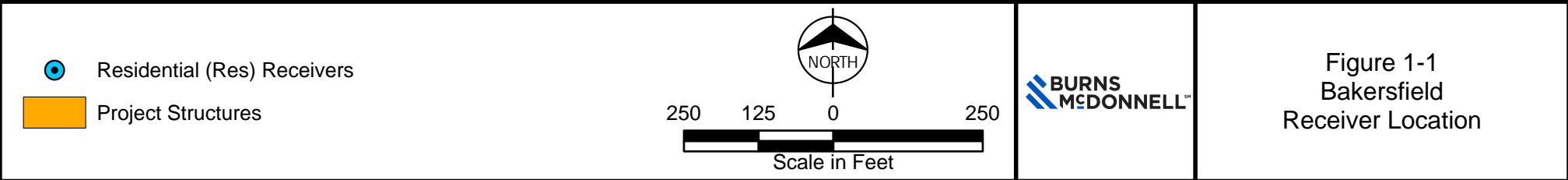
There are no applicable numeric limits for vibration found in the local regulatory documents. According to California Department of Transportation (Caltrans) documentation and American Association of State Highway and Transportation Officials (AASHTO), damage to historical buildings may occur at 0.1 inches per second (in/s). Therefore, a significant impact would be defined as a vibration source exceeding a peak particle velocity (PPV) of 0.1 in/s for occupied receivers.

1.1.5 Summary of Applicable Regulations

Noise and vibration emitted from the Project will be compared to the strictest applicable limits of the summarized regulations. Project construction is assumed to be 6:00 a.m. to 9:00 p.m. in accordance with the Kern County Municipal Code and City of Bakersfield Municipal Code. Project operational noise will be compared to the City of Bakersfield compatibility matrix and will aim to stay within the “Normally Acceptable” range of 60-70 dBA L_{dn} . A “significant increase” in ambient noise levels is not defined in either the 2002 Metropolitan Bakersfield General Plan or the 2009 Kern County General Plan. However, industry standards typically consider a significant noise increase to be 5 dBA over ambient noise levels. If sound levels are above the “Normally Acceptable” range, Project construction and operational noise will be compared to the existing environment and will identify ambient increases over 5 dB. Project vibration significance will be compared to the Caltrans historical building damage threshold of 0.1 in/s at occupied receivers.

1.2 Existing Environment

Burns & McDonnell conducted a desktop survey to investigate potential noise-sensitive receivers surrounding the Project. The area immediately surrounding the Project consists of State Route 58 (SR58) to the north, a group of residences to the west and industrial facilities to the south and east. The existing sound environment is expected to be significantly influenced by the adjacent SR58. The 2002 Metropolitan Bakersfield General Plan provides exterior noise exposure sound levels adjacent to nearby roadways by distance from the roadway centerline. Noise-sensitive receivers near the Project range between 200 to 600 feet from SR58 which is estimated to be a Community Noise Exposure Level (CNEL) in the range of 63 dBA to 70 dBA. The nearest noise-sensitive receiver to the Project, Rec01 as shown in Figure 1-1, is approximately 250 feet from SR58 resulting in a CNEL of approximately 68 dBA according to the City of Bakersfield General Plan. CNEL is closely related to L_{dn} , but includes an additional 5 dB evening penalty between the hours of 7:00 p.m. and 10:00 p.m. For this application, CNEL and L_{dn} values are assumed to be equivalent.



1.3 Project Construction and Operational Noise

Project sound and vibration levels associated with temporary construction and permanent operation were modeled at the selected noise-sensitive receivers in the surrounding community. Receivers were chosen to be representative of Project sound and vibration levels at noise-sensitive properties at worst-case sound exposure locations in the surrounding community.

1.3.1 Construction Noise and Vibration

1.3.1.1 Construction Noise Analysis

Burns & McDonnell estimated the noise levels generated by the Project during each phase of construction. Noise levels for each piece of construction equipment were used to calculate the average hourly A-weighted sound level and the corresponding 24-hour L_{dn} depending on hours of construction. The frequency at which each piece of equipment operates at full power was estimated with daily usage factors. Sound levels and daily usage factors for each piece of equipment are from the Federal Highway Administration (FHWA) Construction Noise Handbook, 2017. Table 1-2 summarizes the source sound levels used to calculate construction impacts.

Table 1-2: Construction Equipment Reference Sound Levels

Equipment	Sound Pressure Level at 50 feet (dBA) ^a
Air Compressor	80
Crane	85
Cement and Mortar Mixer	80
Forklift	55
Generator	82
Grader	85
Paver	85
Rubber Tired Dozer	85
Scraper	85
Tractor/Loader/Backhoe	80

Source: Adapted from *FHWA Construction Noise Handbook*, 2017

Hourly equivalent sound levels (L_{eq}) for each construction phase were estimated at the nearest receiver, Rec01, located approximately 350 feet to the west of the Project site. The center of the Project site was used to model the construction impacts since construction equipment is commonly located throughout the entire area of the Project site for varying durations. Table 1-3 provides a summary for each phase including the expected increase to the ambient environment at the nearest receiver, Rec01. Project L_{dn}

sound levels were calculated assuming construction operation between 6:00 a.m. to 9:00 p.m. Note, the time from 6:00 a.m. to 7:00 a.m. is considered within the nighttime period of 10:00 p.m. to 7:00 a.m. and was calculated as such.

Table 1-3: Estimated Construction Noise by Phase at Nearest Receiver

Phase	Equipment	Project L_{dn}^a	Ambient L_{dn}	Project + Ambient	Increase to Ambient
Architectural Coating	Air Compressor (1)	59	68	69	1
Building Construction	Tractor/Loader/Backhoe (1), Crane (1), Forklift (2), Generator Sets (1), Welder (3)	66	68	70	2
Grading	Tractor/Loader/Backhoe (2), Rubber Tire Dozer (1), Grader (1)	68	68	71	3
Paving	Tractor/Loader/Backhoe (1), Paver (2), Cement and Mortar Mixer (1)	69	68	72	4
Site Preparation	Tractor/Loader/Backhoe (1), Grader (1), Scraper (1)	68	68	71	3

(a) Assuming 6:00 am to 9:00 pm operation

Noise levels above 70 dBA CNEL level are considered “normally unacceptable” for residential land use per the 2002 Metropolitan Bakersfield General Plan; however, due to the temporary nature of construction and the fact that construction noise will not increase ambient noise levels greater than 5 dBA, it is not considered a significant increase.

1.3.1.2 Construction Vibration Analysis

Burns & McDonnell estimated the maximum vibration levels during Project construction. Reference vibration levels for each piece of construction equipment were used to calculate the maximum PPV in in/s. Vibration levels are from Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual, 2018. Table 1-4 provides the source vibration levels used to calculate construction impacts.

Table 1-4: Construction Equipment Reference Vibration Levels

Equipment	Peak Particle Velocity at 25 feet (in/s)^a
Air Compressor	--
Crane	--
Cement and Mortar Mixer	0.210
Forklift	--
Generator	--
Grader	0.210
Loader	0.089
Paver	0.210
Rubber Tired Dozer	0.089
Scraper	0.210
Tractor/Trailer	0.003

Source: Adapted from *FTA Transit Noise and Vibration Impact Assessment Manual*, 2018

As specified in Section 1.1.4 of this report, a significant impact will be defined as a vibration source exceeding a PPV of 0.1 in/s for occupied receivers. The maximum vibration levels are expected during the Paving phase. Table 1-5 provides maximum PPV in in/s for the Paving construction phase at Rec01.

Table 1-5: Estimated Worst-Case Vibration at Nearest Receiver

Worst-Case Scenario Construction Phase	Nearest Receiver and Distance	Maximum PPV (in/s)
Paving	Rec01 (350 feet)	0.01

Vibration levels at Rec01 are not expected to exceed the maximum PPV of 0.1 in/s at the nearest noise-sensitive receiver. Note that vibration levels may vary from results depending on the sources' proximity to sensitive receivers. After construction is completed, the Project is not expected to have a significant vibration impact while operational.

1.3.2 Operational Noise

Predicted levels at the closest sensitive receptor were calculated using industry-accepted sound modeling software, Computer Aided Noise Abatement (CadnaA), version 2021. The software is a scaled, three-dimensional program, which considers air absorption, terrain, ground absorption, and reflections and shielding for each piece of noise-emitting equipment and predicts sound pressure levels. The model

calculates sound propagation based on International Organization of Standardization (ISO) 9613-2:1996, General Method of Calculation. ISO 9613-2 assesses the sound level propagation based on the octave band center-frequency range from 31.5 to 8,000 Hz. Structured facades onsite may potentially mitigate sound levels but were not included in the model as a conservative measure. The atmospheric conditions were assumed to be calm, and the temperature and relative humidity were left at the program default values.

1.3.2.1 Field Maintenance Shop

Various rooms of the Project building are expected to have interior sound sources that may propagate to outside of the building. These rooms included the Air Compressor Room, Mechanical Room, Electrical Room, and Work Bays. The three (3) Work Bays in the field maintenance shop (FMS) were modeled as one room because there are no walls or partitions separating each bay. Based on the provided equipment for each room, interior sound levels were estimated, and values were added to the model. Insulated metal panel walls, windows, work bay roll-up doors, and non-acoustical doors were modeled to estimate the attenuation of the interior sound levels to the outside of the building. The estimated interior sound level for each room is provided in Table 1-6.

Table 1-6: Field Maintenance Shop Sound Assumptions

Modeled Project Room	Modeled Average Interior Sound Level
Air Compressor Room	93 dBA
Mechanical Room	96 dBA
Electrical Room	96 dBA
Work Bay Room	88 dBA

Operational sound levels were estimated at the nearest residential receiver, Rec01, approximately 350 feet west of the Project. The expected sound level at Rec01 assuming all interior equipment is operating at the same time is 35 dBA. Assuming 24-hour operation as a conservative estimate, the resulting day-night sound level is expected to be 41 dBA L_{dn} .

1.3.2.2 Wash Rack

The Project wash rack is expected to wash one vehicle per day on average. Vehicles are expected to be hand dried and no dryers are a part of the wash rack design. A pressure washer of a sound level of 85 dBA at 3 feet was modeled within the wash rack. Assuming 30 minutes of washing per day, L_{dn} sound levels from the wash rack are expected to be approximately 31 dBA L_{dn} .

1.3.2.3 Project Vehicles

Increased truck traffic is expected to occur on the local roadways during Project operation. Project sound levels from privately owned vehicles (POVs) and military vehicles traveling to the site were estimated at the nearest noise-sensitive receivers. Vehicles counts were provided to be approximately 19 POVs and 4 military vehicles per day. Design speeds were based on existing local roadway speed limits. The estimated Project traffic worst-case hourly sound level was 49 dBA at the nearest noise-sensitive receiver. As a conservative estimate, the worst-case hourly sound level was assumed for all daytime hours resulting in an L_{dn} of 48 dBA L_{dn} . The expected traffic noise increase is expected to be insignificant compared to the existing SR58 traffic noise.

1.3.2.4 Operational Noise Summary

Project operational noise is expected from both the FMS interior sources and Project vehicles. A summary of the expected Project sound levels from each source is shown in Table 1-7.

Table 1-7: Operational Noise Summary

Receiver	Day-Night Sound Pressure Level (L_{dn} dBA)					
	Project Field Maintenance Shop	Project Wash Rack	Project Vehicle	Overall Project	Existing	Expected Increase
Rec01	41	31	48	49	68	0

The Project operational cumulative sound level is below the lower bound of the City of Bakersfield “Normally Acceptable” sound level range and is not expected to increase the existing ambient sound.

1.4 Significance Determination

Per Appendix G of the CEQA Guidelines, the potential significance of Project impacts related to noise and vibration were evaluated for each of the criteria listed. Table 1-8 defines each criteria question as a Potentially Significant Impact, Less Than Significant with Mitigation Incorporated, Less Than Significant Impact, or No Impact.

Table 1-8: Appendix G CEQA Checklist for Noise and Vibration

Item	Prompt	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b)	Generation of excessive groundborne vibration or groundborne noise levels?			X	
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?				X

The following sections describe noise and vibration impacts associated with construction, operation, and maintenance of the Project.

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

The worst-case scenario sound exposure for Project construction will occur during the paving phase. All construction equipment for each phase was assumed to be onsite and operational during the duration of the construction day, as a conservative assumption. In compliance with local noise ordinances, the Project will limit heavy machinery construction for Project activities to 6:00 am to 9:00 pm on weekdays and 8:00 a.m. to 9:00 p.m. on weekends. Due to the Project's proximity to SR58, existing sound levels in the general area of the Project range between 63 dBA to 70 dBA CNEL. Which per the 2002 Metropolitan Bakersfield General Plan is considered "conditionally acceptable". Construction grading, paving, and site preparation would temporarily increase ambient noise levels at the receiver location up to 72 dBA CNEL. A "significant increase" in ambient noise levels is not defined in either the 2002 Metropolitan Bakersfield General Plan or the 2009 Kern County General Plan. However, industry standards typically consider a significant noise increase to be 5 dBA over ambient noise levels. Noise levels above 70 dBA CNEL level are considered "normally unacceptable" for residential land use per the 2002 Metropolitan Bakersfield General Plan; however, due to the temporary nature of construction and the fact that construction noise

will not increase ambient noise levels greater than 5 dBA, it is not considered a significant increase. No additional mitigation would be required.

No significant permanent increase is expected at any noise-sensitive receiver from the Project FMS, wash rack or traffic sound levels. The Project construction and operational sound levels are considered Less Than Significant Impact.

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

The only significant source of vibration resulting from the Project will be during the construction phase. Vibration levels have been analyzed and are not expected to be detrimental to nearby structures throughout construction. Once construction is complete, the Project is not expected to have any significant operational vibration. The Project is considered to have a Less Than Significant Impact to excessive groundborne vibration or groundborne noise levels.

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

The Bakersfield Municipal Airport is approximately 2 miles southwest of the Project. The Project is expected to have no impact to the surrounding environment; therefore, the Project would have No Impact associated with airports and airstrips.



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