Recirculated
Draft Environmental Impact Report

SCH# 2009051005

Volume 2

Appendix A through F

99 HOUGHTON INDUSTRIAL PARK PROJECT
By McIntosh & Associates

General Plan Amendment 1, 143-07;
Zone Change Case 2, Map 143-07;
Conditional Use Permit 5, Map 143-07;
Ag Preserve No. 13 – Excl.

Kern County
Planning and Natural Resources Department
Bakersfield, California

October 2019

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Ag Preserve No. 13 – Excl.

Kern County Planning and Natural Resources Department
2700 M Street, Suite 100
Bakersfield, CA 93301-2370
(661) 862-8600

Technical Assistance by:

Kimley-Horn and Associates
555 Capitol Mall, Suite 300
Sacramento, CA 95814
(916) 858-5800

October 2019

Appendices

NOTE TO REVIEWER OF ELECTRONIC FILES:

To assist you in reviewing this electronic document, "bookmarks" and/or "links" have been provided for easier navigation between sections. When available, bookmarks are located in the panel to the left. Links are highlighted in BLUE in the Table of Contents. Clicking on either the bookmarks or links will take you to the selected item. This document may consist of multiple linked PDF files. If saving this document to your computer, you must save all corresponding files to a directory on your hard drive to maintain the manner in which these PDF documents are linked.

VOLUME 2

Appendices

Appendix A – Notice of Preparation/ Initial Study and Comment Letters

Appendix B – Farmland

Appendix C - Air Quality

Appendix D – Biology

Appendix E - Phase I Cultural

Appendix F - Hazardous Materials

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Appendix A

99 Houghton Industrial Park Project Notice of Preparation/Initial Study and Comment Letters

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PLANNING DEPARTMENT

TED JAMES, AICP, Director
2700 "M" STREET, SUITE 100
BAKERSFIELD, CA 93301-2323
Phone: (661) 862-8600
FAX: (661) 862-8601 TTY Relay 1-800-735-2929
E-Mail: planning@co.kern.ca.us
Web Address: www.co.kern.ca.us/planning

RESOURCE MANAGEMENT AGENCY

DAVID PRICE III, RMA DIRECTOR
Community & Economic Development Department
Engineering & Survey Services Department
Environmental Health Services Department
Planning Department
Roads Department

NOTICE OF PREPARATION

DATE: May 1, 2009

To: See Attached Mailing List

FROM: Kern County Planning Department
Attn: Sara Kopp
2700 "M" Street, Suite 100
Bakersfield, CA 93301
(661) 862-8793

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

The Kern County Planning Department as Lead Agency (per CEQA Guidelines Section 15052) has required that an Environmental Impact Report (per CEQA Guidelines Section 15161) be prepared for the project identified below. The Planning Department solicits the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval of projects.

Due to the limits mandated by State law, your response must be received by **May 30, 2009 at 5 pm.** In addition, comments can be submitted at a **scoping meeting** that will be held at the Kern County Planning Department on **May 22, 2009 at 1:30 pm** at the address shown above.

PROJECT TITLE: 99 Houghton, LLC by McIntosh and Associates; General Plan Amendment No. 1, Map 143-07; Zone Change No. 2, Map 143-07; Exclusion from Agricultural Preserve No. 13; (PP09205)

PROJECT LOCATION: Bounded by South Union Avenue on the east, State Route 99 on the west, DiGiorgio Road to the north, and Houghton Road to the south.

PROJECT DESCRIPTION: The proposed project includes a General Plan Amendment and concurrent zone change to modify the existing land use designations for the project site from agriculture to industrial use. Since the project site is located within an agricultural preserve, a Petition for Exclusion from the County's Agricultural Preserve No. 13 is being proposed by the Project Applicant. The project consists of approximately 314.31 acres that would be developed as an industrial park. Sewage disposal is proposed through the use of a Sewage Package Treatment Plant. Water service is proposed through connections to Greenfield County Water District.

Signature: _____
Title: Planner II

EIR 06-08 W/O # PP09205
Am (3/24/09)

#61

City of Bakersfield
Planning Department
1715 Chester Avenue
Bakersfield, CA 93301

Bureau of Land Management
Caliente/Bakersfield
3801 Pegasus Drive
Bakersfield, CA 93308-6837

U. S. Fish & Wildlife Service
Division of Ecological Services
2800 Cottage Way #W-2605
Sacramento, CA 95825-1846

U.S. Department of Agriculture
Natural Resources Conservation Service
5000 California Avenue, Suite 100
Bakersfield, CA 93309-0711

Kern County Agriculture Department

Kern County Administrative Officer

Kern County Engineering & Survey Svs/
Floodplain

Kern County Engineering & Survey Svs/
Survey

Kern County Env Health Services Department

Kern County Fire Department

Kern County Parks and Recreation

Resource Management Agency
Special Projects/Fiscal Analysis

Kern County Sheriff's Department
Administration

Kern County Roads Department

Kern County Waste Management Department

Greenfield Union School Dist.
1624 Fairview Road
Bakersfield, CA 93307

Kern High School District
5801 Sundale Avenue
Bakersfield, CA 93309

Kern County Superintendent of Schools
Attention Mary Baker
1300 - 17th Street
Bakersfield, CA 93301-4533

KernCOG

Local Agency Formation Commission
5300 Lennox Avenue, Suite 303
Bakersfield, CA 93309

Kern County Water Agency
P.O. Box 58
Bakersfield, CA 93302-0058

San Joaquin Valley Air Pollution Control District
1990 East Gettysburg Avenue
Fresno, CA 93726

Kern Mosquito Abatement District
4705 Allen Road
Bakersfield, CA 93314

General Shafter School Dist.
1316 Shafter Road, Rural Route 7
Bakersfield, CA 93313

Native American Heritage Council of Kern County
P.O. Box 1507
Bakersfield, CA 93302

SBC California
Attention Cindy Lee
1250 East Ashlan Avenue
Fresno, CA 93704

Pacific Gas and Electric Company
Attention Doug Snyder/Land Dept.
1918 "H" Street
Bakersfield, CA 93301

Sierra Club/Kern Keaweah Chapter
Arthur Unger

******PUT IN BUCKET *****

Smart Growth Coalition
410 South Green Street
Tehachapi, CA 93561

California Farm Bureau Federation
1601 Exposition Boulevard, FB3
Sacramento, CA 95815-5195

Stationary Resource Division
(California Air Resources Board)
Attention Barbara Fry
P.O. Box 2815
Sacramento, CA 95812

Southern San Joaquin Valley Archaeological Information Center
California State University
9001 Stockdale Highway
Bakersfield, CA 93311

CalTrans/Dist. 6
Planning/Land Bank Bldg.
P.O. Box 12616
Fresno, CA 93778

State Clearinghouse
Office of Planning and Research
P.O. Box 3044
Sacramento, CA 95812-3044 -
CERTIFIED MAIL

State Dept. of Conservation
Office of Governmental
& Environmental Affairs
801 "K" Street, MS 24-02
Sacramento, CA 95814-3514

State Dept. of Conservation
Division of Oil & Gas
4800 Stockdale Highway, Ste 417
Bakersfield, CA 93309

State Dept. of Fish & Game
1234 East Shaw Avenue
Fresno, CA 93710

California Food and Agriculture
1220 "N" Street
Sacramento, CA 95814

California Highway Patrol
Planning and Analysis Division
P.O. Box 942898
Sacramento, CA 94298-0001

California Regional Water Quality Control Board/Central Valley Region
1685 E Street
Fresno, CA 93706-2020

Tejon Indian Tribe
Kathy Morgan, Chairperson
2234 4th Street
Wasco, CA 93280

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez
981 North Virginia
Covina, CA 91722

Santa Rosa Rancheria
Clarence Atwell, Chairperson
P.O. Box 8
Lemoore, CA 93245

Tule River Indian Tribe
Neal Peyron, Chairperson
P.O. Box 589
Porterville, CA 93258

Tubatulabals of Kern County
P.O. Box 226
Lake Isabella, CA 93240

Center on Race, Poverty, & the Environment
Attention Luke Cole
47 Kearny Street, Suite 804
San Francisco, CA 94108-5528

Center on Race, Poverty, & the Environment
Attention Caroline Farrell
1302 Jefferson Street, Suite 2
Delano, CA 93215

Cuddy Valley Statistical
11667 Steinhoff Road
Frazier Park, CA 93222

Defenders of Wildlife
P.O. Box 953
Joshua Tree, CA 92252

State Dept. of Conservation
Director's Office
801 "K" Street, MS 24-01
Sacramento, CA 95814-3528

Kern County Fire Department - Brian Marshall

Panama-Buena Vista School Dist.
4200 Ashe Road
Bakersfield, CA 93313

City of Bakersfield Department of Public Works
1501 Truxtun Avenue
Bakersfield, CA 93301

URS Corporation
Eric J. VonBerg
30 River Park Place West, Suite 180
Fresno, CA 93720

Kern County Library - Diane Duquette

Kern County Library/Beale Branch

Kern Valley Tribal Council
P.O. Box 168
Kernville, CA 93238

Chumash Council of Bakersfiefd
P.O. Box 902
Bakersfield, CA 93302

Fire Dept/Dennis Thompson, Fire Chief

Fire Dept/Benny Wooford

Fire Dept/Dave Goodell

Print Form

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # _____

Project Title: 99 Houghton, LLC by McIntosh and Associates

Lead Agency: Kern County Planning Department | Contact Person: Sara Kopp

Mailing Address: 2700 'M' Street Suite 100 | Phone: (661) 862-8793

City: Bakersfield | Zip: 93301 | County: Kern

Project Location: County: Kern | City/Nearest Community: Bakersfield

Cross Streets: South Union and DiGiorgio | Zip Code: 93307

Lat. / Long.: 35 ° 14 ' 39 " N/ 119 ° 0 ' 44 " W | Total Acres: 314.31

Assessor's Parcel No.: 185-140-06 | Section: 7 | Twp.: 31S | Range: 28E | Base: MDBM

Within 2 Miles: State Hwy #: 99 | Waterways: _____

Airports: _____ | Railways: _____ | Schools: General Shafter Elem

Document Type:

CEQA:
- ☑ NOP
- ☐ Early Cons
- ☐ Neg Dec
- ☐ Mit Neg Dec
- ☐ Draft EIR
- ☐ Supplement/Subsequent EIR (Prior SCH No.) _____
- ☐ Other _____

NEPA:
- ☐ NOI
- ☐ EA
- ☐ Draft EIS
- ☐ FONSI

Other:
- ☐ Joint Document
- ☐ Final Document
- ☐ Other _____

Local Action Type:

- ☐ General Plan Update
- ☑ General Plan Amendment
- ☐ General Plan Element
- ☐ Community Plan
- ☐ Specific Plan
- ☐ Master Plan
- ☐ Planned Unit Development
- ☐ Site Plan
- ☑ Rezone
- ☐ Prezone
- ☐ Use Permit
- ☐ Land Division (Subdivision, etc.)
- ☐ Annexation
- ☐ Redevelopment
- ☐ Coastal Permit
- ☐ Other _____

Development Type:

- ☐ Residential: Units _____ Acres _____
- ☐ Office: Sq.ft. _____ Acres _____ Employees _____
- ☐ Commercial: Sq.ft. _____ Acres _____ Employees _____
- ☑ Industrial: Sq.ft. _____ Acres 314.31 Employees _____
- ☐ Educational _____
- ☐ Recreational _____
- ☐ Water Facilities: Type _____ MGD _____
- ☐ Transportation: Type _____
- ☐ Mining: Mineral _____
- ☐ Power: Type _____ MW _____
- ☐ Waste Treatment: Type _____ MGD _____
- ☐ Hazardous Waste: Type _____
- ☐ Other: _____

Project Issues Discussed in Document:

- ☑ Aesthetic/Visual
- ☑ Agricultural Land
- ☑ Air Quality
- ☑ Archeological/Historical
- ☑ Biological Resources
- ☐ Coastal Zone
- ☑ Drainage/Absorption
- ☑ Economic/Jobs
- ☑ Fiscal
- ☑ Flood Plain/Flooding
- ☑ Forest Land/Fire Hazard
- ☑ Geologic/Seismic
- ☑ Minerals
- ☑ Noise
- ☑ Population/Housing Balance
- ☑ Public Services/Facilities
- ☑ Recreation/Parks
- ☑ Schools/Universities
- ☑ Septic Systems
- ☑ Sewer Capacity
- ☑ Soil Erosion/Compaction/Grading
- ☑ Solid Waste
- ☑ Toxic/Hazardous
- ☑ Traffic/Circulation
- ☑ Vegetation
- ☑ Water Quality
- ☑ Water Supply/Groundwater
- ☐ Wetland/Riparian
- ☑ Wildlife
- ☑ Growth Inducing
- ☑ Land Use
- ☑ Cumulative Effects
- ☐ Other _____

Present Land Use/Zoning/General Plan Designation:

Agriculture/A (Exclusive Agriculture)/R-IA (Resource-Intensive Agriculture) and HC (Highway Commercial)

Project Description: *(please use a separate page if necessary)*

Proposed General Plan Amendment, Zone Change, and Exclusion from Agricultural Preserve to industrial use to allow for the development of an industrial park with a maximum of 5,134,253 square feet of net building area.

Note: The state Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

January 2008

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "X".
If you have already sent your document to the agency please denote that with an "S".

____	Air Resources Board	____	Office of Historic Preservation
____	Boating & Waterways, Department of	____	Office of Public School Construction
S	California Highway Patrol	____	Parks & Recreation
S	Caltrans District # ____	____	Pesticide Regulation, Department of
____	Caltrans Division of Aeronautics	____	Public Utilities Commission
____	Caltrans Planning (Headquarters)	____	Reclamation Board
____	Coachella Valley Mountains Conservancy	S	Regional WQCB # ____
____	Coastal Commission	____	Resources Agency
____	Colorado River Board	____	S.F. Bay Conservation & Development Commission
S	Conservation, Department of	____	San Gabriel & Lower L.A. Rivers and Mtns Conservancy
____	Corrections, Department of	____	San Joaquin River Conservancy
____	Delta Protection Commission	____	Santa Monica Mountains Conservancy
____	Education, Department of	____	State Lands Commission
____	Energy Commission	____	SWRCB: Clean Water Grants
S	Fish & Game Region # ____	____	SWRCB: Water Quality
____	Food & Agriculture, Department of	____	SWRCB: Water Rights
____	Forestry & Fire Protection	____	Tahoe Regional Planning Agency
____	General Services, Department of	____	Toxic Substances Control, Department of
____	Health Services, Department of	____	Water Resources, Department of
____	Housing & Community Development		
____	Integrated Waste Management Board	____	Other ____
____	Native American Heritage Commission	____	Other ____
____	Office of Emergency Services		

Local Public Review Period (to be filled in by lead agency)

Starting Date May 1, 2009 Ending Date June 1, 2009

Lead Agency (Complete if applicable):

Consulting Firm: ____
Address: ____
City/State/Zip: ____
Contact: ____
Phone: ____

Applicant: ____
Address: ____
City/State/Zip: ____
Phone: ____

Signature of Lead Agency Representative: ____ **Date:** 5/1/09

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

INITIAL STUDY/NOTICE OF PREPARATION

99 Houghton, LLC Project

By McIntosh & Associates
GPA #1, ZCC #2, Exclusion from Agricultural Preserve, Map 143-07

LEAD AGENCY:

Kern County Planning Department
2700 'M' Street, Suite 100
Bakersfield, CA 93301-2370
Contact: Ms. Sara Kopp
(661) 862-8793

TECHNICAL ASSISTANCE BY:

RBF CONSULTING

2101 Arena Boulevard, Suite 250
Sacramento, CA 95834
(916) 928-1113

May 2009

1.1 PROJECT LOCATION

The proposed 314.31-acre Project site is located approximately 1.10 miles southeast of the Bakersfield City limits, within the Metropolitan Bakersfield General Plan, in Kern County, California (refer to Figure 1-1, REGIONAL VICINITY). The proposed Project is located north of Houghton Road, east of State Route 99 (SR-99), west of South Union Avenue (SR-204), and south of DiGiorgio Road (refer to Figure 1-2, SITE VICINITY). The proposed Project site is identified as Assessor Parcel Number 185-140-06, and is located within a portion of Section 7, Township 31 South, Range 28 East, Mount Diablo Meridian.

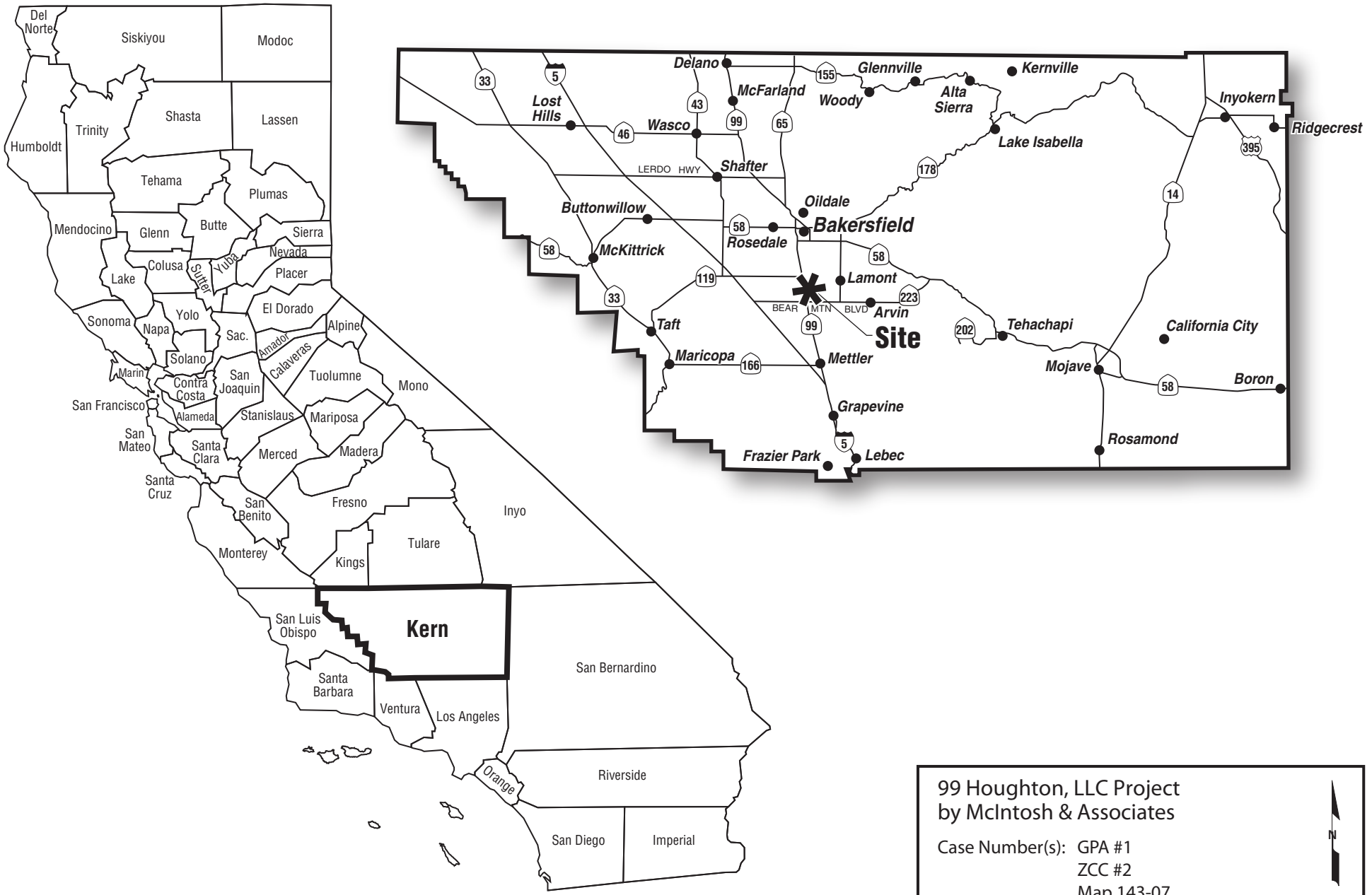
1.2 ENVIRONMENTAL SETTING

The proposed Project site has historically and is currently used for agricultural activities. Over the past five years, alfalfa, corn, wheat, and grain have been grown on-site, and much of the fallowed or past alfalfa fields on the Project site have been, and continue to be grazed by sheep. The proposed Project site is mostly vacant; however, a steel storage building associated with agricultural activities is located in the eastern portion of the site, near South Union Avenue (SR-204). The topography of the site is relatively flat, sloping slightly from the northwest to the southeast. Elevations range from approximately 331 feet above mean sea level (msl) to 340 feet above msl.

The soil units occurring within the proposed Project site are Bakersfield fine sandy loam and Cajon sandy loam. The Bakersfield fine sandy loam consists of very deep, poorly drained soil with 0 to 1 percent slopes. The Cajon sandy loam consists of very deep, somewhat excessively drained soil with 0 to 2 percent slopes. The proposed Project is located within a Federal Emergency Management Agency (FEMA) designated Flood Zone “C”, indicating that flooding on this site is minimal. The proposed Project is not located in an area of high groundwater. The majority of the proposed Project site (approximately 257.57 acres) is within Agricultural Preserve No. 13; however, none of the property is subject to a Williamson Act land use contract.

In addition, petroleum and associated natural gas are the primary mineral resources historically and currently under development in the vicinity of the proposed Project. In 1934, one exploratory oil well, “Sea Cliff-Houghton” 1, was drilled near the northern boundary of the proposed Project site. The well failed to produce oil or gas and was abandoned in 1935.

The closest fire station to the proposed Project is Kern County Fire Station #52, located at 312 Taft Highway, approximately 1.1 miles from the northeast corner of the Project site. The nearest sheriff station is the Lamont Substation, located at 12022 Main Street, approximately 5.5 miles from the proposed Project. The proposed Project is located within the Greenfield Union and Kern High School Districts. Schools located in the vicinity of the proposed Project include Panama Elementary, Ridgeview High, McKee Middle School, McKee Primary School, and Greenfield County Preschool, all of which are located within three (3) miles of the proposed Project site. The Lamont Public Library is the closest library to the proposed Project, located approximately 5.78 miles east. The nearest park to the proposed Project site is Kern Delta Park, located approximately 2.12 miles to the northwest. The closest public airport is Bakersfield Municipal Airport, located approximately five (5) miles northeast of the proposed Project site. Costerisan Farms Airport, a private airstrip, is located approximately two (2) miles northwest of proposed Project site. No unique paleontological or historical resources are known to be located on the proposed Project site.

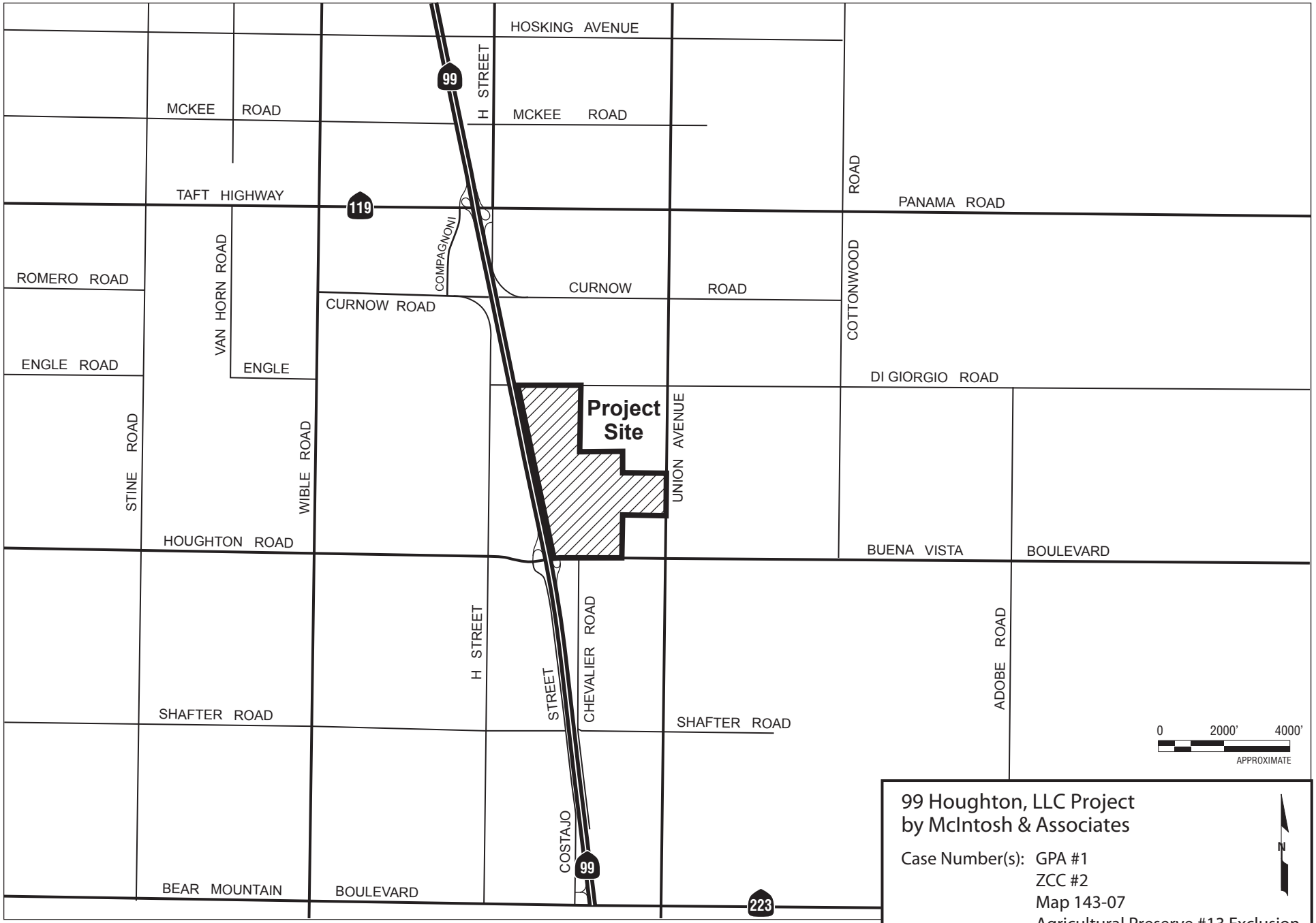


Regional Vicinity

99 Houghton, LLC Project
by McIntosh & Associates

Case Number(s): GPA #1
ZCC #2
Map 143-07
Agricultural Preserve #13 Exclusion

Figure 1-1 03/13/2009



99 Houghton, LLC Project
by McIntosh & Associates

Case Number(s): GPA #1
ZCC #2
Map 143-07
Agricultural Preserve #13 Exclusion

Figure 1-2 03/13/2009

Site Vicinity

According to the Metropolitan Bakersfield General Plan, the majority of the proposed Project site is currently designated R-IA (Resource-Intensive Agriculture), while a portion of HC (Highway Commercial) is located in the southwestern area of the proposed Project site, just north of Houghton Road. The proposed Project has a Kern County Zoning Ordinance classification of A (Exclusive Agriculture). Existing land uses in the area include vacant land and agricultural uses to the north, agricultural uses and a small cluster of single-family residential homes to the east, SR-99 to the west, and agricultural uses and an automobile wrecking yard located south/southeast of proposed Project site (refer to Table 1-1, PROPOSED PROJECT SITE AND SURROUNDING LAND USES).

TABLE 1-1
Proposed Project Site and Surrounding Land Uses

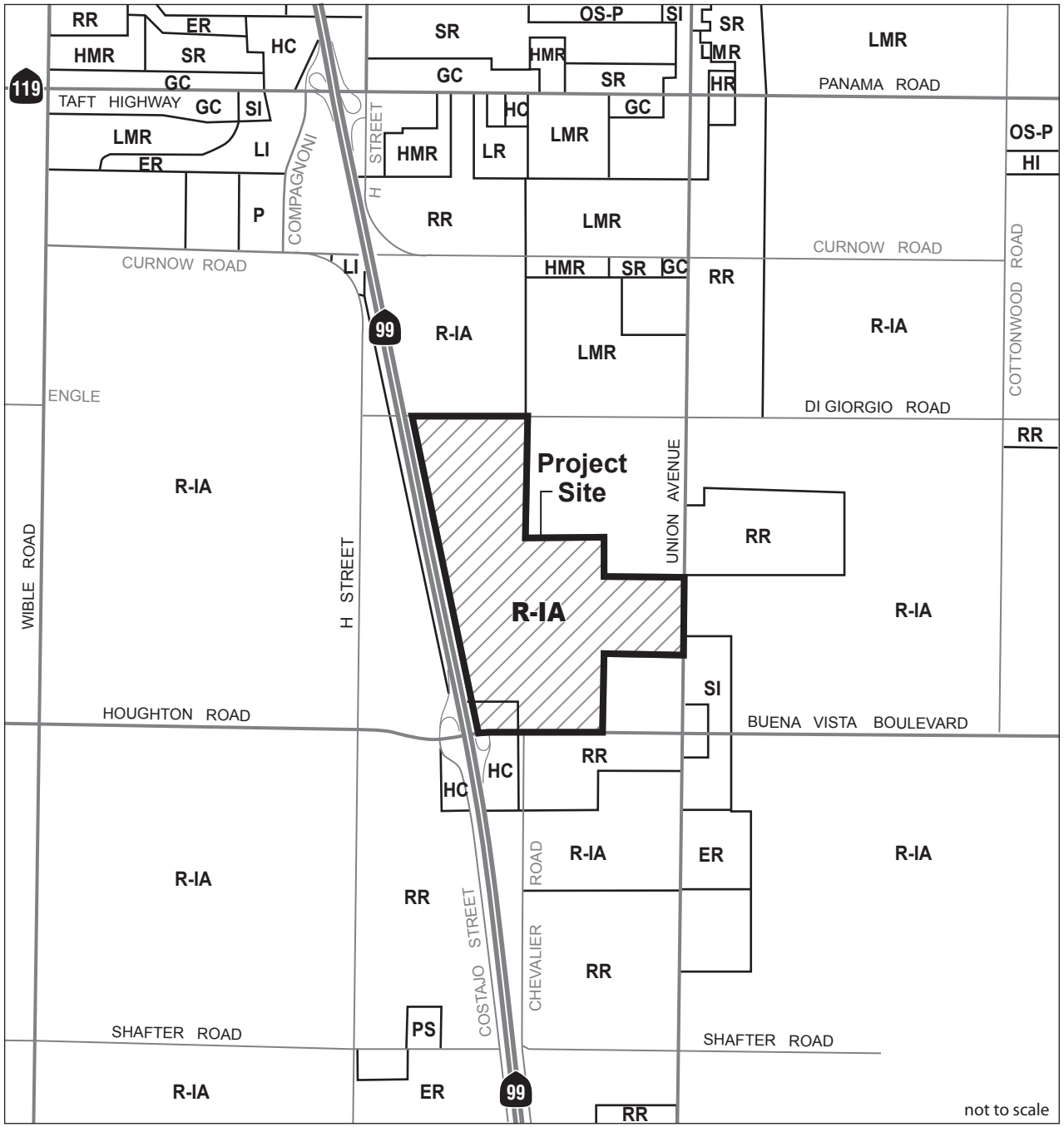
Direction from Project Site	Existing Land Use	Existing Land Use Designation (Metropolitan Bakersfield General Plan)	Existing Zoning (Kern County)
Project Site	Agriculture	R-IA (Resource-Intensive Agriculture) HC (Highway Commercial)	A (Exclusive Agriculture)
North	Agriculture; DiGiorgio Road	R-IA (Resource-Intensive Agriculture) LMR (Low Medium Density Residential, 10 units per acre)	A-1 (Limited Agriculture) A (Exclusive Agriculture)
East	Agriculture, Single-Family Residential, State Route 204	R-IA (Resource-Intensive Agriculture) RR (Rural Residential) SI (Service Industrial) HC (Highway Commercial)	A (Exclusive Agriculture) A-1 (Limited Agriculture) E(10) RS (Estate 10 Acres, Residential Suburban Combining) M-2 PD (Medium Industrial, Precise Development Combining) CH (Highway Commercial)
West	State Route 99; Agriculture	PT (Public Transportation) R-IA (Resource-Intensive Agriculture)	A (Exclusive Agriculture) A-1 (Limited Agriculture)
South	Agriculture, Automobile Wrecking Yard; Houghton Road	R-IA (Resource-Intensive Agriculture) RR (Rural Residential, 2½ acres per unit) HC (Highway Commercial)	A (Exclusive Agriculture) C-2 PD (General Commercial, Precise Development Combining)

1.3 PROJECT DESCRIPTION

The proposed Project includes a General Plan Amendment (GPA) and concurrent Zone Change (ZCC) to modify the existing Metropolitan Bakersfield General Plan land use designations, and the Kern County Zoning Ordinance on the 314.31-acre Project site. In addition, the Project includes a petition to exclude the Project site from Agricultural Preserve No. 13. A Conditional Use Permit (CUP) will be processed at a later date for the proposed private package sewer treatment plant.

1.3.1 PROJECT CHARACTERISTICS

The Project proposes to amend the Metropolitan Bakersfield General Plan land use designation from R-IA (Resource-Intensive Agriculture) and HC (Highway Commercial), to LI (Light Industrial) and SI (Service Industrial) (refer to Figure 1-3, EXISTING GENERAL PLAN DESIGNATIONS and Figure 1-4, PROPOSED GENERAL PLAN DESIGNATIONS). Approximately 129.73 acres would be amended to LI, and approximately 184.58 acres would be amended to SI.



Land Use Designations

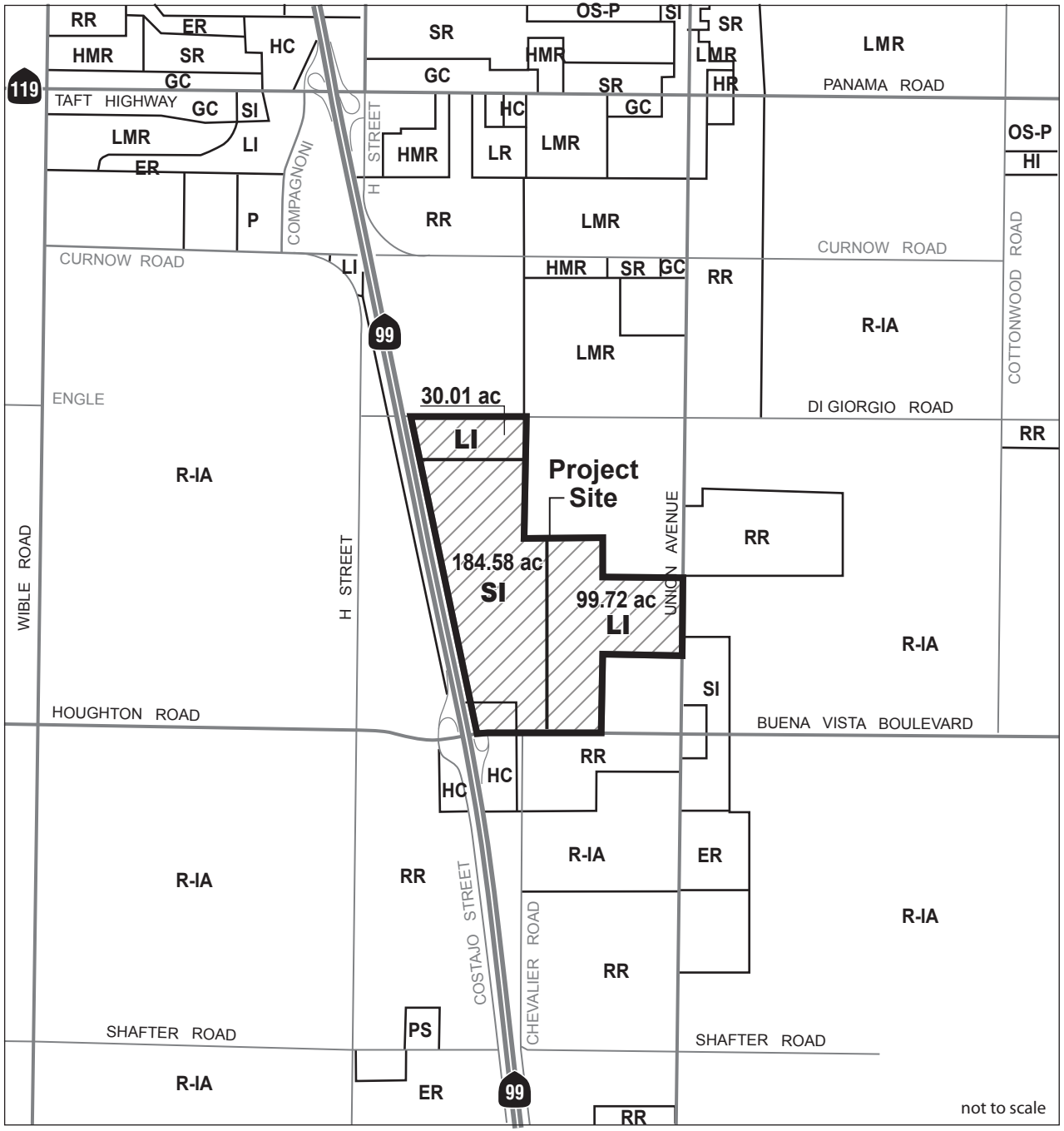
R-IA	Resource - Intensive Agriculture
LMR	Low Medium Residential
HMR	High Medium Residential
RR	Rural Residential
ER	Estate Residential
SR	Suburban Residential
GC	General Commercial
HC	Highway Commercial
LI	Light Industrial
SI	Service Industrial
HI	Heavy Industrial
OS-P	Parks and Recreation Facilities
PS	Public and Private Schools
P	Publicly Owned Facilities

Existing General Plan Designations

99 Houghton, LLC Project
by McIntosh & Associates

Case Number(s): GPA #1
ZCC #2
Map 143-07
Agricultural Preserve #13 Exclusion

Figure 1-3 04/1/2009



Land Use Designations

R-IA	Resource - Intensive Agriculture
LMR	Low Medium Residential
HMR	High Medium Residential
RR	Rural Residential
ER	Estate Residential
SR	Suburban Residential
GC	General Commercial
HC	Highway Commercial
LI	Light Industrial
SI	Service Industrial
HI	Heavy Industrial
OS-P	Parks and Recreation Facilities
PS	Public and Private Schools
P	Publicly Owned Facilities

Proposed General Plan Designations

99 Houghton, LLC Project
by McIntosh & Associates

Case Number(s): GPA #1
ZCC #2
Map 143-07
Agricultural Preserve #13 Exclusion

Figure 1-4 04/1/2009

The Project also proposes a concurrent Zone Change from A (Exclusive Agriculture) to M-1 PD (Light Industrial, Precise Development Combining) and M-2 PD (Medium Industrial, Precise Development Combining). Approximately 129.73 acres would be amended to M-1 PD and approximately 184.58 acres would be amended to M-2 PD (refer to Figure 1-5, EXISTING ZONING and Figure 1-6, PROPOSED ZONING). Table 1-2, EXISTING AND PROPOSED LAND USE AND ZONING, provides the GPA and ZCC summary for the proposed Project.

TABLE 1-2
Existing and Proposed Land Use and Zoning

Existing Land Use Designations	Proposed General Plan Amendment (Land Use Designations)	Existing Zoning	Proposed Zone Change (Zoning Designations)	Gross Acres
R-IA (Resource-Intensive Agriculture) HC (Highway Commercial)	LI (Light Industrial)	A (Exclusive Agriculture)	M-1 PD (Light Industrial, Precise Development Combining)	±129.73
	SI (Service Industrial)		M-2 (Medium Industrial, Precise Development Combining)	±184.58
			Total	**314.31**

The GPA and ZCC would allow for development of a light to medium industrial park containing approximately 5,134,253 square feet (net building area) of warehousing, distribution, and retail showroom uses consistent with the Kern County General Plan and Zoning Ordinance.

The majority of the proposed Project site (approximately 257.57 acres) is located within the boundaries of Agricultural Preserve No. 13; however, none of the property is subject to a Williamson Act land use contract (refer to Figure 1-7, AGRICULTURAL PRESERVE NO. 13 MAP). A petition for exclusion of the proposed Project site from the boundaries of Agricultural Preserve No. 13 is included.

Access to the proposed Project will be provided by South Union Avenue (SR-204), Houghton Road, and the DiGiorgio Road alignment. The alignment of Houghton Road at the southern boundary of the proposed Project site has been designated as the South Beltway, a future 210-foot wide expressway. Water facilities for the proposed Project will be provided by Greenfield County Water District; however, the proposed Project is outside and immediately adjacent to this water district area and Sphere of Influence, and would require an annexation and Sphere of Influence Amendment through the Local Agency Formation Commission (LAFCO) in order to receive water service. A private package sewer treatment plant is proposed to provide sewer services to the Project site. Pacific Gas & Electric Company (PG&E) provides both electrical and gas services to the area, and AT&T provides telephone service to the area.

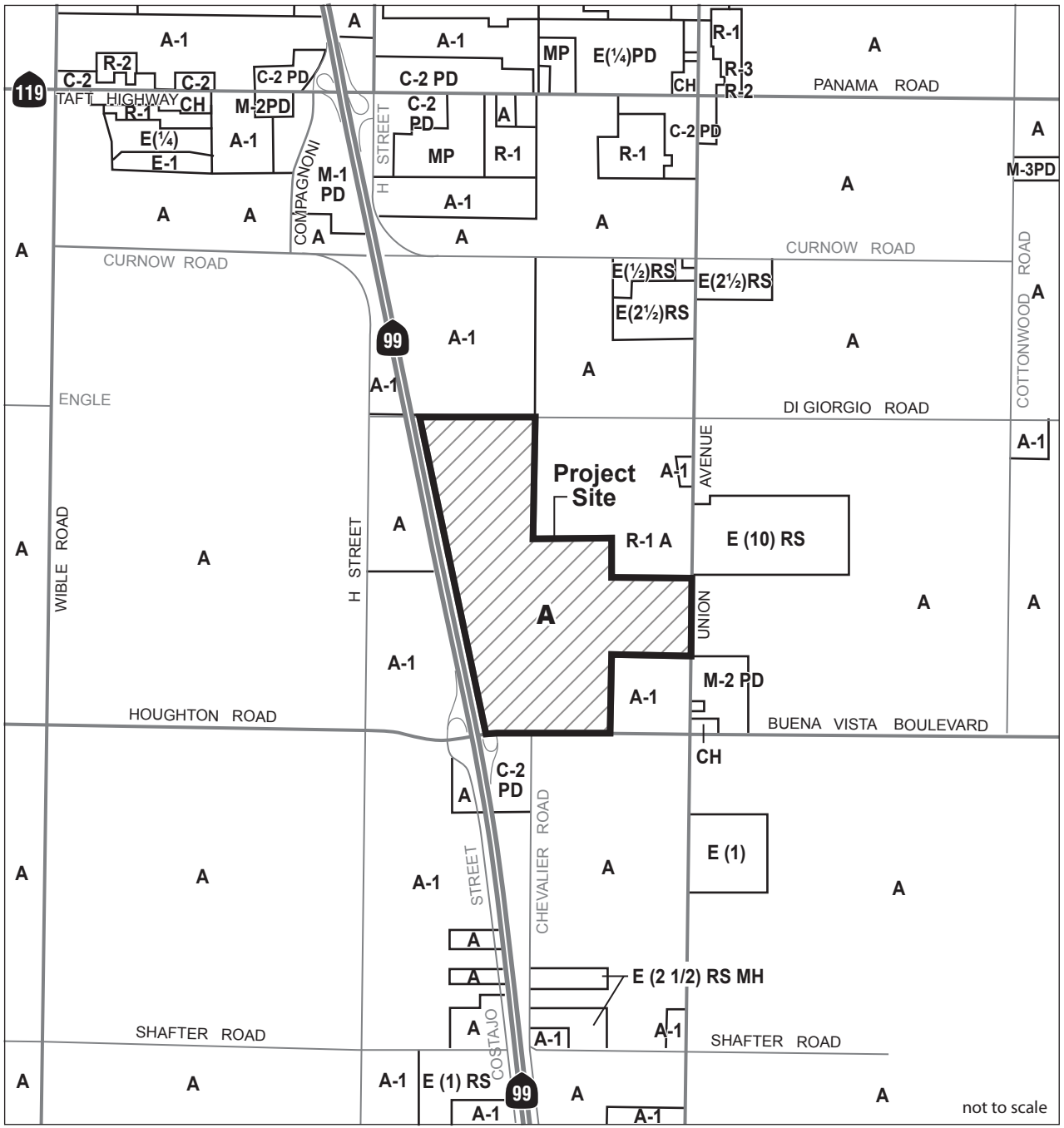
1.3.2 PROJECT PHASING

Phasing of the proposed Project has not yet been identified.

1.4 PROJECT OBJECTIVES

The objectives of the proposed Project include the following:

- Facilitate quality development that is consistent with and implements the goals of the Kern County General Plan.
- To develop the site consistent with the provisions of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.



Existing Zoning

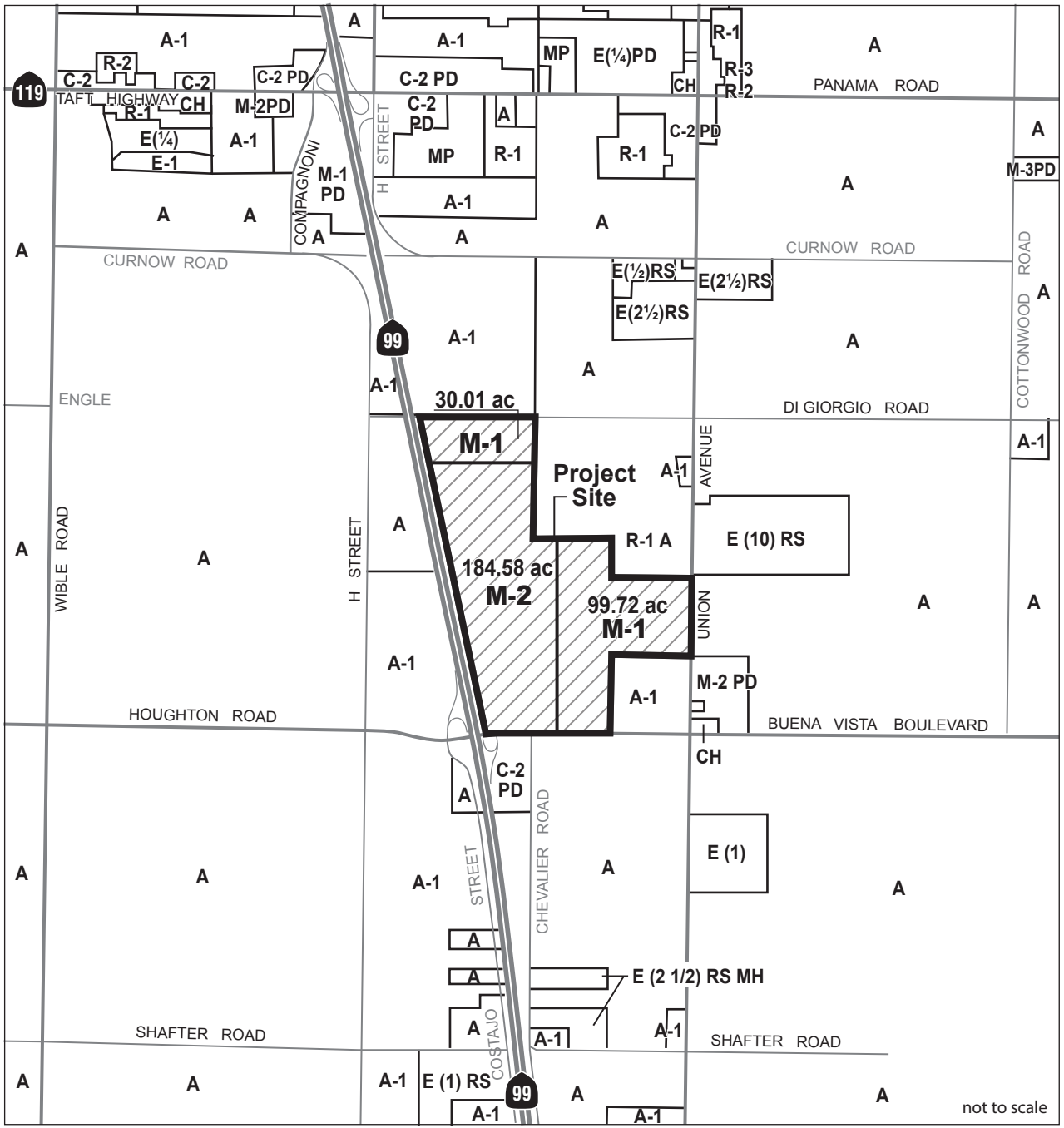
Zoning Districts

A	Exclusive Agriculture
A-1	Limited Agriculture
C-2 PD	General Commercial, Precise Development Combining
C-2	General Commercial
CH	Highway Commercial
E (1/4)	Estate .25 Acres
E (1/2) RS	Estate .5 Acres, Residential Suburban Combining
E (1)	Estate 1 Acre
E (10) RS	Estate 10 Acres, Residential Suburban Combining
E (2 1/2) RS	Estate 2.5 Acre, Residential Suburban Combining
M-2 PD	Medium Industrial, Precise Development Combining
M-3 PD	Heavy Industrial, Precise Development Combining
MP	Mobile Home Park
R-1	Low Density Residential

99 Houghton, LLC Project
by McIntosh & Associates

Case Number(s): GPA #1
ZCC #2
Map 143-07
Agricultural Preserve #13 Exclusion

Figure 1-5 04/1/2009



Proposed Zoning

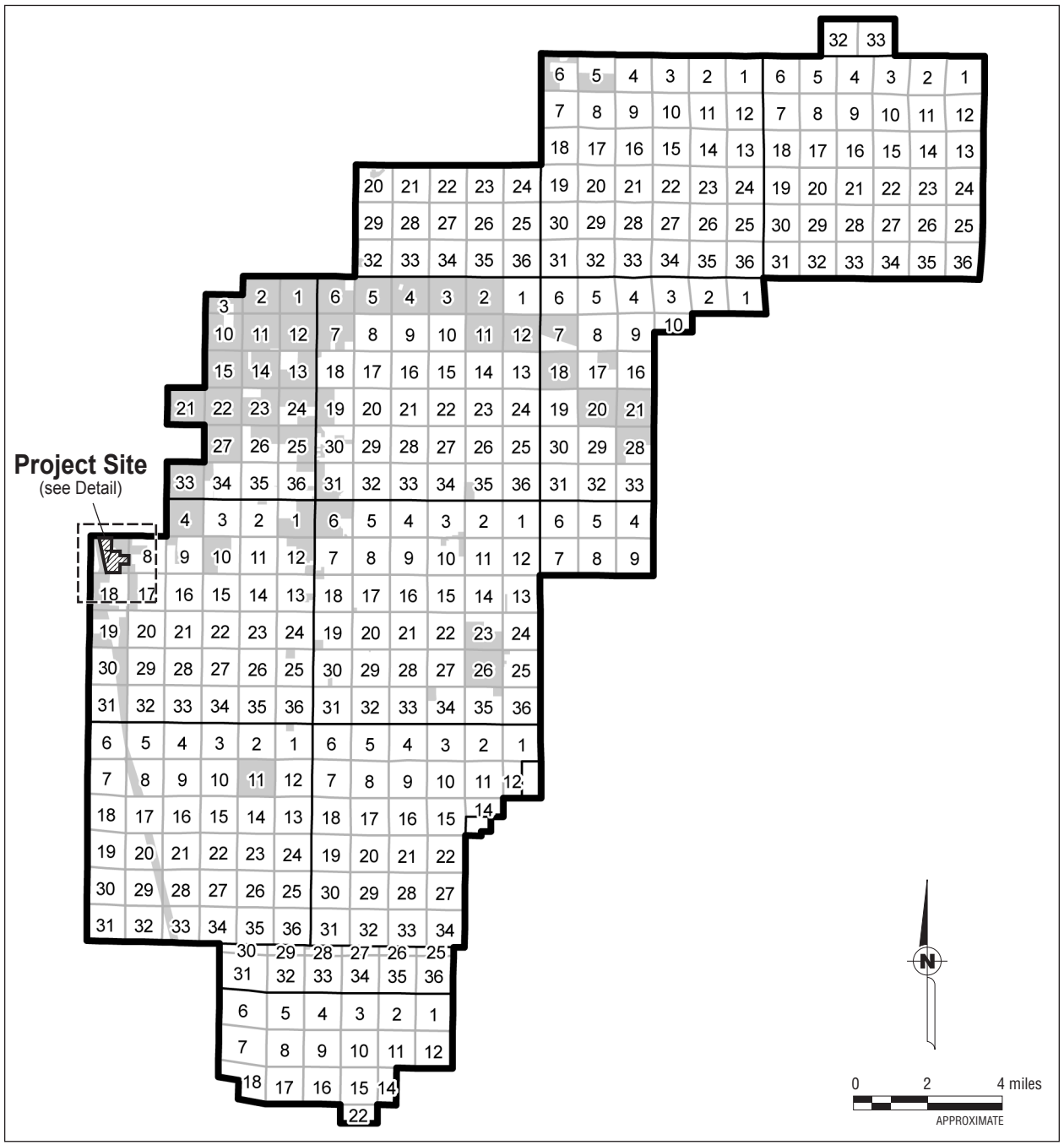
Zoning Districts

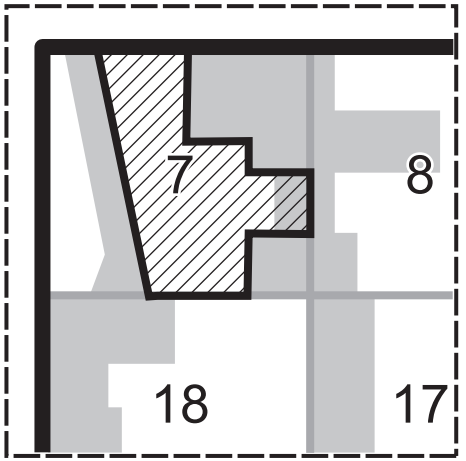
A	Exclusive Agriculture
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E (10) RS	Estate 10 Acres, Residential Suburban Combining
E (2 1/2) RS	Estate 2.5 Acre, Residential Suburban Combining
M-1	Light Industrial
M-2	Medium Industrial
M-2 PD	Medium Industrial, Precise Development Combining
M-3 PD	Heavy Industrial, Precise Development Combining
MP	Mobile Home Park
R-1	Low Density Residential

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Case Number(s): GPA #1
ZCC #2
Map 143-07
Agricultural Preserve #13 Exclusion

Figure 1-6 04/1/2009





Project Site Detail

LEGEND

- 99 Houghton Project Site
- Agricultural Preserve 13
- Townships
- PLSS Sections
- Portion Excluded From Agricultural Preserve

Agricultural Preserve No. 13 Map

99 Houghton, LLC Project
by McIntosh & Associates

Case Number(s): GPA #1
ZCC #2
Map 143-07
Agricultural Preserve #13 Exclusion

Figure 1-7 04/2/2009

- Assure adequate planning for all community facilities including circulation improvements, drainage facilities, water, and wastewater facilities.
- Ensure that the project, in and of itself, does not contribute to the conversion of adjacent agricultural areas.
- Cluster commercial retail uses that provide goods and services near an interchange with SR-99 to accommodate interstate freight and reduce traffic congestion and air emissions.
- Accommodate new development that channels land uses in a phased, orderly manner and is coordinated with the provision of infrastructure and public improvements.
- Address community circulation, both vehicular and pedestrian, utilizing available capacity with the existing circulation system, and provide fair-share system improvements to deficient intersections or road segments.
- Facilitate a planned development and related in-line tenants consistent with the market objectives of the applicant and its tenants.
- Accommodate growth within the proposed project while balancing environmental considerations.
- Provide an industrial center at the Houghton Road and SR-99 interchange in the southern metropolitan area adjacent to the City that would provide a broad range of goods and services that serve the regional market area.
- Allow for the development of a variety of commercial and industrial centers which are differentiated by their function, intended users and level of intensity.
- Provide new industrial development that captures the economic demands generated by the marketplace.
- Provide new development that will assist the County of Kern in obtaining fiscal balance in the years and decades ahead.

1.5 PROPOSED DISCRETIONARY ACTIONS/REQUIRED APPROVALS

The County, as Lead Agency for the proposed Project, has discretionary authority over the primary Project proposal. To implement this Project, the Applicant would need to obtain, at a minimum, the following discretionary permits/approvals:

Kern County:

- Consideration and Certification of a Final Environmental Impact Report with appropriate findings and Mitigation Monitoring Program, if applicable, by the Kern County Board of Supervisors
- General Plan Amendment
- Zone Change
- Exclusion from Agricultural Preserve No. 13
- Parcel and Tract Maps
- Grading Plan Approval
- Improvement Plans
- Building Permits

Other Responsible Agencies:

- California Department of Transportation (District 06) – Encroachment Permit
- State Water Resources Control Board – National Pollutant Discharge Elimination System (NPDES)
- San Joaquin Valley Air Pollution Control District
- Greenfield County Water District – Domestic Water Service
- Pacific Gas and Electric Company – Electric and Gas Service
- AT&T – Telephone Service
- LAFCO – Annexation into Greenfield County Water District

Other future required approvals consist of possible Conditional Use Permits and other permitting requirements from other public agencies.

KERN COUNTY ENVIRONMENTAL CHECKLIST FORM

Environmental Factors Potentially Affected:

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

☒ Aesthetics	☒ Agriculture Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology and Soils
☒ Hazards / Hazardous Materials	☒ Hydrology and Water Quality	☒ Land Use and Planning
☒ Mineral Resources	☒ Noise	☒ Population and Housing
☒ Public Services	☐ Recreation	☒ Transportation and Traffic
☒ Utilities and Services	☒ Mandatory Findings of Significance	

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENT IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature _____ Date 5/1/09

Sara Kopp
Printed Name

Kern County Planning Department
For

Evaluation of Environmental Impacts:

(1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

(2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

(3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

(4) "Negative Declaration: 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 measure and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

(5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration, Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

(a) Earlier Analysis Used. Identify and state where they are available for review.

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

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

(6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

(7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

(8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

(9) The explanation of each issue should identify:

(a) The significance criteria or threshold, if any, used to evaluate each question.

(b) The mitigation measure identified, if any, to reduce the impact to less than significance.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
1. AESTHETICS. *Would the project:*				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway?	☐	☐	☒	☐
c. Substantially degrade the existing visual character or quality of 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?	☒	☐	☐	☐

Discussion:

(a) Scenic vistas are defined as expansive views of highly-valued landscapes from publicly accessible viewpoints. Scenic vistas include views of natural features such as topography, water courses, rock outcrops, and natural vegetation, as well as man-made scenic structures. The proposed Project site consists of relatively flat topography with no significant topographic relief or features. Existing land uses in the area include vacant land and agricultural uses to the north, agricultural uses and a small cluster of single-family residential homes to the east, SR-99 to the west, and an automobile wrecking yard located southeast of proposed Project site. The proposed Project has the potential to alter the visual landscape from agricultural land to industrial uses (warehousing, distribution, and retail showroom); however, the area is not regarded or designated as visually important or "scenic" in the Metropolitan Bakersfield General Plan. Additionally, development of the proposed Project would not block or preclude views to any area containing important or what would be considered visually appealing landforms. Therefore, no scenic vistas would be affected by the development of the proposed Project, and impacts would be less than significant.

(b) California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. According to Caltrans' California Scenic Highway Program (2009) and the National Scenic Byways Program (2009), the proposed Project is not in the vicinity of a federal or state scenic highway or any roadway that is considered eligible for designation as a scenic highway. Although there are two Eligible State Scenic Highways in Kern County (State Route (SR)-14 north from Mojave to SR-395, and SR-58 between Mojave and Boron), none are Officially Designated at this time. Additionally, the proposed Project site is not visible from a designated local scenic highway/roadway/trail. As discussed above, the proposed Project site consists primarily of agricultural land. No rock outcroppings are located on site. Therefore, impacts associated with the discussed resources would be less than significant.

(c) The proposed Project involves the development of approximately 314.31 acres for industrial uses (warehousing, distribution, and retail showroom), containing approximately 5,134,253 square feet (net building area) in an area that is currently used primarily for agriculture. The proposed Project would substantially change the character of the site from that of agriculture to urban uses, which would alter the visual quality of the area. Therefore, visual changes to the proposed Project site would be a potentially significant impact. This will be further analyzed in the EIR.

(d) The proposed Project could create a new source of substantial light or glare, which may affect day or nighttime views in the area. The proposed Project site is primarily used for agricultural purposes, although a steel storage building associated with agricultural activities is located in the eastern portion of the site, near South Union Avenue (SR-204). Abundant sources of light are not currently produced on-site. Introduction of new lighting from the proposed Project would include lights within and around the proposed industrial uses (warehousing, distribution, and retail showroom), lighting within parking lots and security lighting on the various structures that would be developed as part of the Project. Compliance with the County's Zoning Ordinance, Development Standards, and Land Division Standards, including the provision for directional lighting, would be required to minimize light and glare impacts. This is a potentially significant impact, and will be further analyzed in the EIR.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
2. AGRICULTURE RESOURCES. *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:*				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☒	☐	☐	☐
b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☒	☐	☐	☐
c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☒	☐	☐	☐
d. Result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code)?	☐	☐	☐	☒

Discussion:

(a) Prime agricultural land is defined as land that contains the best combination of physical and chemical characteristics for crop production. It has the soil quality, growing seasons, and moisture supply needed to produce sustained high yield crops when treated and managed, including water management, according to current farming methods. The proposed Project site is currently designated R-IA (Resource-Intensive Agriculture) and HC (Highway Commercial), is zoned A (Exclusive Agriculture), and consists primarily of agricultural uses. The site is comprised of Bakersfield sandy loam and Cajon sandy loam which, as classified by the United States Department of Agriculture Soil Conservation Service, are Class II and III soils, respectively. These soil units are also classified as prime farmland soil by the Kern County Soil Survey, Southwest Kern. The entire proposed Project site (approximately 314.31 acres) is considered prime farmland per the California Land Conservation Act and the Metropolitan Bakersfield General Plan. Therefore, implementation of the proposed Project would result in a loss of approximately 314.31 acres of prime agricultural land. The removal of prime farmland is considered a significant impact. An analysis of the conversion of farmland to approximately 5,134,253 square feet (net building area) of industrial uses (warehousing, distribution, and retail showroom), will be evaluated in the Farmland Conversion Study prepared for the proposed Project, and will be further analyzed in the EIR.

(b) The majority of the proposed Project site (approximately 257.57 acres) is located within the Kern County Agricultural Preserve No. 13, and the entire site is currently zoned A (Exclusive Agriculture). A petition for exclusion of the proposed Project site from the boundaries of Agricultural Preserve No. 13 will be considered as a part of the proposed Project. The proposed Project is not under a Williamson Act land use contract. However, given the existing agricultural zone classification, impacts are considered potentially significant and will be further analyzed in the EIR.

(c) As discussed above, the proposed Project is designated as prime agricultural land. The proposed Project is in an area that is actively used for agricultural production and has a zone classification of A (Exclusive Agriculture). Other land utilized for agriculture is located adjacent to the north, south, and east, and because other developments within the County also convert farmland to non-agricultural uses, cumulative impacts could result. Therefore, conversion of the proposed Project to a non-agricultural use could result in significant individual and cumulative impacts. Impacts will be further analyzed in the EIR.

(d) The subject property is not under a Williamson Act land use contract. There are no impacts.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
3. AIR QUALITY. *Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:*				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b. Violate any air quality standard as adopted in (c)i, (c)ii, or as established by EPA or air district or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c. 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)? Specifically, would implementation of the project exceed any of the following adopted thresholds:	☒	☐	☐	☐
i. San Joaquin Valley Unified Air Pollution Control District:				
Operational and Area Sources:				
Reactive Organic Gases (ROG) 10 tons per year.	☒	☐	☐	☐
Oxides of Nitrogen (NO_x) 10 tons per year.	☒	☐	☐	☐
Particulate Matter (PM_{10}) 15 tons per year.	☒	☐	☐	☐
Stationary Sources - as determined by District Rules:				
Severe Nonattainment 25 tons per year.	☒	☐	☐	☐
Extreme Nonattainment 10 tons per year.	☒	☐	☐	☐
ii. Kern County Air Pollution Control District:				
Operational and Area Sources:				
Reactive Organic Gases (ROG) 25 tons per year.	☐	☐	☐	☒
Oxides of nitrogen (NO_x) 25 tons per year.	☐	☐	☐	☒
Particulate Matter (PM_{10}) 15 tons per year.	☐	☐	☐	☒
Stationary Sources - determined by District Rules:				
25 tons per year.	☐	☐	☐	☒
d. Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e. Create objectionable odors affecting a substantial number of people?	☒	☐	☐	☐

Discussion:

(a-c) The San Joaquin Valley Air Pollution Control District (SJVAPCD) has jurisdiction over the San Joaquin Valley Air Basin (SJVAB) in eight counties located in the San Joaquin Valley, including Kern County. For the one hour ozone standard, the SJVAB is classified "Severe Nonattainment" by the State; however, the Federal one hour standard was revoked on June 15, 2005, and replaced with an eight hour standard. The SJVAB is classified as "Extreme Nonattainment" for the federal eight hour ozone standard. The SJVAB is classified "Serious Nonattainment" for the federal PM_{10} standard. The urbanized areas of Fresno, Bakersfield, Stockton, and Modesto are classified "Attainment" for Federal carbon monoxide standards. Fresno, Kern, Tulare, Stanislaus, and San Joaquin Counties are designated as "Attainment" by the State for carbon monoxide standards. The California Clean Air Act (CCAA) requires that all reasonable stationary and mobile source control measures be implemented in non-attainment areas to help achieve a mandated, five percent per year reduction in ozone precursors, and to reduce population exposures.

Development of the proposed Project would result in pollutant emissions from three different sources, including: (1) short-term construction emissions; (2) long-term mobile emissions from trucks and vehicles traveling to and from the site once Project operations begin; and (3) long-term stationary emissions from power and gas consumption, and on-site machinery and equipment.

Fugitive construction emissions have the potential to cause a significant impact on air quality. Actual emissions would depend on the level of activity and the type of control being used. Control measures required and enforced by the SJVAPCD under Regulation VIII would reduce these short-term construction emissions to a level that is considered less than significant if a limited acreage is disturbed at any one time. The effects of this proposed Project on air quality and its compliance with the Air Quality Attainment Plan (AQAP) will require further analysis.

The greatest potential for air quality impacts from the proposed Project would be attributed to mobile emissions. The proposed Project's potential air quality impacts on a local and regional level requires an evaluation pursuant to the SJVAPCD and California Air Resources Board (CARB) requirements and methodology. The EIR will quantify potential air quality impacts (both short-term and long-term) and identify appropriate mitigation measures that would be effective in reducing pollutant emissions.

(d) Sensitive populations (i.e., children, senior citizens, and acutely or chronically ill people) are more susceptible to the effects of air pollution than are the general population. Land uses that are considered to be sensitive receptors typically include residences, schools, playgrounds, childcare centers, hospitals, convalescent homes and retirement homes. Potential sensitive receptors in proximity to the proposed Project site are the existing small clusters of single-family residential uses located approximately 0.10 miles east of the proposed Project. Construction and operation of the proposed Project would increase vehicle trips on area roadways, resulting in associated air pollutants. Grading and excavation operations may also have air quality impacts in the absence of mitigation. This will be further analyzed in the EIR.

(e) Construction activities associated with the proposed Project may generate detectable odors from heavy-duty equipment exhaust. Odors associated with diesel and gasoline fumes are transitory in nature and would not create objectionable odors affecting a substantial number of people. However, the Project's proposed uses have the potential to create additional pollutants and odors that may impact the existing residences located north of the Project. This will be further analyzed in the EIR.

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

Discussion:

(a, b) Vegetation on site has been altered from its native conditions through agricultural activities. Therefore, it is unlikely that the proposed Project would result in the modification to any sensitive habitat. However, because the proposed Project site is largely undeveloped and surrounded by generally undeveloped areas, the site may contain species identified as candidate, sensitive, or special status in local or regional plans, policies, regulations, or by the California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS). A detailed biological resources evaluation will be performed, and subsequent analysis will be provided in the EIR.

In addition, the proposed Project is located within the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP) area, which was developed under the requirements associated with Section 10 (a)(1)(b) and Section 2081 permits issued to the County by the USFWS and CDFG, respectively. The MBHCP is the regional conservation plan that addresses the effect of urban growth on federally and State protected plant and animal species within the Metropolitan Bakersfield General Plan area. The MBHCP is a joint program between the City of Bakersfield and Kern County that was undertaken to assist urban development applicants in complying with State and federal endangered species laws. The MBHCP utilizes avoidance measures and a mitigation fee paid by applicants for grading or building permits to fund the purchase and

maintenance of habitat land to compensate for the effects of urban development on endangered species habitat. If a project is developed on land within the Metropolitan Bakersfield area, payment of a one-time MBHCP habitat mitigation fee is required. Since implementation of the proposed Project would alter habitat on the site, this is a potentially significant impact. Further analysis and documentation as part of the EIR is necessary.

(c) The proposed Project site is not located within or adjacent to the Kern River or any other riparian habitat. Potential wetland, riparian, or other aquatic habitat is not present within the proposed Project area. The EIR will discuss resource agency consultation requirements for the proposed Project, if necessary; however, impacts would be less than significant.

(d) The proposed Project area consists of agricultural land that could be used by migratory bird species such as waterfowl. Trees suitable for raptor nesting exist at the eastern and western Project site boundaries. Adjacent properties also contain ornamental trees, and the clustered single-family residential development north of the proposed Project may have trees that could provide suitable nesting habitat and could be used as nesting sites by raptors or perches while foraging. Additionally, the proposed Project site has the potential to be used by the San Joaquin kit fox, which is listed as a Federally Endangered species; therefore, the proposed Project poses a potentially significant impact to the movement of native wildlife. As part of the biological assessment to be completed for the proposed Project, the site's potential to provide habitat for migrating, nesting, or nursery sites will be evaluated. These impacts will be fully evaluated in the EIR.

(e) As discussed above, the MBHCP addresses biological impacts within the Metropolitan Bakersfield General Plan area, including unincorporated areas of Kern County. The MBHCP does not eliminate the need to consider endangered species under CEQA, but has established programmatic mitigation for project impacts on such species. The proposed Project would pay the appropriate fee specified by the MBHCP. Therefore, the proposed Project would be consistent with the MBHCP and payment of fees would result in less than significant impacts.

(f) As discussed above, the proposed Project is subject to the terms of the MBHCP, along with Section 10 (a)(1)(b) and Section 2081 permits issued to the County by the USFWS and CDFG. Terms of the MBHCP require applicants for all development projects within the proposed Project area to pay habitat mitigation fees and notify the agencies prior to grading. These components of the proposed Project would cause the Project to comply with the MBHCP. As such, impacts would be less than significant.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES. *Would the project:*				
a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?	☒	☐	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?	☒	☐	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d. Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

Discussion:

(a) The proposed Project site has been previously disturbed due to farming activities. However, it is likely that Native American peoples historically traversed the general region. A cultural resources report shall be prepared to determine potential cultural resources in the proposed Project area. This will be further analyzed in the EIR.

(b) Although the proposed Project site is actively farmed and the upper layers of soil have been disturbed, the potential exists for buried archaeological resources to be disturbed or destroyed during site preparation and grading. Detailed site investigations will be performed in order to assess the actual potential for archeological resources within future developable areas. The disturbance of such resources would be considered potentially significant and will be further analyzed in the EIR.

(c) The proposed Project site is not located in or within the immediate vicinity of the Sharktooth Hill bone bed, which is the only unique paleontological resource identified in the area. In addition, the topography of the site is relatively flat, and therefore construction of the proposed Project would not destroy any unique geologic structure. Excavation is expected to occur at shallow depths and is not expected to incorporate deep cuts within a sensitive paleontological area. Therefore, the proposed Project is not expected to impact paleontological or unique geologic resources. Impacts are less than significant.

(d) There is no evidence that the proposed Project is located within an area likely to contain human remains. However, there is potential, however slight, for the inadvertent discovery of human remains during earthmoving activities. "Human remains" include both burials and cremations. If human remains were discovered, further excavation or disturbance would be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. If Native American remains were identified, Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code provide specific measures for addressing the remains. The potential for human remains to be encountered is a potentially significant impact. This will be further analyzed in the EIR.

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

Discussion:

(ai) The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures used for human occupancy. Under the Alquist-Priolo Act, the California State Geologist identifies areas in the State that are at risk from surface fault rupture. The County has the Alquist-Priolo Earthquake Fault Zones on file that show areas that have been designated by the State as locations where future planning efforts should consider the possibility of fault rupture along specific or potentially active faults. These zones mark areas where faults are considered to have been active during the last 10,000 years and are considered to have a relative high potential for surface rupture from a seismic event. No Alquist-Priolo Earthquake Fault Zones are located on or within the immediate vicinity of the proposed Project site. The closest Alquist-Priolo Earthquake Fault Zone is more than nine miles from the proposed Project site. The closest fault to the proposed Project site is the White Wolf Fault, located approximately 13.2 miles to the southeast. Although impacts are considered less than significant, they will be further evaluated in the EIR.

(aii) Kern County is located within a seismically active area. According to the Metropolitan Bakersfield General Plan, major active fault systems border the southern portion of the San Joaquin Valley. The faults that cross the Kern County and are considered active are the San Andreas Fault, Garlock Fault, Owens Valley Fault, White Wolf Fault, and Kern Canyon Fault.

Future structures proposed on the Project site are required by State law and local government ordinances to be constructed in accordance with the Uniform Building Code (seismic zone 4, which has the most stringent seismic construction requirements in the United States), and to adhere to all modern earthquake construction standards, including those relating to soil characteristics. Additionally, the proposed Project would be regulated under the requirements of the California Building Code, the Alquist-Priolo Earthquake Fault Zone Act, County land use policies, the policies of the General Plan Safety Element, and the County Zoning Ordinance. This will ensure that all seismically related hazards remain less than significant.

(aiii) Liquefaction potential is a combination of unconsolidated soil type and high groundwater combined with high potential seismic activity. According to the Kern County General Plan, liquefaction most often occurs in areas where newer alluvium is deposited and the groundwater table is higher than 50 feet below ground surface. The approximate depth to groundwater on-site is estimated at 100-105 feet below ground surface. Due to the high groundwater, the potential exists for liquefaction to occur on the proposed Project site. This impact will be further analyzed in the EIR.

(aiv) Due to the relatively flat topography and the lack of steep slopes on the proposed Project site, landslides are not considered to be a potentially significant geologic hazard. Less than significant impacts are anticipated to occur.

(b) The soil units occurring within the proposed Project site are Bakersfield fine sandy loam and Cajon sandy loam. The Bakersfield fine sandy loam consists of very deep, poorly drained soil with 0 to 1 percent slopes. Permeability is moderately slow and available water capacity is high. Surface runoff is slow. The Cajon sandy loam consists of very deep, somewhat excessively drained soil with 0 to 2 percent slopes. Permeability is moderate and available water capacity is low. Surface runoff is very slow. Therefore, the characteristics of the on-site soil types and the relatively flat terrain do not lend themselves to highly erosive conditions. However, Project grading would remove or cover existing topsoil that is used for agricultural operations and may expose soils to short-term wind and water erosion. Therefore, impacts associated with erosion and loss of topsoil are considered potentially significant and will be further evaluated in the EIR.

(c) The proposed Project would be subject to the County ordinances and standards relative to lateral spreading, subsidence, liquefaction or collapse, as well as adherence to applicable building codes in accordance with the Uniform Building Code and the California Building Code. Impacts are considered less than significant.

(d) Existing on-site soils consist of Bakersfield fine sandy loam and Cajon sandy loam, which do not generally exhibit characteristics of expansive soils. Impacts are considered less than significant.

(e) There are no existing septic systems located on the proposed project site. Currently, neighboring residential and commercial properties are served by individual, privately-owned septic systems. A private package sewer treatment plant is proposed to provide services for the Project site. Since this new package sewer treatment plant facility could cause significant environmental effects, impacts will be further evaluated in the EIR.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
7. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*				
a. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	☒	☐	☐	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☒	☐	☐	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☒	☐	☐	☐
e. For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐
i. Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste? Specifically, would the project exceed the following qualitative threshold:				
i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and	☐	☐	☒	☐
ii. Are associated with design, layout, and management of project operations; and	☐	☐	☒	☐
iii. Disseminate widely from the property; and	☐	☐	☒	☐
iv. Cause detrimental effects on the public health or well being of the majority of the surrounding population.	☐	☐	☒	☐

Discussion:

(a) Hazardous substances typically used for construction such as the proposed Project would be transported and used on-site. Also, grading and construction activities would require the transport, storage, use, and/or disposal of hazardous materials such as fuels and grease for the fueling/servicing of construction equipment. The Project proposes the development of approximately 5,134,253 square feet (net building area) of industrial uses (warehousing, distribution, and retail showroom), which often involve the use, storage, or transportation of hazardous materials. These materials would be considered a significant risk to health and safety if the and use, handling, and storage of hazardous materials is not in compliance with the appropriate safety standards. The transport, storage, use, and/or disposal of hazardous materials during the operational phase presents a potentially significant impact and may require mitigation; the potential for hazardous materials to affect the public and/or environment during construction will be analyzed in the EIR.

(b) Due to the active agricultural uses of the proposed Project site, and adjacent agricultural land, hazardous materials such as pesticides were likely used and could present a health hazard to workers and future tenants. This is considered a potentially significant impact and will be further evaluated in the EIR.

(c) There are no existing schools located within one-quarter mile of the proposed Project. The closest schools (McKee Middle School and McKee Primary School) are located approximately 1.5 miles north of the proposed Project, respectively. Due to the on-site conditions and surrounding land uses, the proposed Project does not have the potential to result in emissions or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Impacts are considered less than significant.

(d) A search of listed hazardous materials sites complied pursuant to Government Code Section 65992.5 will be conducted for the proposed Project as part of a hazardous materials assessment. Additionally, the hazardous materials assessment will evaluate the potential for hazardous materials to be encountered on-site. This will be analyzed further in the EIR.

(e, f) The regional airport system in Kern County is comprised of seven airports operated by the Kern County Department of Airports, four municipally owned airports, three airport districts, three privately owned public use airports, and two major military facilities (Kern County Regional Transportation Plan, 2000). The closest airport is Bakersfield Municipal Airport, located approximately five miles northeast of the proposed Project site. Costerisan Farms Airport, a private airstrip, is located approximately two (2) miles northwest of proposed Project site. It is anticipated that the proposed Project would not cause a safety hazard for people residing or working in the Project area. Impacts are considered less than significant.

(g) The proposed Project would ultimately result in the construction of industrial uses (warehousing, distribution, and retail showroom), containing approximately 5,134,253 square feet (net building area) on the 314.31-acre site. The Kern County Land Division Ordinance requires traffic control measures be implemented to ensure that construction does not interfere with any emergency response or evacuation plans. Impacts are considered less than significant.

(h) The proposed Project site is located in an agricultural setting, with a less than significant potential for wildland fires. Agricultural fields left fallow in the vicinity of the proposed Project site could potentially catch fire and burn; however, the risk is considered low. In addition, much of the existing vegetation would be removed with implementation of the proposed Project, thus reducing potential impacts in this regard.

(i) No riparian areas or water bodies are proposed as part of the Project; therefore, the Project is not anticipated to generate vectors or include agricultural waste. Less than significant impacts are anticipated.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
8. HYDROLOGY AND WATER QUALITY. *Would the project:*				
a. Violate any water quality standards or waste discharge requirements?	☒	☐	☐	☐
b. Substantially 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 (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☒	☐	☐	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-site or off-site?	☒	☐	☐	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site or off-site?	☒	☐	☐	☐
e. 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?	☒	☐	☐	☐
f. Otherwise substantially degrade water quality?	☒	☐	☐	☐
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☒	☐
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion:

(a) Implementation of the proposed Project would result in development and site runoff contributing typical roadway pollutants to existing drainage facilities. Typical roadway-related pollutants primarily include oil, grease, and petroleum derivatives. The proposed Project could potentially violate water quality standards and waste discharge requirements, and may require additional mitigation. These impacts are potentially significant and will be further evaluated in the EIR.

(b) The Kern Water Bank is one of the largest groundwater banking operations in the United States. The Project proposes approximately 5,134,253 square feet (net building area) of industrial uses (warehousing, distribution, and retail showroom), which could potentially deplete groundwater

supplies or interfere substantially with groundwater recharge by considerably increasing the amount of impervious surfaces on-site. The EIR will include an analysis of existing water resources, proposed Project impacts, and mitigation to reduce the significance of potential impacts.

(c-e) The proposed Project would add impervious surfaces to the site and increase the amount of stormwater exiting on-site. Surface runoff velocities, volumes, and peak flow rates would increase as well. All development within the County is required to comply with an approved drainage plan that avoids on-site and off-site flooding, erosion and siltation problems.

Stormwater quality is generally affected by the length of time since the last rainfall, intensity of rainfall, urban uses of the area, and the quantity of transported sediment. Typical urban water quality pollutants usually result from motor vehicle operations, oil and grease residues, and careless material storage and handling. The majority of pollutant loads are usually washed away during the first flush of the storm occurring after the dry-season period. Implementation of the proposed Project could result in significant impacts requiring mitigation. This impact will be further analyzed in the EIR.

(f) The Central Valley Regional Water Quality Control Board (RWQCB) administers the National Pollution Discharge Elimination System (NPDES) Permit requirements within the proposed Project area. All projects are obligated to implement structural and non-structural, non-point source pollution control measures known as Best Management Practices (BMPs) to limit urban pollutants to the maximum extent practical. Furthermore, the implementation of a Storm Water Pollution Prevention Plan (SWPPP) would assist in reducing short-term construction impacts. The potential for the proposed Project to degrade water quality during construction and operations will be further analyzed in the EIR.

(g, h) The United States Department of Housing and Development (HUD) designated the unincorporated portions of Kern County as a special flood hazard area. HUD has provided the County with a series of 83 Flood Hazard Boundary Maps. The proposed Project is located within a FEMA-designated Flood Zone "C". Flood Zone "C" contains areas of minimal flooding. Therefore, the proposed Project is outside the one percent annual chance floodplain. This is considered a less than significant impact.

(i) Isabella Dam, which is located approximately forty miles northeast of Bakersfield, has a capacity to hold 570,000 acre-feet of water. If the dam were to fail, or if an earthquake were to occur in the vicinity, it could result in a break in the dam. This could, under certain conditions, cause the entire lake storage to be released, which would result in flooding 60 square miles of the Metropolitan Bakersfield area. It would take approximately 11 hours from the breaking time for the water from Isabella Dam to reach the Project site (at a one foot inundation interval), thus, allowing up to 11 hours to evacuate the area. The chances of the dam failing entirely, with the lake at capacity, were judged as one day in 10,000 years. This is considered a less than significant impact.

(j) There are no large bodies of open water located on or adjacent to the proposed Project site that may result in flood, seiche or tsunami hazards. No impacts are expected.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
9. LAND USE AND PLANNING. *Would the project:*				
a. Physically divide an established community?	☐	☐	☒	☐
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?	☒	☐	☐	☐
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐

Discussion:

(a) Existing land uses in the area include vacant land and agricultural uses to the north, agricultural uses and a small cluster of single-family residential homes to the east, SR-99 to the west, and agricultural uses and an automobile wrecking yard located south/southeast of proposed Project site. The proposed Project would not divide the physical arrangement of a community. Therefore, impacts would be less than significant.

(b) The proposed Project would result in an amendment to the Metropolitan Bakersfield General Plan Land Use Element and a change in zoning as noted in Table 1-2. The purpose of the change is to permit development of approximately 5,134,253 square feet (net building area) of industrial uses (warehousing, distribution, and retail showroom). The potential for impacts associated with approval of these discretionary actions, and subsequent development of the proposed Project will be analyzed in the EIR.

(c) As previously discussed, the proposed Project site is located within an area covered by the Metropolitan Bakersfield Habitat Conservation Plan. Therefore, the proposed Project would be required to pay impact fees, which are placed in an account and can only be used for habitat acquisition and management. Future compliance would result in less than significant impacts.

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

Discussion:

(a) The proposed Project is located within the Division of Oil, Gas and Geothermal Resources (DOGGR), District 4, Wildcat Map 4-2. The DOGGR records indicate that one exploratory oil well was drilled near the northern boundary of the proposed Project site. This exploratory oil well, named "Sea Cliff-Houghton" 1, was drilled by the Big McKittrick Oil Company of California in 1934-1935. The oil well was plugged and abandoned on October 11, 1935, after failing to produce oil or gas. The oil well is expected to be reabandoned per current DOGGR regulations prior to development of the proposed Project. The proposed Project is not located within a defined oil field; however, additional evaluation will be provided in the EIR.

(b) Extraction and use of mineral resources is a significant economic and social value in Kern County. The proposed Project may result in the loss of locally important mineral resources; therefore, a potentially significant impact could result. The EIR will address compliance and implementation of goals and policies of the Metropolitan Bakersfield General Plan and appropriate setbacks as identified in the Kern County Zoning Ordinance.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
11. NOISE. *Would the project result in:*				
a. Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?	☒	☐	☐	☐
b. Exposure of persons to, or generation of, excessive ground borne vibration or ground borne noise levels?	☒	☐	☐	☐
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e. For a project located within the Kern County Airport Land Use Compatibility Plan, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Discussion:

(a, d) Project construction and operation would result in both short-term and long-term impacts. Short-term impacts would occur during earthwork, grading, construction operation, installation of infrastructure, and site development. These activities would expose adjacent uses to noise levels between 70 and 90 decibels at 50 feet from the noise source. The potential exists for adjacent uses to experience ground borne vibration or ground borne noise levels. Long-term noise impacts that have potential to result from the proposed Project would be associated with vehicular traffic and the proposed industrial uses (warehousing, distribution, and retail showroom). Both short- and long-term noise impacts will be evaluated as part of a technical noise assessment and will be further analyzed in the EIR.

(b) As stated above, the proposed Project would include earthwork and grading to prepare the site for installation of infrastructure and for site development. Although these standard construction activities are not expected to generate significant vibration or ground-borne noise, the potential exists for adjacent land uses to experience ground borne vibration or ground borne noise levels. This impact will be analyzed further in the EIR.

(c) An increase in vehicle traffic on adjacent roadways could potentially result in significant noise impacts. The EIR will contain an analysis of potential noise impacts resulting from the proposed Project.

(e, f) The proposed Project is not located in the vicinity of a public use airport identified within the Kern County Airport Land Use Compatibility Plan. The closest public use airport is Bakersfield Municipal Airport, located approximately five (5) miles northeast of the proposed Project site. Costerisan Farms Airport, a private airstrip, is located approximately two (2) miles northwest of

proposed Project site; however, the proposed Project is not anticipated to expose people to excessive noise generated by aircraft or airport operations. Less than significant impacts are anticipated in this regard.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
12. POPULATION AND HOUSING. *Would the project:*				
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)?	☒	☐	☐	☐
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion:

(a) The proposed Project would not directly induce growth because it proposes the development of approximately 5,134,253 square feet (net building area) of industrial uses (warehousing, distribution, and retail showroom). However, infrastructure and public services would be extended though the proposed Project area. Indirectly, the proposed Project may induce growth by encouraging future development in the areas surrounding the Project to use the extended services for their own projects, which could lead to additional development in the area and conversion of agricultural lands. Therefore, impacts are considered potentially significant and will be further analyzed in the EIR.

(b, c) The proposed Project site is currently used for agricultural uses. Implementation of the proposed Project would not result in the displacement of housing or people. Therefore, no impacts would occur.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
13. PUBLIC SERVICES.				
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 to other performance objectives for any of the public services:				
i) Fire protection?	☒	☐	☐	☐
ii) Police protection?	☒	☐	☐	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Discussion:

(ai) *Fire protection?*

The introduction of approximately 5,134,253 square feet (net building area) of industrial uses (warehousing, distribution, and retail showroom) in the proposed Project area may place increased demands upon fire protection services. The increased demand for emergency services would have the potential to adversely affect fire protection services and may require the construction of new fire department stations and use of new vehicles such as fire engines. The EIR will provide a review of emergency services and will recommend mitigation, as determined necessary, to reduce potential impacts to fire protection services in the County.

(aii) *Police protection?*

The Kern County Sheriff provides law enforcement and public safety services in unincorporated Kern County. As with fire protection services, the potential increase of industrial uses (warehousing, distribution, and retail showroom) in the area may be expected to place increased demands upon sheriff/police services. The EIR will provide a review of sheriff/police services.

(aiii) *Schools?*

The proposed Project is located within the Greenfield Union and Kern High School Districts, although the Project would not generate additional housing and would not significant increase the population in the area. Therefore, no additional demands would be places on the Greenfield Union and Kern High School Districts. In addition, the applicant would be required to contribute to impacted school districts and pay development impact fees in accordance with California Government Code Section 65995-65996 for the proposed industrial uses (warehousing, distribution, and retail showroom). Following compliance with existing regulations, no significant impacts on schools are anticipated from Project development.

(aiv) *Parks?*

The Project proposes approximately 5,134,253 square feet (net building area) of industrial uses (warehousing, distribution, and retail showroom); therefore, the Project would not cause a significant increase in population. No impact would result.

(av) *Other public facilities?*

The proposed Project would not potentially affect other public or government facilities, such as libraries. Because the proposed Project would not generate new residents within the County, the Project would not result in an increased demand on public facilities.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
14. RECREATION.				
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion:

(a, b) An increased use of recreational facilities is generally spurred by population growth within a defined area. The proposed Project would not result in an increase in population, therefore, no increase in demand on existing park resources would result. No impact would occur.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
15. TRANSPORTATION/TRAFFIC. *Would the project:*				
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☒	☐	☐	☐
b. Exceed, either individually or cumulatively, a Level of Service standard established by the county congestion management agency or adopted County threshold for designated roads or highways? Specifically, would implementation of the project cause the Level of Service (LOS) for roadways and/or intersections to decline below the following thresholds or further degrade already degraded segment(s):				
i. Metropolitan Bakersfield General Plan LOS "C"	☒	☐	☐	☐
ii. Kern County General Plan LOS "D"	☒	☐	☐	
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
e. Result in inadequate emergency access?	☒	☐	☐	☐
f. Result in inadequate parking capacity?	☐	☐	☒	☐
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☒	☐	☐	☐

Discussion:

(a) Future development of the proposed Project site would increase vehicle trips and vehicular movement in the Project vicinity. The increased automobile trips would add substantial traffic volumes to local and regional roadways. This increase may impact the level of service and operating conditions along area roadway segments, and at integral intersections within and nearby the proposed Project. A traffic study will be prepared and these issues will be examined in the EIR to determine if the proposed Project would result in any significant impacts on roadway capacity and/or levels of service. In addition, the proposed Project, in conjunction with all past, present and foreseeable projects, will be analyzed for cumulative traffic impacts. The cumulative traffic impacts are considered potentially significant on a region-wide metro level and will be analyzed further in the EIR.

(b) Since the proposed Project would generate a large volume of traffic trips compared to the existing traffic loads on area roadways and at intersections, the level of service and traffic standards set

forth by the Kern Council of Government's Congestion Management Program may be exceeded. As stated above, a traffic study will be prepared and these issues will be examined in the EIR to determine if the proposed project would result in any significant impacts on roadway capacity and/or levels of service. In addition, the Project, in conjunction with all past, present and foreseeable projects, will be analyzed for cumulative traffic impacts. The cumulative traffic impacts are considered potentially significant on a region-wide metro level and need to be analyzed for potential mitigation measures.

(c) The proposed Project is not located within the vicinity of any public airport identified within the Kern County Airport Land Use Compatibility Plan. The closest public airport is Bakersfield Municipal Airport, located approximately five miles northeast of the proposed Project site. Costerisan Farms Airport, a private airstrip, is located approximately two (2) miles northwest of proposed Project site. However, since the proposed Project does not propose any high-rise structures, it does not have the potential to affect air traffic patterns. Less than significant impacts are anticipated in this regard.

(d, e) The proposed Project would be required to comply with all emergency access requirements adopted by the Kern County Fire Department. Specific requirements such as appropriate street widths to provide fire apparatus with an adequate turning radius, appropriately designed cul-de-sacs, and appropriately marked hydrants and signage must be included in all development under the Kern County Land Division Ordinance. All proposed Project design requirements would be verified by the Fire Marshall prior to Project approval. Although significant impacts are not anticipated, additional analysis will be included within the EIR to analyze potential impacts to emergency access and to address the adequacy of the proposed street design.

(f) The proposed Project would be required to provide parking that is consistent with standards set by County regulations. Impacts are considered less than significant.

(g) The proposed Project's compatibility with alternative transportation opportunities will be analyzed in the EIR, including potential bus services and other forms of mass transit.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
16. UTILITIES AND SERVICE SYSTEMS. *Would the project:*				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☒	☐	☐	☐
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☒	☐	☐	☐
e. 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?	☒	☐	☐	☐
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☒	☐	☐	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☒	☐	☐	☐

Discussion:

(a-e) The proposed Project site is subject to wastewater and stormwater requirements of the Central Valley Regional Water Quality Control Board. Future development would require adequate stormwater drainage facilities; however, due to uncertainties with capacity and adequacy of existing facilities, further review is required. Further analysis regarding the proposed wastewater package plant facility is also required. Due to the nature of the proposed Project, the availability of water to serve the proposed uses would need to be evaluated and addressed in the EIR. The EIR will evaluate existing capacities, proposed Project generation, infrastructure connections, and will recommend applicable mitigation measures.

(f, g) Development of the proposed Project would generate additional solid waste within the County and place demands on the capacity of landfills and transfer facilities. The appropriate County landfill that will serve the proposed Project will be identified, and landfill capacity will be evaluated in the EIR. Additionally, the proposed Project will be required to comply with federal, State, and County statutes, regulations, and ordinances relating to the disposal of solid waste, in addition to the Kern County and Incorporated Cities Integral Waste Management Plan, which requires the County to have adequate landfill capacity for 15 years. Further analysis is required.

	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
17. MANDATORY FINDINGS OF SIGNIFICANCE				
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?	☒	☐	☐	☐
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)?	☒	☐	☐	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Discussion:

(a) Response to Checklist Item 4.a and 4.b indicate that the proposed Project could have an impact on biological resources. A biological study will be conducted for the proposed Project and the evaluation will be included in the EIR. Additionally, as indicated in Response to Checklist Item 5.a and 5.b, a cultural resource analysis will be conducted and findings will be included in the EIR. Mitigation measures will be recommended, where applicable, to reduce potentially significant impacts.

(b) A review of cumulative impacts for each issue area that has been identified as potentially significant will be required pursuant to Section 15130 of CEQA. A determination of significance will be made for each issue.

(c) As stated in various sections of this Initial Study, the proposed Project has the potential to result in significant impacts on the environment. The EIR will include a comprehensive review of existing conditions, potential Project impacts, and will recommend mitigation measures to reduce the level of significance related to short-term construction and long-term operations, as necessary, along with a summary of findings and effectiveness of mitigation measures.

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
1352 WEST OLIVE AVENUE
P.O. BOX 12616
FRESNO, CA 93778-2616
PHONE (559) 445-5232
FAX (559) 488-4088
TTY (559) 488-4066

Flex your power!
Be energy efficient!

May 20, 2009

2135-IGR/CEQA
06-KER-99-15.432
GENERAL PLAN AMENDMENT #1,
ZONE CHANGE CASE #2, MAP #143-07

Ms. Sara Kopp
Planner 2
Kern County Planning Dept.
2700 "M" Street, Suite 100
Bakersfield, CA 93301

Dear Ms. Kopp:

Thank you for the opportunity to review General Plan Amendment (GPA) #1, Zone Change Case (ZCC) #2. The GPA and ZCC are to modify the existing land use designations from agricultural use to industrial use. The site is planned for an industrial park on 314.31 acres. The site is located on the east side of State Route (SR) 99, between Houghton and DiGiorgio Road. Caltrans offers the following comments:

It is anticipated that the trips generated from this industrial park will have a potentially significant impact to the State highway facility. Therefore, we concur that a traffic impact study (TIS) is needed for this proposal. In addition to the existing ramp configuration of the Houghton Road/SR 99 Interchange, a northbound directional on-ramp to SR 99 from westbound Houghton Road should be evaluated and included in the TIS.

According to our Transportation Concept Report (TCR) for SR 99, this segment in the vicinity of this proposal is ultimately planned for an eight-lane freeway at 218 feet. Currently, this segment exists as a six-lane freeway at 190 feet. An irrevocable offer of dedication of fourteen (14) feet of right-of-way is needed to accommodate the ultimate configuration of SR 99. When right-of-way is dedicated to the State, it will need to be dedicated and conveyed to the State (in a form approved by the State), before an encroachment permit is issued for any work in the State right-of-way. For further information on right-of-way dedication, please see the attached form or contact Calvin Henry at (559) 445-6573.

An encroachment permit must be obtained for all proposed activities for placement of encroachments within, under, or over the State highway rights-of-way. Activity and work planned in the State right-of-way shall be performed to State standards and specifications at no cost to the Sate. Engineering plans, calculations, specifications, and reports (documents) shall be stamped and signed by a licensed Engineer or Architect. Engineering documents for encroachment permit activity and work in the State right-of-way may be submitted using English units. The Permit Department and the Environmental Planning Branch will review and approve the activity and work in the State right-of-way before an encroachment permit is issued.

Encroachment permits will be issued in accordance with Streets and Highway Codes, Section 671.5, "Time Limitations."

Encroachments are subject to removal by the Department in accordance with Sections 673 and 720 of the Streets and Highways Code.

Please send a response to our comments prior to staff's recommendations to the Planning Commission and the Board of Supervisors.

If you have any questions, please call me at (559) 445-5232.

Sincerely,

LISA ZITO
Office of Transportation Planning
District 6

Attachment

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
CENTRAL REGION SOUTHEAST SURVEYS
RELINQUISHMENTS, VACATIONS, and DEDICATIONS
855 "M" STREET
SUITE 200
FRESNO, CA 93721
ATTN: Calvin Henry
PHONE (559) 445-6573
FAX (559) 445-6560
E-mail: calvin_henry@dot.ca.gov

Flex your power!
Be energy efficient!

CALTRANS DISTRICT 6

CENTRAL REGION SOUTHEAST SURVEYS OFFICE

REQUIRED INFORMATION FOR R/W DEDICATIONS

1. A Copy of the vesting deed(s) for the subject property (or a copy of the Title Report, if you have one).

2. Copy of the Assessor's Map.

3. Assessor's Parcel Number (APN) of the property.

4. State whether the property is within city limits or in an unincorporated area.

5. If the property is a lot of a Tract or a parcel of a Parcel Map, provide a copy of the recorded map(s).

6. Provide copies of any record map or deed cited in the documents provided.

7. A Legal description of the dedication parcel signed and sealed by a Licensed Professional Land Surveyor or a Civil Engineer registered prior to 1982 on 81/2" X 11" paper. Label EXHIBIT "A" at the top of the legal description (see attached sample legal).

8. A Plat showing pertinent survey data, such as basis of bearings, bearings, distances, and curve data, where applicable, and the area of the dedication parcel on 81/2" X 11" paper. If the parcel is located in unsubdivided land, show ties to the nearest two section corners and/or quarter-section corners. Label EXHIBIT "B" at the top of the Plat (see attached sample plat).

9. A Copy of the traverse calculations for the dedication parcel to include error of closure and area.

(continued)

10. A Copy of the **CONDITIONS OF APPROVAL** by the local agency (City/County) for the Parcel Map, Tract Map, or development plans describing the location and amount of right-of-way to be dedicated.

11. Any requirements from **CALTRANS PERMITS** or **CALTRANS PLANNING** describing the location and amount of right-of-way to be dedicated.

NOTE:

If any of the above listed items are not submitted, it will either cause a delay or halt in the Dedication process.

If there are any questions, please contact Calvin Henry, Caltrans Surveys Department, at 559-445-6573.

Mail packet of information to:

DEPARTMENT OF TRANSPORTATION
CENTRAL REGION SOUTHEAST SURVEYS
855 "M" STREET
SUITE 200
FRESNO, CA. 93721

ATTN: Calvin Henry

Rev. 2/22/07

EXHIBIT "A"

Commencing at a railroad spike with a cut cross for the Northeast corner of Sec.24, T.32S., R. 23E., M.D.M., in the County of Kern, State of California as shown on Parcel Map No. 3057 recorded in Parcel Map Book. 13, at Page 162, in the office of the County Recorder of said County, said corner lies 50 feet South of a 4" L.G.B Mac Dowell brass cap marked "Witness Corner 50'N ", said witness corner lies on the East line of Sec. 13, T. 32S., R. 23E., M.D.M. in said County as shown on the Record of Survey Map recorded in Record of Survey Book 8, at Page 155 in said County Recorders office; thence N89°51'06"W, along the North line of said Section 24 and along the centerline of Main Street (County Road No. 1100-A and County Road No. 1120), a distance of 332.91 feet to the Westerly Right-of-Way line of State Highway 33 (VI-Ker-33), as shown on State Highway Map VI-Ker-119, sheet 1, dated Nov. 1956; thence S00°08'54"W, along said West line of State Highway 33, a distance of 30.00 feet to a 5/8" rebar with a plastic cap stamped L.S. 3779 and the TRUE POINT OF BEGINNING;

1) Thence S 60°18'56"E along said Westerly line of State Highway 33, a distance of 66.30 feet;
2) Thence S 15° 03'30"E continuing along said Westerly line, a distance of 997.53 feet to the East line of said Section 24;
3) Thence S 00°54'24"W, along the East line of said Section 24, a distance of 54.54 feet to a 5/8" rebar with a plastic cap stamped L.S. 3779;
4) Thence N 15°03'30"W, a distance of 105.04 feet to the beginning of the South end of a 30.00 foot access opening;
5) Thence continuing N 15°03'30"W, a distance of 30.00 feet to the North end of said access opening;
6) Thence continuing N 15°03'30"W, a distance of 899.16 feet to a 5/8" rebar with a plastic cap stamped L.S. 3779;
7) Thence N 60°18'56"W, a distance of 54.41 feet to a 5/8" rebar with a plastic cap stamped L.S. 3779;
8) Thence N 00°08'54"E, a distance of 25.00 feet to TRUE POINT OF BEGINNING.

CONTAINING 0.38 ACRES MORE OR LESS.

This real property description was prepared by me, or under my direction, in conformance with the Professional Land Surveyors Act.

SIGNATURE _____ DATE _____
TYPED NAME

CALTRANS PARCEL NO. XXXXX

LICENSED LAND SURVEYOR
No.
Exp.
SURVEYOR
STATE OF CALIFORNIA

EXHIBIT "A"

THE SOUTH 55.00 FEET OF PARCEL 2 OF PARCEL MAP NO. 9975 PER MAP RECORDED IN PARCEL MAP BOOK 47 AT PAGE 23 IN THE KERN COUNTY RECORDER'S OFFICE. BEING IN A PORTION OF THE SOUTHEAST ¼ OF THE SOUTHWEST ¼ OF SECTION 24, T.29S., R.25E., M.D.B.&M,, IN THE UNINCORPORATED AREA OF THE COUNTY OF KERN, STATE OF CALIFORNIA.

THIS REAL PROPERTY DESCRIPTION WAS PREPARED BY ME, OR UNDER MY DIRECTION,IN CONFORMANCE WITH THE PROFESSIONAL LAND SURVEYOR'S ACT.

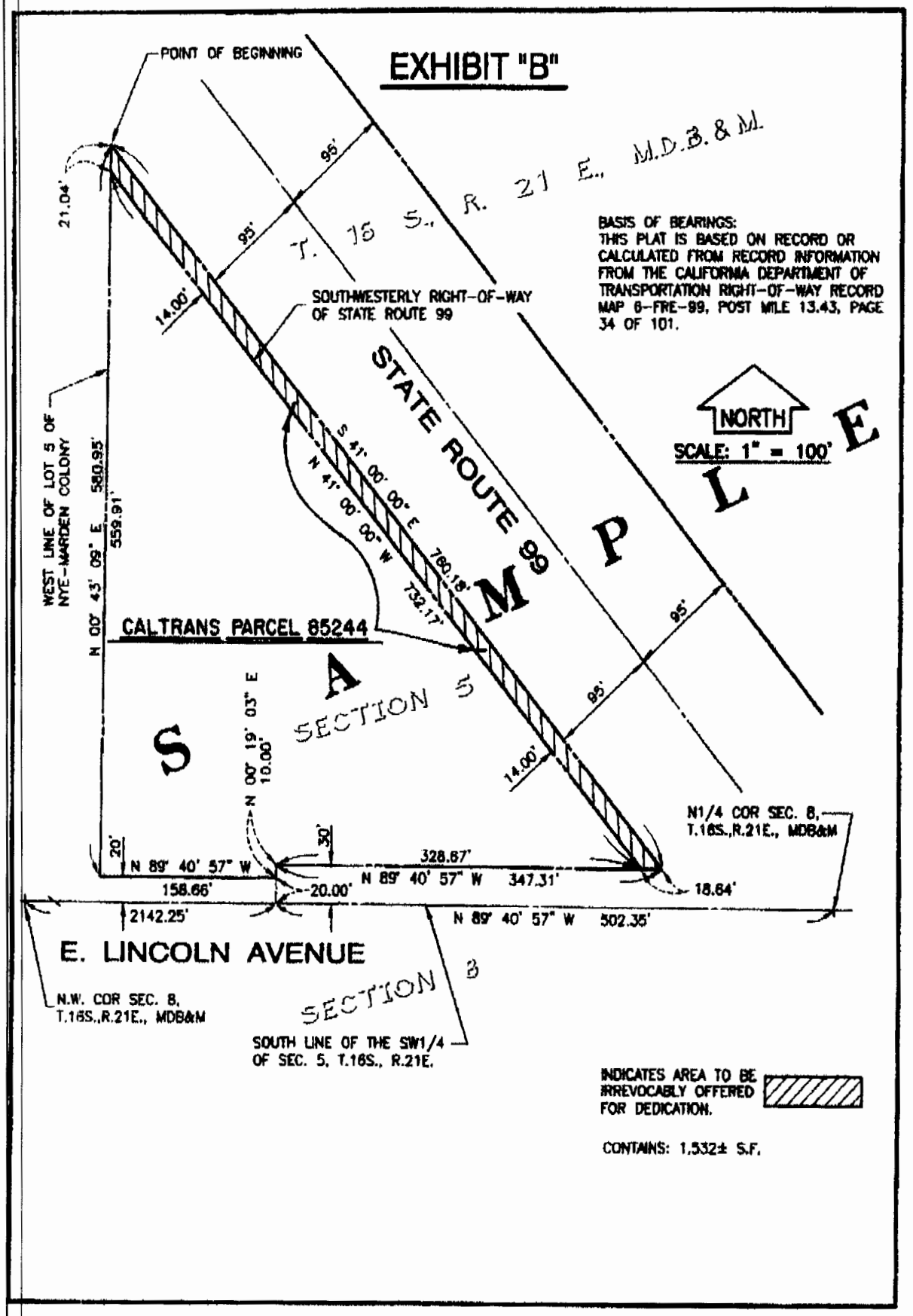
_____ _____

NAME DATE

RCE or LS

CALTRANS PARCEL NO. _____




EXHIBIT "B"
POINT OF BEGINNING
T. 16 S., R. 21 E., M.D.B. & M.
BASIS OF BEARINGS:
THIS PLAT IS BASED ON RECORD OR CALCULATED FROM RECORD INFORMATION FROM THE CALIFORNIA DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY RECORD MAP 6-FRE-99, POST MILE 13.43, PAGE 34 OF 101.
SOUTHWESTERLY RIGHT-OF-WAY OF STATE ROUTE 99
STATE ROUTE 99
NORTH
SCALE: 1" = 100'
WEST LINE OF LOT 5 OF NYE-MARDEN COLONY
CALTRANS PARCEL 85244
SECTION 5
SECTION 8
21.04'
95'
14.00'
S 41° 08' 08" E 760.18'
N 41° 08' 08" W 732.17'
N 00° 43' 09" E 580.95'
559.91'
N 00° 19' 03" E 10.00'
20'
30'
N 89° 40' 57" W 158.66'
20.00'
328.67'
N 89° 40' 57" W 347.31'
18.64'
N 89° 40' 57" W 502.35'
2142.25'
N1/4 COR SEC. 8, T.16S., R.21E., MDB&M
E. LINCOLN AVENUE
N.W. COR SEC. 8, T.16S., R.21E., MDB&M
SOUTH LINE OF THE SW1/4 OF SEC. 5, T.16S., R.21E.
INDICATES AREA TO BE IRREVOCABLY OFFERED FOR DEDICATION.
CONTAINS: 1,532± S.F.

Superintendent of Schools

May 13, 2009

Sara Kopp, Planner 2
Kern County Planning Department
2700 M Street, Suite 100
Bakersfield, CA 93301

Our File No.: CO09-0095

RE: DEVELOPER FEES FOR: GPA No. 1, ZCC No. 2, Exclusion from Ag Preserve No. 13
(East of Highway 99, between DiGiorgio Road and Houghton Road)

Dear Ms. Kopp:

This office represents the Greenfield Union and Kern High School Districts with regard to the imposition of developer fees, and appreciates the opportunity to respond on behalf of these districts regarding the proposed project. This letter is limited to addressing the possible effects which the project might have on school facilities created by students attributable to the project. It is not intended to address other possible environmental concerns which might be identified by the district(s) after reviewing it.

It is our determination that this project proposes a General Plan Amendment and zone change to modify the existing land use designations for the project site from agriculture to industrial use. Also proposed is a Petition for Exclusion from Agricultural Preserve No. 13. Based on this, our office has determined mitigation of this project's impacts on public school facilities will be limited to the collection of statutory fees authorized under Education Code Section 17620 and Government Code Sections 65995 et seq. (all as amended with an operative date of November 4, 1998) at the time that building permits are issued. Currently these fees are set at $0.47 per square foot, an amount subject to COLA adjustment every two years.

Thank you for this opportunity to comment on this project. If you have any questions, or if we can be of any further assistance in this matter, please contact me at 636-4599, or through e-mail at mabaker@kern.org.

Sincerely,

Larry E. Reider
County Superintendent of Schools

Mary L. Baker, Manager
School District Facility Services

MLB/bjd
cc: Districts
G:\DIVADMIN\SDFS\CORRES\2009\09-COUNTY\CO09-0095 GREENFIELD.DOC

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

Notice of Preparation

May 1, 2009

To: Reviewing Agencies

Re: 99 Houghton, LLC by McIntosh and Associates
SCH# 2009051005

Attached for your review and comment is the Notice of Preparation (NOP) for the 99 Houghton, LLC by McIntosh and Associates draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Sara Kopp
Kern County Planning Department
2700 M Street, Suite 100
Bakersfield, CA 93301

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Assistant Deputy Director & Senior Planner, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2009051005
Project Title 99 Houghton, LLC by McIntosh and Associates
Lead Agency Kern County

Type NOP Notice of Preparation

Description Proposed General Plan Amendment, Zone Change, and Exclusion from Agricultural Preserve to industrial use to allow for the development of an industrial park with a maximum of 5,134,253 sf of net building area.

Lead Agency Contact

Name Sara Kopp
Agency Kern County Planning Department
Phone (661) 862-8793 **Fax**
email
Address 2700 M Street, Suite 100
City Bakersfield **State** CA **Zip** 93301

Project Location

County Kern
City Bakersfield
Region
Cross Streets South Union and DiGiorgio
Lat / Long 35° 14' 39" N / 119° 0' 44" W
Parcel No. 185-140-06
Township 31S **Range** 28E **Section** 7 **Base** MDB&M

Proximity to:

Highways 99
Airports
Railways
Waterways
Schools General Shafter Elementary
Land Use Agriculture/A (Exclusive Agriculture)/R-IA (Resource-Intensive Agriculture) and HC (Highway Commercial)

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Economics/Jobs; Fiscal Impacts; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wildlife; Growth Inducing; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Conservation; Department of Water Resources; Department of Fish and Game, Region 4; Native American Heritage Commission; California Highway Patrol; Caltrans, District 6; Air Resources Board, Major Industrial Projects; Department of Toxic Substances Control; Regional Water Quality Control Bd., Region 5 (Fresno); Department of Parks and Recreation

Date Received 05/01/2009 **Start of Review** 05/01/2009 **End of Review** 06/01/2009

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

County: KERN **SCH#** 2009051005

esources Agency

- [ ] **Resources Agency** Nadell Gayou
- [ ] **Dept. of Boating & Waterways** Mike Sotelo
- [ ] **California Coastal Commission** Elizabeth A. Fuchs
- [ ] **Colorado River Board** Gerald R. Zimmerman
- [ ] **Dept. of Conservation** Rebecca Salazar
- [ ] **California Energy Commission** Dale Edwards
- [ ] **Cal Fire** Allen Robertson
- [ ] **Office of Historic Preservation** Wayne Donaldson
- [ ] **Dept of Parks & Recreation** Environmental Stewardship Section
- [ ] **Central Valley Flood Protection Board** Jon Yego
- [ ] **S.F. Bay Conservation & Dev't. Comm.** Steve McAdam
- [ ] **Dept. of Water Resources** Resources Agency Nadell Gayou
- [ ] _____ Conservancy

sh and Game

- [ ] **Depart. of Fish & Game** Scott Flint Environmental Services Division
- [ ] **Fish & Game Region 1** Donald Koch
- [ ] **Fish & Game Region 1E** Laurie Harnsberger
- [ ] **Fish & Game Region 2** Jeff Drongesen
- [ ] **Fish & Game Region 3** Robert Floerke
- [x] **Fish & Game Region 4** Julie Vance
- [ ] **Fish & Game Region 5** Don Chadwick Habitat Conservation Program
- [ ] **Fish & Game Region 6** Gabrina Gatchel Habitat Conservation Program
- [ ] **Fish & Game Region 6 I/M** Gabrina Getchel Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Game M** George Isaac Marine Region

Other Departments

- [ ] **Food & Agriculture** Steve Shaffer Dept. of Food and Agriculture
- [ ] **Depart. of General Services** Public School Construction
- [ ] **Dept. of General Services** Anna Garbeff Environmental Services Section
- [ ] **Dept. of Public Health** Bridgette Binning Dept. of Health/Drinking Water

Independent Commissions,Boards

- [ ] **Delta Protection Commission** Linda Flack
- [ ] **Office of Emergency Services** Dennis Castrillo
- [ ] **Governor's Office of Planning & Research** State Clearinghouse
- [ ] **Native American Heritage Comm.** Debbie Treadway
- [ ] **Public Utilities Commission** Leo Wong
- [ ] **Santa Monica Bay Restoration** Guangyu Wang
- [ ] **State Lands Commission** Marina Brand
- [ ] **Tahoe Regional Planning Agency (TRPA)** Cherry Jacques

Business, Trans & Housing

- [ ] **Caltrans - Division of Aeronautics** Sandy Hesnard
- [ ] **Caltrans - Planning** Terri Pencovic
- [ ] **California Highway Patrol** Scott Loetscher Office of Special Projects
- [ ] **Housing & Community Development** CEQA Coordinator Housing Policy Division

Dept. of Transportation

- [ ] **Caltrans, District 1** Rex Jackman
- [ ] **Caltrans, District 2** Marcelino Gonzalez
- [ ] **Caltrans, District 3** Bruce de Terra
- [ ] **Caltrans, District 4** Lisa Carboni
- [ ] **Caltrans, District 5** David Murray
- [x] **Caltrans, District 6** Michael Navarro
- [ ] **Caltrans, District 7** Elmer Alvarez
- [ ] **Caltrans, District 8** Dan Kopulsky
- [ ] **Caltrans, District 9** Gayle Rosander
- [ ] **Caltrans, District 10** Tom Dumas
- [ ] **Caltrans, District 11** Jacob Armstrong
- [ ] **Caltrans, District 12** Chris Herre

Cal EPA

Air Resources Board

- [ ] Airport Projects Jim Lerner
- [ ] Transportation Projects Douglas Ito
- [ ] Industrial Projects Mike Tollstrup
- [ ] **California Integrated Waste Management Board** Sue O'Leary
- [ ] **State Water Resources Control Board** Regional Programs Unit Division of Financial Assistance
- [ ] **State Water Resources Control Board** Student Intern, 401 Water Quality Certification Unit Division of Water Quality
- [ ] **State Water Resouces Control Board** Steven Herrera Division of Water Rights
- [ ] **Dept. of Toxic Substances Control** CEQA Tracking Center
- [ ] **Department of Pesticide Regulation** CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1** Cathleen Hudson North Coast Region (1)
- [ ] **RWQCB 2** Environmental Document Coordinator San Francisco Bay Region (2)
- [ ] **RWQCB 3** Central Coast Region (3)
- [ ] **RWQCB 4** Teresa Rodgers Los Angeles Region (4)
- [ ] **RWQCB 5S** Central Valley Region (5)
  - [ ] **RWQCB 5F** Central Valley Region (5) Fresno Branch Office
  - [ ] **RWQCB 5R** Central Valley Region (5) Redding Branch Office
- [ ] **RWQCB 6** Lahontan Region (6)
  - [ ] **RWQCB 6V** Lahontan Region (6) Victorville Branch Office
- [ ] **RWQCB 7** Colorado River Basin Region (7)
- [ ] **RWQCB 8** Santa Ana Region (8)
- [ ] **RWQCB 9** San Diego Region (9)

- [ ] **Other** _____

Last Updated on 03/24/2009

DEPARTMENT OF CONSERVATION

DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES

4800 Stockdale Highway • Suite 417 • BAKERSFIELD, CALIFORNIA 93309

PHONE 661 / 322-4031 • **FAX** 661 / 861-0279 • **WEBSITE** conservation.ca.gov/DOG

May 5, 2009

Ms. Sara Kopp
Kern County Planning Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301

Subject: GPA 1, MAP 143-07, ZC 2, MAP 143-07, EXCL FROM AG. PRES 13
Portion of Sec 7 T31S R28E MDB&M

Dear Ms Kopp:

The Department of Conservation's Division of Oil, Gas, and Geothermal Resources (Division) has reviewed the above referenced project. The Division supervises the drilling, maintenance, and plugging and abandonment of oil, gas, and geothermal wells in California. The Division offers the following comments for your consideration.

The proposed project is located outside the administrative boundaries of any oil or gas field. Presently, there is one plugged and abandoned well within the project boundaries. Please refer to the enclosed map, a portion of Division Map W4-2. The well and its approximate location are summarized in Table I (attached).

This abandoned well will need to be addressed if structures, roads or parking lots are planned in proximity to it. This well will need to be exposed for inspection and leakage testing prior to construction. The Division recommends that the well location be recorded on all future maps related to this project with a 10-foot no-build radius. Also, a legible copy of the final project map should be submitted to the Division. For additional information, please check the Division's website at:
http://www.conservation.ca.gov/dog/for_operators/Pages/construction_well_review.aspx.

The Division recommends that no structure be built over or in proximity to an abandoned well location. Section 3208.1 of the Public Resources Code authorizes the State Oil and Gas Supervisor to order the reabandonment of a previously abandoned well when construction of any structure over or in the proximity of a well could result in a hazard. The cost of reabandonment operations is the responsibility of the owner or developer of the project upon which the structure will be located.

Regardless, if this or any other abandoned or unrecorded wells are uncovered or **damaged** during excavation or grading, remedial plugging operations may be required. This office must be contacted to obtain information on the requirements for and approval to perform remedial operations.

Thank you for the opportunity to comment on this project. If you have any questions, please call **Joyce Jaszarowski** at the Bakersfield district office: 4800 Stockdale Highway, Suite 417, Bakersfield, CA 93309; phone (**661) 334-3653**.

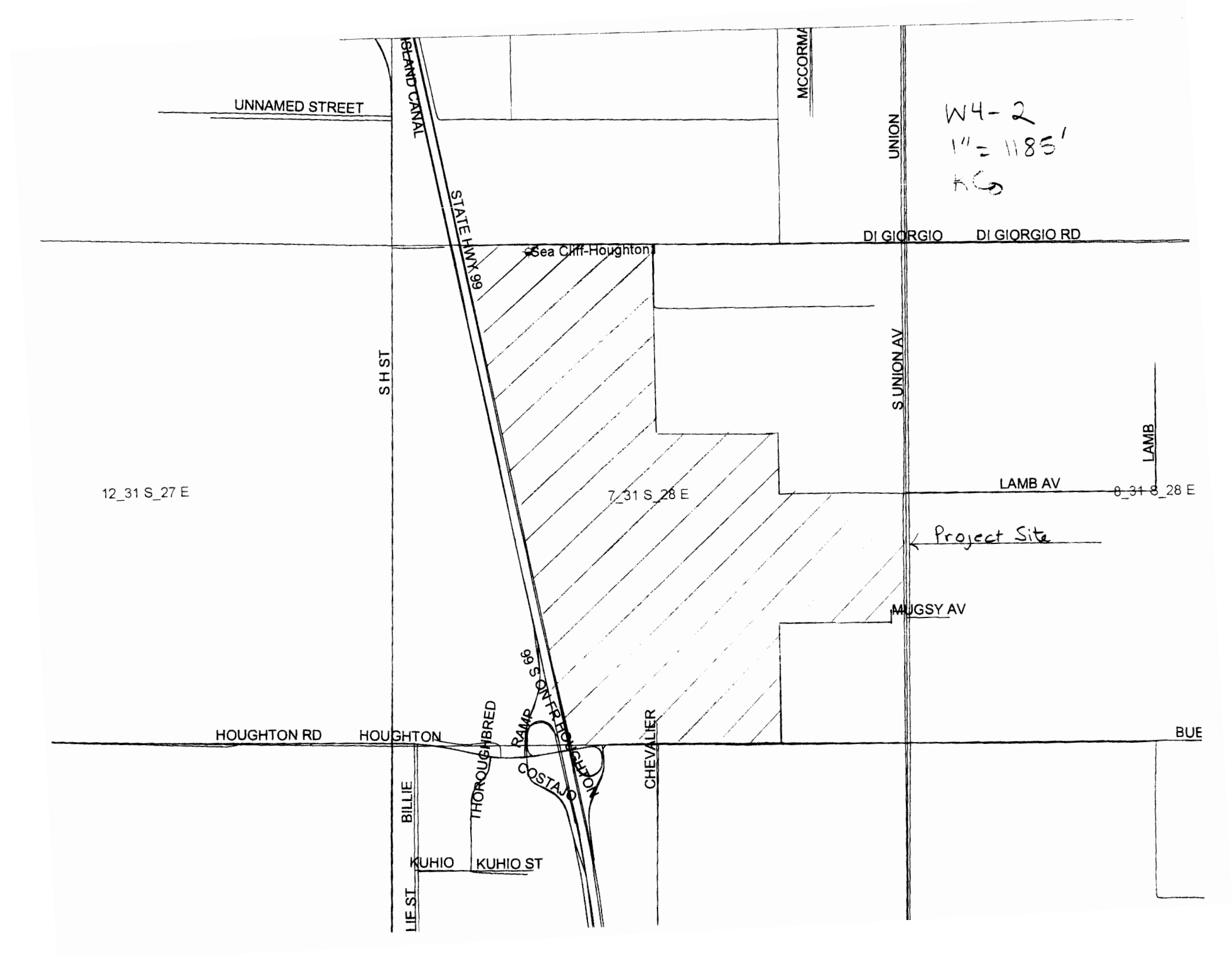
Sincerely,

Dan Tuttle

Dan Tuttle
Senior Oil and Gas Engineer

TABLE 1
Projection NAD 27 Continental US

OPERATOR	LEASE	WELL #	API #	SEC	TWN	RGE	TYPE	LATITUDE	LONGITUDE	LOCATION	ACTIVE
Big McKittrick Oil Co.	Sea Cliff-Houghton	1	02932362	7	31S	28E	hud	35.252124	-119.015545	Fr NE cor 340S 3630W	N


UNNAMED STREET
ISLAND CANAL
STATE HWY 99
MCCORMA
UNION
W4-2
1" = 1185'
DI GIORGIO
DI GIORGIO RD
Sea Cliff-Houghton
S H ST
S UNION AV
LAMB
LAMB AV
12_31 S_27 E
7_31 S_28 E
8_31 S_28 E
Project Site
MUGSY AV
99 S ON FR HOUGHTON
THOROUGHBRED
RAMP
HOUGHTON RD
HOUGHTON
COSTAJO
CHEVALIER
BUE
BILLIE
KUHIO
KUHIO ST
LIE ST

DEPARTMENT OF AGRICULTURE AND MEASUREMENT STANDARDS

Ruben J. Arroyo
Agricultural Commissioner
Sealer of Weights and Measures

1001 South Mount Vernon Avenue · Bakersfield, California 93307
Telephone 661-868-6300 · Fax 661-868-6301 · agcomm@co.kern.ca.us

May 21, 2008

Planning Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323

Attn: Sara Kopp

Re: 99 Houghton, LLC
PP09205
Responsible Agency Review

Dear Ms. Kopp,

As a department that is tasked with promoting agriculture throughout the county, one of my main concerns involves projects which deplete agricultural land.

This project would result in the loss of approximately 314 acres of prime agricultural land to industrial concerns. As part of this loss of a relatively large area of farmland, all surrounding agricultural properties will be impacted by buffer zones created by the project, limiting not only specific types of crops, but also restricting times and methods of application.

Issues involving compatibility with this use and the scope of impact upon the surrounding properties must be addressed and mitigated before the project is approved.

Sincerely,

Ruben J. Arroyo
Agricultural Commissioner/Sealer

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
e-mail: ds_nahc@pacbell.net

May 22, 2009

Ms. Sara Kopp, Senior Planner
KERN COUNTY PLANNING DEPARTMENT
2700 "M" Street, Suite 100
Bakersfield, CA 93301

Re: SCH#2009051005; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for **the 99 Houghton, LLC by McIntosh & Associates Project;** located in Kern County, California

Dear Ms. Kopp:

The Native American Heritage Commission (NAHC) is the state 'trustee agency' pursuant to Public Resources Code §21070 designated to protect California's Native American Cultural Resources. The California Environmental Quality Act (CEQA) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the California Code of Regulations §15064.5(b)(c)(f) CEQA guidelines). Section 15382 of the 2007 CEQA Guidelines defines a significant impact on the environment as "a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ... objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE)', and if so, to mitigate that effect. To adequately assess the project-related impacts on historical resources, the Commission recommends the following action:

√ Contact the appropriate California Historic Resources Information Center (CHRIS) for possible 'recorded sites' in locations where the development will or might occur.. Contact information for the Information Center nearest you is available from the State Office of Historic Preservation (916/653-7278)/ http://www.ohp.parks.ca.gov. The record search will determine:

- If a part or the entire APE has been previously surveyed for cultural resources.
- If any known cultural resources have already been recorded in or adjacent to the APE.
- If the probability is low, moderate, or high that cultural resources are located in the APE.
- If a survey is required to determine whether previously unrecorded cultural resources are present.

√ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure.
- The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.

√ The Native American Heritage Commission (NAHC) performed:

* A Sacred Lands File (SLF) search of the project 'area of potential effect (APE)': The results: No known Native American Cultural Resources were identified within one-half mile of the 'area of potential effect' (APE).: However, there are Native American cultural resources in close proximity to the APE. The NAHC urges caution with any ground-breaking activity. Also, the NAHC SLF is not exhaustive and local tribal contacts should be consulted from the attached list and the there are Native American cultural resources in close proximity..

- The NAHC advises the use of Native American Monitors, also, when professional archaeologists or the equivalent are employed by project proponents, in order to ensure proper identification and care given cultural resources that may be discovered. The NAHC, FURTHER, recommends that contact be made with Native American Contacts on the attached list to get their input on potential IMPACT of the project (APE) on cultural resources.. In some cases, the existence of a Native American cultural resources may be known only to a local tribe(s) or Native American individuals or elders.
- √ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
- Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.

- Again, a culturally-affiliated Native American tribe may be the only source of information about a Sacred Site/Native American cultural resource.
- Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.

√ Lead agencies should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigation plans.

- CEQA Guidelines, Section 15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave liens.

√ Health and Safety Code §7050.5, Public Resources Code §5097.98 and Sec. §15064.5 (d) of the California Code of Regulations (CEQA Guidelines) mandate procedures to be followed, including that construction or excavation be stopped in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery until the county coroner or medical examiner can determine whether the remains are those of a Native American. . Note that §7052 of the Health & Safety Code states that disturbance of Native American cemeteries is a felony.

√ Lead agencies should consider avoidance, as defined in §15370 of the California Code of Regulations (CEQA Guidelines), when significant cultural resources are discovered during the course of project planning and implementation

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,

Dave Singleton
Program Analyst

Attachment: List of Native American Contacts

Cc: State Clearinghouse

Native American Contacts
Kern County
May 22, 2009

Santa Rosa Rancheria
Clarence Atwell, Chairperson
P.O. Box 8
Lemoore , CA 93245
(559) 924-1278
(559) 924-3583 Fax

Tache
Tachi
Yokut

Tejon Indian Tribe
Kathy Morgan, Chairperson
2234 4th Street
Wasco , CA 93280

Yowlumne
Kitanemuk

Tule River Indian Tribe
Ryan Garfield, Chairperson
P.O. Box 589
Porterville , CA 93258
chairman@tulerivertribe-nsn.
(559) 781-4271
(559) 781-4610 FAX

Yokuts

Chumash Council of Bakersfield
Arianne Garcia, Chairperson
P.O. Box 902
Bakersfield , CA 93302
chumashtribe@sbcglobal.net
(661) 836-0486
(661) 836-0487

Chumash

Ron Wermuth
P.O. Box 168
Kernville , CA 93238
warmoose@earthlink.net
(760) 376-4240 - Home
(916) 717-1176 - Cell

Tubatulabal
Kawaiisu
Koso
Yokuts

Tubatulabals of Kern Valley
Donna Begay, Tribal Chairwoman
P.O. Box 226
Lake Isabella , CA 93240
(760) 379-4590
(760) 379-4592 FAX

Tubatulabal

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez
981 N. Virginia
Covina , CA 91722
(626) 339-6785

Yowlumne
Kitanemuk

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2009051005; CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the 99 Houghton LLC by McIntosh & Associates Project; located in Kern County, California.

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

June 1, 2009

Sara Kopp
County of Kern
Planning Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323

Subject: Comments on Proposed Project

Project: 99 Houghton, LLC by McIntosh & Associates; General Plan Amendment No. 1, Zone Change No. 2, Map 143-07, Exclusion from Agricultural Preserve No. 13 (PP09205)

District Reference No: 20090288

Dear Ms. Kopp:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Notice of Preparation (NOP) for the 99 Houghton, LLC project. The proposed project would change the land use designation from agriculture to industrial to allow an industrial park on approximately 314.31 acres. The District offers the following comments:

Environmental Impact Report (EIR) Content

1) The EIR should include a quantitative emissions analysis. This analysis should include the following:

   1a) A description of the project, including a discussion of existing and post-project emissions. The discussion should include emissions from short-term activities such as construction, and emissions from long-term activities, such as operational, and area wide emission sources.

   1b) Emissions from permitted (stationary sources) and non-permitted (mobile sources) sources should be analyzed separately. The project should be

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061
www.valleyair.org

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585

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considered to have a significant adverse impact on air quality if emissions from either source exceed the following amounts: 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), or 15 tons per year particulate matter of 10 microns or less in size (PM10).

1c) A discussion of the methodology, model assumptions, inputs and results used in characterizing the project's impact on air quality.

1d) A discussion of whether the project would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment.

2) At this time there are no established significance thresholds for greenhouse gas emissions, however, it is suggested that the EIR include a discussion of greenhouse gas emissions generated by the project and the effect they will have, if any, on global climate change.

3) The EIR should contain a discussion of whether the project would create nuisance odors and the impact that potential odors would have on receptors in the project vicinity.

4) As the project is located near areas designated for residential uses, the EIR should contain a discussion of the potential health impact of Toxic Air Contaminants (TACs), if any, to near-by receptors.

5) The EIR should contain a discussion of existing District regulations that would apply to future developments within the scope of the project, including District permitting requirements and District Rule 9510 (Indirect Source Review).

6) The EIR should identify all feasible measures that will reduce air quality impacts.

District Recommendations

7) Accurate quantification of health risks and operational emissions requires detailed site specific information, e.g. type of emission source, proximity of the source to sensitive receptors, and trip generation information. The required level of detail is typically not available until project specific approvals are being granted. Thus, the District recommends that potential health risks be further reviewed when approving future projects, including those that would be exempt from CEQA requirements. Specific consideration should be given when approving projects that could expose sensitive receptors to toxic air contaminants (TACs). If the analysis indicates that TACs are a concern, the District recommends that a Health Risk Assessment (HRA) be performed. If an HRA is to be performed, it is recommended that the project proponent contact the District to review the proposed modeling approach. If there are questions regarding health risk assessments, please contact Mr. Leland Villalvazo, Supervising Air Quality Specialist, at hramodeler@valleyair.org.

Additional information on TACs can be found online by visiting the District's website at http://www.valleyair.org/busind/pto/Tox_Resources/AirQuality Monitoring.htm.

8) For future developments within the scope of the project the District recommends that before issuance of the first grading plan approval or building permit, demonstration of compliance with District Rule 9510, including payment of all applicable fees, be made a condition of project approval. Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm.

9) The District recommends inclusion of a policy to reduce construction exhaust emissions, such as contracting with construction firms that can demonstrate that construction fleets can meet the emissions reduction requirements set by District Rule 9510 (20% reduction of NOx emissions and 45% reduction of PM10 emissions). This can be achieved through any combination of uncontrolled engines and engines complying with Tier II and above engine standards.

10) Referral documents for new development projects should include a project summary detailing, at a minimum, the land use designation, project size, and proximity to sensitive receptors and existing emission sources.

District staff is available to meet with you and/or the applicant to further discuss the regulatory requirements that are associated with this project. If you have any questions or require further information, please call Jessica Willis at (559) 230-5818 and provide the reference number at the top of this letter.

Sincerely,

David Warner
Director of Permit Services

Jessica R Willis

Arnaud Marjollet
Permit Services Manager

DW:jw

cc: Jennifer Stewart

TEJON INDIAN TRIBE
2234 4TH STREET
WASCO, CALIFORNIA 93280

May 12, 2009

Susan Kopp
Planner 2
Kern County Planning Department
2700 "M" Street, Suite 100
Bakersfield, California 93301

Re: Ivy Houghton (PP09205)

Dear Ms. Kopp:

Thank you for the letter dated May 1, 2009. We appreciate you asking us for information and I hope we can help.
Although this is an area our ancestors used in the past, at this time we have no information or concerns on this issue.
If we can be of any help, please contact us.

Cheryl Morgan
Cultural Resources Manager
Tejon Indian Tribe
2081 Warren St.
Taft, Ca. 93268
(661) 765-2504
Cmorgan2@earthlink.net

Sincerely,

Cheryl Morgan
Tejon Indian Tribe

COUNTY OF KERN
RESOURCE MANAGEMENT AGENCY
ROADS DEPARTMENT
Office Memorandum

To: Ted James, Director — May 18, 2009

Planning Department
Attn: Sara Kopp, Planner II

From: Steven Young, Engineer II
Roads Department

Subject: 7-8.5c GPA # 1, ZCC # 2, Map 143-07 (99 Houghton, LLC)

This Department has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the above noted project. As soon as a traffic impact study is submitted for this development, please forward a copy to me for review and comment.

Thank you for the opportunity to comment on this project, if you have any questions or comments please contact me at 862-8860.

SIERRA CLUB
KERN-KAWEAH CHAPTER

RECEIVED
2009 MAY 27 AM 10: 32
KERN COUNTY
PUBLIC SERVICES BUILDING

P.O. Box 3357
Bakersfield, CA 93385
May 27, 2009

Kern County Planning Department
Attention: Sara Kopp
2700 "M" Street, Suite 100
Bakersfield, CA 93301

Re: NOP for 99 Houghton LLC; GPA No. 1, ZC No. 2,Map 143-07; Exclusion from Agricultural Preserve No. 13; (PP09205)

Dear Planners:

We are pleased that the County will prepare a project-specific Environmental Impact Report (EIR) for this project. We suggest that the EIR address a number of issues, including but not limited to the following:

INCOMPATIBILITY WITH METROPOLITAN BAKERSFIELD GENERAL PLAN UPDATE

We note that the Metropolitan Bakersfield General Plan Update has recently been initiated and that the 99 Houghton project is located well beyond the proposed 2035 buildout area. The 99 Houghton project is located in the "Future Planning Reserve", an area projected to develop after 2050. Approving this project at this point undercuts the Metropolitan Bakersfield General Plan Update before it even gets off the ground, making the process an exercise in futility. Under California law, the general plan serves as the constitution for future development. Accommodating a development of this large scale and scope prior to completion of an updated general plan embodies poor land-use planning. Turning this process on its head, approval of the project at this premature juncture would dictate outcomes in the general plan and potentially foreclose more thoughtful and sustainable regional planning. In commenting on the Metropolitan Bakersfield General Plan Update in the *Bakersfield Californian* on April 20, 2009, County Planning Director Ted James said, "We have legislation that says we need to get more human-oriented. Do we put our heads in the sand and ignore the legislation, ignore the attorney general, ignore the impact on transportation systems? Or do we try to find a proactive solution?" The EIR should address this incompatibility with the Metropolitan Bakersfield General Plan Update so that a more informed determination can be made as to whether or not the project is consistent with the County's vision of sustainable future growth and a low-carbon future.

NEED FOR THE PROJECT

One of the policies of the Metropolitan Bakersfield General Plan requires, among other things, a "demonstrated project need" when converting farmland to urban use. The DEIR for the Bakersfield Land Investment project states, "General plan amendments approved since 2002 have resulted in a potential for 61,218 new residential lots if all of the pending County and City projects are approved." In addition, Table 6-1 of the DEIR for the City's Canyons project lists 89053 dwelling units and nearly 27 million square feet of commercial projects in the pipeline for the metropolitan area. At a realistic 3000 houses built per year, there is at least a 20-year backlog. As of May 14, 2009, there were 11496 existing units currently in some form of foreclosure in Bakersfield according to RealtyTrac.com. The *Bakersfield Californian* reported on November 4, 2008, that Bakersfield's median home price in October 2008 was $165,000, 35% lower than it was in October 2007, presumably due to a large inventory of new homes. The same article states, "Seventy percent of current listings are distressed." The housing bubble has clearly burst and the market is continuing to slide downwards. The County's economic forecasts and housing demand projections should take these market conditions into account since these conditions influence the need for a new industrial project such as the one proposed. The EIR should demonstrate the need for this project.

FARMLAND CONVERSION

The County should completely offset the conversion of agricultural land to urban use. Specifically, the County should require the use of farmland conservation easements to preserve agricultural land elsewhere. A number of projects in California (including several in Kern County) have agreed to fund agricultural conservation easements as partial mitigation for such conversion (e.g., West Ming project in Bakersfield, Rosedale Ranch in northwest Bakersfield, Old River Ranch in southwest Bakersfield, the Blackhawk project, SV Investments Project, Lent Ranch in Elk Grove). In order to ensure that CEQA requirements are met, the County should require that three acres of equally good, equally at risk farmland be preserved via conservation easements for every acre of farmland converted. We remark that Sequoia Riverlands Trust, an existing Tulare County land trust, can serve as a holding agency for farmland conservation easements.

The EIR should include specific performance standards so that the public and the decision makers will be unable to judge the effectiveness of mitigation for farmland conversion. The mitigation measure should require qualifying mitigation land to be of equal quality and under somewhat similar development pressure.

The project EIR should include an Agricultural Conversion Study. There are a number of additional feasible mitigation measures available; we include a listing of such measures developed by the California Department of Conservation. The EIR should evaluate these mitigation measures.

AIR QUALITY

A project-level EIR should include an air study, and air pollution associated with the project should be completely mitigated, perhaps by funding air pollution reduction projects sufficient to completely offset the air pollution associated with this project.

While this project will be subject to the Air District's ISR rule, we note that ISR offsets only about half the air pollution associated with the project. Given the very serious nature of air pollution in the San Joaquin Valley, air pollution associated with projects should be completely mitigated. The County should require this project to come to an agreement with the San Joaquin Valley Air Pollution Control District (SJVAPCD) to completely offset the air pollution associated with the project. A number of southern San Joaquin Valley developers (including the West Ming project and the Old River Ranch project, both in Bakersfield) have agreed to participate in an Emissions Reduction Program through the SJVAPCD. Through this program, developers promise to completely offset the emissions associated with their project through onsite design features and offsite pollution reduction projects. Participation in such a program has, therefore, been shown to be clearly feasible and effective in reducing air quality impacts to zero, both project-specific impacts and, hence, cumulative impacts, since zero project-specific impact could not add to the cumulative impact. This impact is therefore not unavoidable, and with such a program in hand the County would not have to adopt a Statement of Overriding Considerations.

There are a number of other possible mitigation measures. For example, the SJVAPCD, in letters on other projects, lists a number of onsite design measures (photovoltaic cells, bikeways, passive solar design, bus turnouts, energy efficiency, etc.) that would reduce air quality impacts and which should be explored for this project.

Construction emissions should be offset. Options for reducing construction emissions might include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, and after-treatment products. Environmental impacts must be mitigated when feasible measures are available; just because effective mitigations used elsewhere are not specified or discussed in the GAMAQI doesn't mean the lead agency can ignore them, and cost alone is not sufficient to deny full, substantive evaluation of available mitigations. Onroad and offroad emission control aftertreatments are available for NOx and PM10 reductions to reduce impacts of construction diesels and of diesels that will work at or travel to/from the development once it is completed. There should be a comprehensive listing and review of mitigations that are not "facially infeasible", and the discussion should not be limited to mitigations that are directly or implicitly conditioned within the GAMAQI. The Sacramento air basin has essentially the same development-related vehicle fleets and vehicle operation parameters as those in Kern County. A scraper used to grade the development studied here is essentially the same type, horsepower, vintage, and emission level as used to grade a project in Sacramento, and grading practices in valley soils are similar from north to south. Sacramento's requirement for 20% NOx reduction and 45% PM10 reduction, based on a fleet

average emission level for each type of construction equipment is feasible and reasonable based on several years of experience there. The County should add such a requirement as a condition of development.

Adverse health effects of the area's abysmal air quality have been well documented in the medical literature. Given the additional air pollution generated by this and other projects in the area, we suggest that the EIR should study the public health risk of increased development and incorporate mitigation strategies to lower the risk.

BIOLOGICAL RESOURCES

It is likely that the area was at one time home to many species of plants and animals, including endangered species such as kit fox and blunt-nosed leopard lizards as well as many other native species such as burrowing owls and Kern brodiaea. While many of these species may have been driven out of the project site by agricultural operations, some of the native plant species could be reintroduced by replanting them in the open space areas proposed for the project. Landscaping should include drought-tolerant and/or native plants.

It is also likely that this land is foraging and/or nesting habitat for a number of species. The EIR should provide the public and decision-makers the information necessary to understand and evaluate the project's impacts on biological resources and should include a protocol-level study of biological resources and a list of specific criteria to mitigate the impacts.

Reliance on the MBHCP does not relieve the County of the need to assess and mitigate the impact of the project on biological resources. Pursuant to CEQA, the lead agency, in this case the County, may not limit its analysis of the project's potential impact on species that are listed pursuant to the federal and state law; the County has a separate and ongoing responsibility under CEQA also to mitigate the project's potential impacts on species which, although not listed as threatened or endangered, may nevertheless require additional protection by virtue of being rare or otherwise in danger of extinction in the region (CEQA Guideline 15380). The burrowing owl fits this description. Possible mitigation could involve leaving the part of the property as open space dedicated to the burrowing owl or by contributing additional funding to efforts to purchase habitat to be preserved for the burrowing owl.

Since the blunt-nosed leopard lizard (BNLL) is a "fully protected" species under California law, no take permit can be granted under any circumstances. We suggest that the County require a BNLL study with proper protocol before soil is disturbed. Possible mitigation could involve leaving the part of the property as open space dedicated to the BNLL or by contributing to ongoing efforts to purchase habitat to be preserved for the BNLL. The EIR should address this concern.

It is possible that kit fox dens are located on the site. A typical mitigation measure requires that the den be excavated and the kit foxes be relocated if the den cannot be avoided. Does suitable habitat that does not overlap other kit foxes' territories exist? Where will the foxes be relocated? What is the success rate for such relocations of kit foxes? The EIR should present substantial evidence based on past experience with such relocation programs that the kit foxes will not be harmed and will survive in the long term.

The publication *Feasibility and Strategies for Translocating San Joaquin Kit Foxes to Vacant or Restored Habitats* by Samantha Bremner-Harrison and Brian Cypher at http://esrp.csustan.edu/publications/pdf/esrp_2007_kitfoxreloction_w.pdf gives evidence that kit fox relocation is complex and will likely not be successful. The EIR should address this evidence.

GLOBAL WARMING

There are several websites with important information about global warming/climate change and the California Environmental Quality Act (CEQA):

- The California Attorney General website, http://ag.ca.gov/globalwarming/ceqa.php, contains much useful information, including lists of potential mitigation measures and modeling tools.
- The California Air Pollution Control Officers (CAPCOA) website, www.capcoa.org, contains a White Paper entitled *CEQA and Climate Change*. This 155-page document from January 2008 is subtitled *Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act.*
- The draft Climate Action Team Report on the effects of global warming on California is at http://www.climatechange.ca.gov/publications/cat/. The EIR should address effects of climate change from this report that could impact this project.

In the California Global Warming Solutions Act of 2006, the State has declared, "Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." This legislation requires statewide greenhouse gas (GHG) emissions to be reduced to 1990 levels by 2020. In a June 19, 2007, letter to the County of San Jose regarding its Coyote Valley Specific Plan, the California Attorney General stated, "More importantly, we note that the County has avoided its fundamental responsibility under CEQA to determine whether this Project's contribution to the quintessentially cumulative problem of global warming is significant and, if so to require changes or mitigation that will avoid or reduce these impacts." This same letter includes two attachments (Modeling Tools to Estimate Climate Change Emissions Impacts of Projects/Plans; Mitigation Measures and Global Warming Resources). The modeling tools from the AG's letter should be used, and there are a number of feasible mitigation measures that should be considered. Reducing global warming gas emissions is a statewide priority, and

the Attorney General argues that lead agency (in this case, the County of Kern) has the responsibility under CEQA to address the issue.

The Center for Biological Diversity (CBD) argues convincingly in their September, 2007, report entitled *The California Environmental Quality Act – On the Front Lines of California's Fight Against Global Warming* that "In light of the magnitude and scope of the climate change impacts facing California and the mandate of both the California Global Warming Solutions Act of 2006 and Executive Order S-3-05 that existing levels of greenhouse gases be significantly reduced, any new emissions generated by a project should be considered cumulatively significant."

The Environmental Protection Agency has recently issued a proposed finding that GHG's endanger public health and welfare, making it all the more critical that this project's adverse GHG impact be fully addressed. We attach the EPA press release with this letter.

As an indication of the importance of fully addressing the climate change issue, we attach two papers to this submission. The first is a speech by James Hansen, renowned climate expert, warning that we are nearing a tipping point and that action is necessary. The second is a recent *Los Angeles Times* article by Bettina Boxall that describes the Climate Action Team Report referenced above.

A recent San Bernardino County Superior Court decision on a proposed new Wal-Mart in Yucca Valley ruled that the project must take measures to reduce its impact on global warming, adding to the growing legal consensus that businesses and governments promoting new developments must consider climate change.

All GHG associated with the project should be objectively quantified in a project-specific EIR, should be considered cumulatively significant, and should be completely mitigated. There are a number of potential mitigation measures, including:

- Green building and enhanced energy efficiency standards. Build according to LEED standards. Measures might include requiring that buildings be at least 15% more energy efficient than Title 24 standards.
- A requirement that solar photovoltaics (PV) and solar water heating be built into every structure. What better place to generate electricity from the sun than the southern San Joaquin Valley! Every kilowatt of solar PV power offsets about a ton per year of global warming gasses that would have otherwise been produced by a fossil fuel-fired power plant (according to Environment California Research and Policy Center in a publication entitled *The Economics of Solar Homes in California).*
- A condition that parking lots be covered and that parking lot roofs contain solar PV.
- A requirement for partial funding of an area energy efficiency program creating equivalent reductions in carbon emissions.
- A requirement that the project partially subsidize public transportation in order to reduce area VMT.

- A requirement that the developer retrofit solar PV on existing area buildings. Retrofitting existing area buildings with solar PV would effectively offset emissions associated with this project in much the same way as the SJVAPCD uses ISR funds to fund offsite projects to offset criteria pollutants associated with development projects.
- A requirement that the developer contribute funding for area solar PV incentives. Most solar PV incentive programs use funding rebates to encourage PV construction. The City of Lemoore has such a program. In the absence of a local solar PV incentive program, we suspect that Lemoore would be pleased to accept a contribution from this developer to boost their program.
- A requirement that the developer contribute a GHG fee to the San Joaquin Valley Air Pollution Control District to be used to fund projects that would reduce GHG emissions elsewhere. This could be built in to a criteria pollutant VERA as the Air District has suggested in the past.
- A requirement that the developer purchase high quality, reliable carbon offsets to make up for remaining CO_2e emissions. There are a number of issues regarding the quality of carbon offsets that should be addressed. See *A Consumer's Guide to Retail Carbon Offset Providers.* Clean Air-Cool Planet, 2006.

The EIR should evaluate these mitigation measures.

CBD, in the report referenced above, states, "The importance of reducing greenhouse gas pollution cannot be overstated: reductions made today not only make economic sense, but will determine the type of climate and quality of life experienced by our children and grandchildren." We agree and urge the County to require complete mitigation for GHG emissions from this project.

WATER SUPPLIES

The EIR should include verification of sufficient water supplies for the future and should discuss the environmental impacts of supplying future water to this project. In the recent Vineyard Area Citizens et al. vs County of Rancho Cordova et al. decision, the California Supreme Court stated, "We conclude that while the EIR adequately informed decision makers and the public of the County's plan for near-term provision of water to the development, it failed to do so as to the long-term provision and hence failed to disclose the impacts of providing the necessary supplies in the long term. While the EIR identifies the intended water sources in general terms, it does not clearly and coherently explain, using material properly stated or incorporated in the EIR, how the long-term demand is likely to be met with those sources, the environmental impacts of exploiting those sources, and how those impacts are to be mitigated."

In the context of this decision, a number of specific questions arise:

- Will groundwater be sufficient in the long term for the projected growth?

- What effect will increased groundwater pumping have on groundwater levels and on water quality? How will potential lowering of groundwater levels affect nearby agricultural wells?
- What are the long-term competing uses for this groundwater, for the agricultural water, and for the recharge water?
- Are there any alternative long-term water supplies for the project?
- What uncertainties are associated with long-term groundwater or alternative water supplies?
- What are the environmental impacts associated with securing and delivering these supplies? For example, what is the impact of water diversions on endangered species, including the delta smelt and Chinook salmon?
- What mitigation is feasible for these environmental impacts?

A project-specific EIR should address these questions.

The Greenfield County Water District (GCWD) is expected to supply water for this project. The DEIR for the Gateway Commercial project just to the north of this proposal states that GCWD will recharge 500 af/yr to offset the Gateway project's water use. This recharge water will be supplied by Kern Delta Water District. If a similar arrangement is assumed for the 99 Houghton project, several questions arise:

- Does GCWD have a long-term contract with KDWD to supply this water?
- Will this project pay for the necessary recharge water?
- Does GCWD have similar recharge arrangements with other projects?
- If so, what is the total af/yr necessary to satisfy these arrangements?
- Does KDWD have sufficient reliable supplies to satisfy these recharge requirements?

ENERGY AND SOLAR PHOTOVOLTAICS

The County should consider requiring the project to generate its electricity using solar photovoltaic panels. In addition to air quality, global warming, and many other societal benefits, solar photovoltaic panels on the buildings could generate enough electricity to help mitigate the potential need to build upgraded electrical facilities and new power plants. The EIR should discuss the potential need to upgrade electrical facilities.

On January 12, 2006, the California Public Utilities Commission (PUC) approved the California Solar Initiative, authorizing the state to invest $3.2 billion in small-scale solar electric power systems over eleven years and establishing the statewide goal of building a million solar electric roofs, or 3,000 megawatts (MW) of solar electric power.

On August 21, 2006, Gov. Arnold Schwarzenegger signed the Million Solar Roofs Bill (SB 1) into law establishing much-needed policies that complement the California Solar Initiative and that the PUC had no authority to establish on their own. This law further enables California to achieve the goals of building a million solar roofs in ten

years and of making solar power a mainstream energy resource over the coming decade.

Analysis of energy impacts is practical at this stage and should not be deferred. This analysis should include, but not be limited to, the following:

- The EIR should discuss the project's effects on local and regional energy supplies and the need for additional capacity to serve the project.
- The EIR should discuss the project's effect on peak and base period demands for electricity.
- It should consider the "potentially significant energy implications of a project" (CEQA Guidelines, Appendix F).
- It should include "measures to reduce the wasteful, inefficient, and unnecessary consumption of energy" (CEQA Guidelines, Appendix F).
- In order to evaluate solar photovoltaics (PV) as potential mitigation, the EIR should quantify the benefits of building solar PV into this project. Quantifying the benefits of solar photovoltaics is straightforward and well researched (see, e.g., *Economics of Solar Homes,* Environment California Research and Policy Center, December 2004). In order to help comply with statewide needs and goals, the EIR should discuss this possibility.
- How will the project address the Million Solar Roofs Bill and the California Solar Initiative?

TRAFFIC

Given the existing traffic congestion on Highway 99, Panama Lane, and elsewhere in the Southwest and South, we suggest that the cumulative impact of this project on traffic could easily be considerable. The EIR should examine the cumulative impact of this project on traffic.

The Gateway Commercial project is proposed to be built just to the north of this project. What will be the combined impact of this project and the Gateway project and other area projects on traffic? A project-specific EIR should include a Traffic Impact Study and a list of mitigation measures for the impacts.

The traffic study for the EIR should not restrict itself to the rosiest scenario for the future; the study should not assume that all planned circulation facilities that would be needed to maintain appropriate level of service would actually be constructed by the time the project is at full buildout. Since costs for new roads and intersections are large and funding is not guaranteed, it is unlikely that many of these new facilities will be constructed before full buildout of the project. If the EIR is to explain the full traffic impact of this and other cumulative projects, it must incorporate the very realistic likelihood that funding may not be available and some future traffic improvements will not be built on schedule.

Will efficient public transportation be available to this project? Will there be fast and convenient service to downtown, to housing areas, and to working areas? Will the

project include bus turnouts and park-and-ride facilities? If so, the EIR should quantify their effects as traffic and air pollution mitigation.

If the traffic study determines that some intersections and/or roads will function at a level of service lower than LOS C as a result of this project or as a result of the cumulative impact of this project, the EIR should suggest effective mitigation measures. In this situation, the EIR should explore a "transit-oriented alternative" to the proposed project, an alternative in which design is focused on effective public transportation to and from the project. This alternative should include consideration of subsidized bus service and of area-wide light rail and its cumulative effect on traffic congestion and climate change. This alternative should explore enhanced convenient and attractive pedestrian and bicycle connections from local housing to this project, coordinated with other projects in the area, and it should explore the potential for increased use of public transportation if users must pay to park at this project.

AESTHETICS AND LIGHT POLLUTION

This project will be visible from Highway 99. While we fully understand that Highway 99 is not part of California's Scenic Highway Program, the low impression that many Californians have of Bakersfield is derived from what they see while driving on Highway 99. We suggest that the proposed project include design measures to enhance visual appeal, including extensive landscaping and architectural features. We suggest landscaping with appropriate native and/or drought-tolerant plants and that aesthetically appealing designs feature energy and water conservation.

Light pollution should be addressed. Lighting for the project should be fully shielded so that no lighting escapes upward and little escapes horizontally to cause glare. The International Dark Sky Association (www.darksky.org) has guidelines that would be useful as conditions of development. Some of them include the following:

- All lights should be full cutoff fixtures; i.e., there should be no light emitted above the horizontal and not much light (generally < 4%) at angles greater than 75° above the vertical.
- Streetlights should be flat-lens, full cutoff fixtures installed in a level position. Energy efficient sodium lamps should be used. They should be mounted at a height of 30 feet or at the lowest height allowed by applicable codes.
- Exterior lighting originating on a property should be limited to a maximum of 0.5 foot candles at a distance of 25 feet beyond the property lines.
- Advertising signs should be illuminated from above and should be off between 11 p.m. and sunrise unless the business is open to the public at that time.
- Streetlights should be rated "Dark Sky Friendly" by the International Dark Sky Association.

The potential effects of light pollution not only on aesthetics but also on biological resources should be should be examined in the EIR.

ALTERNATIVES

In addition to the "transit-oriented" alternative discussed above, the EIR should set forth and frame an alternative as a "low carbon" alternative and discuss the types of measures and land use decisions that would be required for the project to comply with AB 32 targets and move forward to 2050 reduction targets. Mitigation measures to encourage the "low carbon" alternative are described above and can be easily achieved while reaching the project objectives. To the extent the low carbon alternative or feasible mitigation measures are rejected, that decision must be supported by substantial evidence.

The EIR should set forth and frame an "alternate site" alternative directed at infill. The DEIR for the Stonefield project states that there are 43,341 acres of undeveloped land within the City of Bakersfield. Much of this land is more centrally located or would not be on prime agricultural land (e.g., lands north of the Kern River in the Mohawk extension area, Tract 6191 in northeast Bakersfield, much other land in the Northeast). Environmental impacts of building the project on these infill properties would be lessened, and this project's conflict with the MBGPU would be addressed. Many such properties already have vested development rights and, given the economic downturn, can be purchased at bargain prices (e.g., see the Craig Carver purchase of Lennar properties in the Southwest). It is likely that an "alternate site" alternative would more fully satisfy the objectives of SB 375 and AB 32 than the proposed project if a more centrally located or infill site were chosen for the project.

The EIR should not employ improperly narrow objectives in rejecting environmentally superior alternatives. The objectives for a project cannot be so narrowly defined that they essentially preordain the selection of the agency's proposed alternative.

We note that "[a] potential alternative should not be excluded from consideration merely because it 'would impede to some degree the attainment of the project objectives, or would be more costly" even when that alternative includes Project development on an alternative site. *Save Round Valley Alliance v. County of Inyo*, 157 Cal. App. 4th 1437, 1456-57 (2007) (quotations omitted).

OTHER

We are aware of many tens of thousands of residences and a large number of commercial projects in the pipeline for metropolitan Bakersfield. The cumulative impacts to air quality, traffic, schools, climate change, water resources, biological resources, etc., by this and the dozens of other "closely related past, present, and reasonably foreseeable probable future projects" (quote from CEQA Guideline 15355(b)) proposed for the area should be thoroughly explored. Analysis of the cumulative impact to traffic should include quantification of cumulatively increased traffic and a discussion of measures necessary to mitigate increased traffic on

already congested Highway 99, Panama Lane, and other major area highways around the project and towards downtown.

The EIR should discuss the growth inducing impact of this project.

Adverse health effects of the area's abysmal air quality have been well documented in the medical literature. Table 5 from a document entitled *Particle Civics* prepared by the Environmental Working Group uses information from the Air Resources Board and states that in Kern County there are 223 deaths per year due to PM2.5 at current levels and that there are 106,695 workdays lost in Kern County due to PM10 at current levels. Our air is already some of the dirtiest in the nation. Given the additional air pollution generated by this and other projects in the area, the EIR should study the public health risk of increased development and incorporate mitigation strategies to lower the risk.

The EIR should include an economic analysis that realistically details the cost to local governments of new infrastructure necessary to sustain this project and that specifies that portion of the cost borne by the developer. If other existing stores close as a result of loss of business to this project, the project could result in urban decay. The EIR should examine this possibility. The economic analysis for the EIR should incorporate analysis of the statistics relating to workdays lost and deaths per year in the EWG document above.

Please place the Sierra Club on the distribution list for this project to receive any noticing of meetings, hearings, availability of documents, and to receive the environmental documents. We prefer email communications and electronic formatting of documents. Thank you for your consideration and for the opportunity to comment.

Sincerely,

Gordon L. Nipp

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Vice-Chair
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AGRICULTURAL LAND CONSERVATION TOOLS

Pros and Cons

Categories	Pros	Cons
Land Use Planning Tools - City Growth Strategies		
1 Increased Urban Development Densities/Density Bonuses	Incentive for more compact development, saving land; low cost	May simply be tool for greater development efficiency unless linked with agland protection goals; NIMBY resistance to higher density
2 Transfer of Development Credits	Market driven; no public funds for acquisitions; can accomplish multiple goals (e.g., agland protection, compact development, etc.)	Can be complex to design and administer; sending and receiving areas need to be well defined; NIMBY resistance to higher density
3 Urban Infill Development Policies	More efficient use of urban lands; possible infrastructure cost savings; uses less agland; other urban benefits	Redevelopment of blighted areas may be more costly than development of agland; higher densities may meet resistance from homebuyers, developers, realtors and local politicians.
Land Use Planning Tools - County/Regional Planning Strategies		
4 General Plan Agricultural Element	Signals an entities' commitment to agriculture land uses; can tie together in one place all agland conservation policies; proactive	Temporary, can be changed w/one vote; "down-zoning" difficult to do w/o "taking" claims; element itself is just a vehicle
5 Cluster Development	Flexibility in land use planning; compact development; retain agland	Land-use conflicts; urban infrastructure in ag area; growth inducing

6 Exclusive Agricultural Zoning	Low cost; part of general plan; simple to administer; flexible	Can change with one vote of a board or council; variably applied; may be as restrictive as Williamson Act without tax benefits; not always related to quality of agland
7 Sphere of Influence/City Annexation Policies	One primary role is prime agland conservation; preventative tool	Often competitive self-interests of city members hinders its role in agland conservation; could usurp role of general purpose govt. entity
8 New Towns	If planned for strategically, new towns can relieve growth pressures on farmlands and direct to lower quality agricultural lands	Water and transportation needs may present problems for a new nucleus of growth; may simply be new location for growth in addition to continuing growth in existing cities.
Land Use Planning Tools - Urban Separators		
9 Greenbelts	Creates clear definition of boundaries; improved planning certainty; has multiple benefits if accepted in county	Needs agreement among cities/county; see urban limit lines; is somewhat more stable than zoning, but needs to be enforced

AGRICULTURAL LAND CONSERVATION TOOLS (continued)

Pros and Cons

Categories	Pros	Cons
10 Urban Limit Line/Growth Boundary	Provides certainty to landowners; integrated w/general planning approach; may reduce taxes on land outside line; low public cost	Temporary; establishment of line is hot politically; like zoning, can be changed with a vote; may limit land for housing & increase cost

11 Buffers	Provide separation between conflicting land uses (e.g., ag and urban), reducing nuisance complaints, vandalism and trespass problems.	Can be costly to developer, city or farmer; not necessarily proven to address all conflicts; land waste if buffer is not used for urban amenity or lower intensity agriculture.
Fee Simple/Easement Acquisition		
12 Purchase of Ag Conservation Easements	Voluntary; stays on tax rolls; just compensation; landowner income; less costly than fee simple; permanent protection; flexible	Still costly for most threatened lands; permanent loss of development potential; often misunderstood as a property rights taking; landowner resistance to permanent easement
13 Fee Simple Acquisition	More control; generates lease income; often better for owner	Expensive; may remove land from tax roll; liability of ownership
14 Lease, Lease-Purchase	Lower up-front costs than fee simple or easement acquisitions; greater landowner acceptance; flexible	Uncertainty of lease; temporary; may ultimately be more costly
15 Transfer of Development Credits (see above)	Voluntary; stays on tax rolls; just compensation; landowner income; local admin. cost only; incentive for compact development	Can be complicated to administer; NIMBYs in "receiving areas"; cost internalized in housing prices; needs to be well thought out
16 Williamson Act In Lieu Cancellation Fees for Conservation Easements (see above)	Keeps cancellation fee dollars local; flexibility for county/landowner; loss in conservation with cancellation is offset with new easement	Loss of state general fund dollars; requires some state oversight and rules

AGRICULTURAL LAND CONSERVATION TOOLS (continued)

Pros and Cons

Categories	Pros	Cons

CEQA Tools		
17 Land Evaluation and Site Assessment Model	More objective land use decisions; documents decision-making; quantifies impacts of land use decisions; more defensible decisions	Subjectivity can still creep in when setting weighted values to factors; can be time-consuming; may be limited by lack of data; variable effectiveness based on purpose of application
18 Federal Farmland Protection Policy Act for California	Makes state agencies responsible for assessing impacts of projects on farmland; would spur development of consist. state agland policy	Could increase costs of state projects; CEQA already requires assessment of project impacts on farmland; administrative costs
19 Mitigation Banking for Agland Loss	No public funds involved; directly linked to loss of resource; can be strategically linked to general plan; puts a price on resource loss	Requires loss of farmland to protect farmland; increases housing costs; may put city at competitive disadvantage for development; future ag. viability uncertain
Agricultural Enhancement Tools		
20 Right-To-Farm Ordinance	Educational/awareness raising; may offer conflict resolution forum; may limit agricultural landowner liability	Enforceability questioned; must be more than notice in land title to be effective awareness raising/educational tool
21 Federal and State Tax Incentives: Tax Credits/deductions and Capital Gains	Increase incentives for sustaining agricultural uses; encourage ag investment; facilitate transfer of land to next generation	Reduction in federal tax revenues; consumer resistance to more agricultural subsidies; complex policy implications
22 Federal Estate/Inheritance Tax Reform	Reform would allow farms and ranches to be passed along from one generation to the next, keeping land in production; savings to landowner could allow for reinvestment in the land and stimulate local economies.	Reform would be costly to federal government, resulting in lower income tax revenues; would have to be designed to ensure land remains in farming.

23 Agricultural Enterprise Zones	Addresses profitability and practicality of continued farming; recognition that is more than just saving land; multi-faceted; educational	Usually requires public investment in program, policy and budget; requires shift in attitude about agland as urban reserve land; willingness of public to pay for agricultural land and use as an urban amenity
24 Agricultural Enhancement Boards	Like ag elements of general plans; a board can focus entities' policy on agland conservation; develop programs for ag enterprise zones	Many counties already have ag commissions or advisory boards; must have clear role and public support; requires additional staff

AGRICULTURAL LAND CONSERVATION TOOLS (continued)

Pros and Cons

Categories	Pros	Cons
25 Agricultural Land Redevelopment Act	Would use tax increment funding to enhance urban fringe farmland; could be a tool to consolidate fragmented parcels too small to farm	Undeveloped idea; would tax increment from enhanced farmland be enough? Would there be city or landowner interest or support?
Funding Mechanisms		
26 Installment-Purchase Financing	Uses future dollars to protect land today; multiple landowner tax benefits; flexible for landowner; successfully uses in Maryland	Would require significant upfront, long-term funding; has not been tested extensively
27 Tax Increment - Agland Transfer	Requires no new public funding or taxes; links cost of loss of farmland with protection of farmland elsewhere; can be used with other tools	Local government foregoes normal property tax revenue often anticipated to help pay for urban services

28 Tax Increment - Williamson Act Land	See benefits of "Tax Increment", above; would increase tax benefits and incentives for land remaining in Williamson Act	Local government foregoes normal increase in tax revenue as land exits Williamson Act contracts; increment may not be enough
29 Williamson Act In Lieu Cancellation Fees for Conservation Easements	See item 13, above	See item 13 above
30 Bond Measure	Uses future funds to protect currently threatened agland; voter acceptance of bond measures may be improving with economy	Increases public debt; voter approval in recent years difficult; cost
Funding Mechanisms		
31 Land Transfer Tax or Fee	Direct policy link of fund source (i.e., loss of farmland) with agland conservation; times of greatest threat also times of greatest revenue	Competing uses for land transfer fees; increases cost of development and housing; taxpayer resistance to new tax; sale not necessarily equivalent to land value increase
32 Sales Tax	Taxes and benefits stay local; those enjoy benefits pay directly	Increases costs of living; taxpayer resistance to new tax
33 Donation	No direct cost to the public; tax benefits to the landowner (see item 30)	Disposition of donated land needs to be determined; possible loss to local tax roll; conditions of accepting donation needs to be clear; loss of state and federal tax revenue

AGRICULTURAL LAND CONSERVATION TOOLS (continued)

Pros and Cons

Categories	Pros	Cons

34 Tax Credit (SB 1280)	No upfront public costs; provides incentives for land donations; provides capital for landowner investment in land improvements	Public cost is in foregone income tax revenues; criteria for accepting donations must be clear; disposition of land needs to be clear
35 City-County Development Agreements	City and county cooperation engendered and competition for development reduced; city control over border and sprawl; promote compact urban growth; reduced county rural development service costs	Difficult to overcome jurisdictional competition; may limit development options and increase housing costs; may raise representation issues.
36 City-County Revenue Sharing Agreements	Reduced interjurisdictional competition for development; balances costs and revenues for development	Revenue sharing divisive; only so much revenue to go around; poor substitute for a statewide solution to local revenue shortfall
37 Project Development Agreements	Linked with loss of farmland; flexible; may require no public finances	Questions of legality have been raised in some cases; usually reactive, not proactive

EPA Finds Greenhouse Gases Pose Threat to Public Health, Welfare / Proposed Finding Comes in Response to 2007 Supreme Court Ruling

Release date: 04/17/2009

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(Washington, D.C. – April 17, 2009) After a thorough scientific review ordered in 2007 by the U.S. Supreme Court, the Environmental Protection Agency issued a proposed finding Friday that greenhouse gases contribute to air pollution that may endanger public health or welfare.

The proposed finding, which now moves to a public comment period, identified six greenhouse gases that pose a potential threat.

"This finding confirms that greenhouse gas pollution is a serious problem now and for future generations. Fortunately, it follows President Obama's call for a low carbon economy and strong leadership in Congress on clean energy and climate legislation," said Administrator Lisa P. Jackson. "This pollution problem has a solution -- one that will create millions of green jobs and end our country's dependence on foreign oil."

As the proposed endangerment finding states, "In both magnitude and probability, climate change is an enormous problem. The greenhouse gases that are responsible for it endanger public health and welfare within the meaning of the Clean Air Act."

EPA's proposed endangerment finding is based on rigorous, peer-reviewed scientific analysis of six gases – carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride – that have been the subject of intensive analysis by scientists around the world. The science clearly shows that concentrations of these gases are at unprecedented levels as a result of human emissions, and these high levels are very likely the cause of the increase in average temperatures and other changes in our climate.

The scientific analysis also confirms that climate change impacts human health in several ways. Findings from a recent EPA study titled "Assessment of the

Impacts of Global Change on Regional U.S. Air Quality: A Synthesis of Climate Change Impacts on Ground-Level Ozone," for example, suggest that climate change may lead to higher concentrations of ground-level ozone, a harmful pollutant. Additional impacts of climate change include, but are not limited to:

- increased drought;
- more heavy downpours and flooding;
- more frequent and intense heat waves and wildfires;
- greater sea level rise;
- more intense storms; and
- harm to water resources, agriculture, wildlife and ecosystems.

In proposing the finding, Administrator Jackson also took into account the disproportionate impact climate change has on the health of certain segments of the population, such as the poor, the very young, the elderly, those already in poor health, the disabled, those living alone and/or indigenous populations dependent on one or a few resources.

In addition to threatening human health, the analysis finds that climate change also has serious national security implications. Consistent with this proposed finding, in 2007, 11 retired U.S. generals and admirals signed a report from the Center for a New American Security stating that climate change "presents significant national security challenges for the United States." Escalating violence in destabilized regions can be incited and fomented by an increasing scarcity of resources -- including water. This lack of resources, driven by climate change patterns, then drives massive migration to more stabilized regions of the world.

The proposed endangerment finding now enters the public comment period, which is the next step in the deliberative process EPA must undertake before issuing final findings. Today's proposed finding does not include any proposed regulations. Before taking any steps to reduce greenhouse gases under the Clean Air Act, EPA would conduct an appropriate process and consider stakeholder input. Notwithstanding this required regulatory process, both President Obama and Administrator Jackson have repeatedly indicated their preference for comprehensive legislation to address this issue and create the framework for a clean energy economy.

More information: http://epa.gov/climatechange/endangerment.html

Report outlines possible effects of warming on California

A compilation of research papers suggests that climate change will mean the state will have less water, experience a loss of cropland and see soaring wildfire rates.

By Bettina Boxall
April 2, 2009

As California warms in coming decades, farmers will have less water, the state could lose more than a million acres of cropland and forest fire rates will soar, according to a broad-ranging state report released Wednesday.

The document, which officials called the "the ultimate picture to date" of global warming's likely effect on California, consists of 37 research papers that examine an array of issues including water supply, air pollution and property losses.

Without actions to limit greenhouse gas emissions, "severe and costly climate impacts are possible and likely across California," warned state environmental protection secretary Linda Adams.

The draft Climate Action Team Report, an update of a 2006 assessment, concludes that some climate change effects could be more serious than previously thought.

By the final decades of the century, acreage burned across much of the state's northern forests could easily double and under some scenarios quadruple, said Anthony Westerling, an assistant professor of geography and environmental engineering at UC Merced.

The reason is simple: As the temperature rises, the fire season lengthens and woodlands get drier, burning more readily.

Moreover, if growth continues at the wild-land edge, more fire will mean mounting home losses -- as high as $14 billion a year by century's end.

"If you spread development all through the Sierra foothills over the next 50 years," Westerling said, "you will have a situation like the hills of Southern California or Oakland" where wildfire has destroyed thousands of homes at a time.

One bit of good news is that in Southern California, the Santa Ana winds that have driven the region's worst conflagrations will blow less frequently, because temperature and pressure differences between sea and land will become less pronounced.

Researchers believe they have already seen a 30% drop in Santa Ana days between the 1960s and 1990s.

One of the less certain areas of climate change modeling involves precipitation patterns. Some studies have suggested that California could get wetter with global warming.

But Dan Cayan, a climate researcher at Scripps Institution of Oceanography at UC San Diego, said "the latest generation of simulations from global models are producing a drying over the Mediterranean and lower continental latitudes -- and California sits right in that regime.

By mid-century, annual precipitation in Southern California could decline by 10%, and by 5% farther north, in a band near the state's midpoint, according to the climate report. Little change is projected in the most northern reaches of California.

Cayan cautioned that "our tools to get at this are still pretty crude. These are only rough numbers.

The Sierra Nevada snowpack, which stores water and then slowly releases it to the river systems that feed the state's major reservoirs, will shrink by at least a quarter over the next four decades, previous studies have concluded.

Combined with drier and hotter conditions, that will create water shortages expected to fall most heavily on the state's agricultural sector in the Central Valley.

Urban areas should be able to make up for shortfalls by buying water from farms, which use most of the supplies in the state.

But that will drive up the cost of water, prompting farmers to fallow cropland and abandon irrigated pasture and less profitable crops such as cotton, alfalfa and rice.

UC Davis agricultural economics professor Richard Howitt estimates that the Central Valley's farm acreage will shrink by roughly 1.5 million acres, or 20%, by 2050.

Revenue losses will be less steep -- about 10% or $3 billion a year -- thanks to shifts to more profitable fruits, vegetables and nuts.

The three water studies included in the climate report "describe relatively modest impacts of climate change on the water sector," according to the document.

But in a news conference, Adams and UC Berkeley economics professor Michael Hanemann said those findings were based on a "rosy scenario" of average water conditions as well as the legal and physical ability to move massive amounts of water from one user to

another

Global warming is expected to increase weather swings, from years of flooding to severe drought.

"There are more bad years than before and the bad years are worse in terms of shortages," Hanemann said.

In other areas, hydropower production is expected to decline along with the snowpack, while statewide electricity use could shoot up 55% by the end of the century and ozone pollution will increase.

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Global Warming Twenty Years Later: Tipping Points Near

James Hansen[i]

My presentation today is exactly 20 years after my 23 June 1988 testimony to Congress, which alerted the public that global warming was underway. There are striking similarities between then and now, but one big difference.

Again a wide gap has developed between what is understood about global warming by the relevant scientific community and what is known by policymakers and the public. Now, as then, frank assessment of scientific data yields conclusions that are shocking to the body politic. Now, as then, I can assert that these conclusions have a certainty exceeding 99 percent.

The difference is that now we have used up all slack in the schedule for actions needed to defuse the global warming time bomb. The next President and Congress must define a course next year in which the United States exerts leadership commensurate with our responsibility for the present dangerous situation.

Otherwise it will become impractical to constrain atmospheric carbon dioxide, the greenhouse gas produced in burning fossil fuels, to a level that prevents the climate system from passing tipping points that lead to disastrous climate changes that spiral dynamically out of humanity's control.

Changes needed to preserve creation, the planet on which civilization developed, are clear. But the changes have been blocked by special interests, focused on short-term profits, who hold sway in Washington and other capitals.

I argue that a path yielding energy independence and a healthier environment is, barely, still possible. It requires a transformative change of direction in Washington in the next year.

On 23 June 1988 I testified to a hearing, chaired by Senator Tim Wirth of Colorado, that the Earth had entered a long-term warming trend and that human-made greenhouse gases almost surely were responsible. I noted that global warming enhanced both extremes of the water cycle, meaning stronger droughts and forest fires, on the one hand, but also heavier rains and floods.

My testimony two decades ago was greeted with skepticism. But while skepticism is the lifeblood of science, it can confuse the public. As scientists examine a topic from all perspectives, it may appear that nothing is known with confidence. But from such broad open-minded study of all data, valid conclusions can be drawn.

My conclusions in 1988 were built on a wide range of inputs from basic physics, planetary studies, observations of on-going changes, and climate models. The evidence was strong enough that I could say it was time to "stop waffling". I was sure that time would bring the scientific community to a similar consensus, as it has.

While international recognition of global warming was swift, actions have faltered. The U.S. refused to place limits on its emissions, and developing countries such as China and India rapidly increased their emissions.

What is at stake? Warming so far, about two degrees Fahrenheit over land areas, seems almost innocuous, being less than day-to-day weather fluctuations. But more warming is already "in-the-pipeline", delayed only by the great inertia of the world ocean. And climate is nearing dangerous tipping points. Elements of a "perfect storm", a global cataclysm, are assembled.

Climate can reach points such that amplifying feedbacks spur large rapid changes. Arctic sea ice is a current example. Global warming initiated sea ice melt, exposing darker ocean that absorbs more sunlight, melting more ice. As a result, without any additional greenhouse gases, the Arctic soon will be ice-free in the summer.

More ominous tipping points loom. West Antarctic and Greenland ice sheets are vulnerable to even small additional warming. These two-mile-thick behemoths respond slowly at first, but if disintegration gets well underway it will become unstoppable. Debate among scientists is only about how much sea level would rise by a given date. In my opinion, if emissions follow a business-as-usual scenario, sea level rise of at least two meters is likely this century. Hundreds of millions of people would become refugees. No stable shoreline would be reestablished in any time frame that humanity can conceive.

Animal and plant species are already stressed by climate change. Polar and alpine species will be pushed off the planet, if warming continues. Other species attempt to migrate, but as some are extinguished their interdependencies can cause ecosystem collapse. Mass extinctions, of more than half the species on the planet, have occurred several times when the Earth warmed as much as expected if greenhouse gases continue to increase. Biodiversity recovered, but it required hundreds of thousands of years.

The disturbing conclusion, documented in a paper[2] I have written with several of the world's leading climate experts, is that the safe level of atmospheric carbon dioxide is no more than 350 ppm (parts per million) and it may be less. Carbon dioxide amount is already 385 ppm and rising about 2 ppm per year. Stunning corollary: the oft-stated goal to keep global warming less than two degrees Celsius (3.6 degrees Fahrenheit) is a recipe for global disaster, not salvation.

These conclusions are based on paleoclimate data showing how the Earth responded to past levels of greenhouse gases and on observations showing how the world is responding to today's carbon dioxide amount. The consequences of continued increase of greenhouse gases extend far beyond extermination of species and future sea level rise.

Arid subtropical climate zones are expanding poleward. Already an average expansion of about 250 miles has occurred, affecting the southern United States, the Mediterranean region, Australia and southern Africa. Forest fires and drying-up of lakes will increase further unless carbon dioxide growth is halted and reversed.

Mountain glaciers are the source of fresh water for hundreds of millions of people. These glaciers are receding world-wide, in the Himalayas, Andes and Rocky Mountains. They will disappear, leaving their rivers as trickles in late summer and fall, unless the growth of carbon dioxide is reversed.

Coral reefs, the rainforest of the ocean, are home for one-third of the species in the sea. Coral reefs are under stress for several reasons, including warming of the ocean, but especially because of ocean acidification, a direct effect of added carbon dioxide. Ocean life dependent on carbonate shells and skeletons is threatened by dissolution as the ocean becomes more acid.

Such phenomena, including the instability of Arctic sea ice and the great ice sheets at today's carbon dioxide amount, show that we have already gone too far. We must draw down atmospheric carbon dioxide to preserve the planet we know. A level of no more than 350 ppm is still feasible, with the help of reforestation and improved agricultural practices, but just barely – time is running out.

Requirements to halt carbon dioxide growth follow from the size of fossil carbon reservoirs. Coal towers over oil and gas. Phase out of coal use except where the carbon is captured and stored below ground is the primary requirement for solving global warming.

Oil is used in vehicles where it is impractical to capture the carbon. But oil is running out. To preserve our planet we must also ensure that the next mobile energy source is not obtained by squeezing oil from coal, tar shale or other fossil fuels.

Fossil fuel reservoirs are finite, which is the main reason that prices are rising. We must move beyond fossil fuels eventually. Solution of the climate problem requires that we move to carbon-free energy promptly.

Special interests have blocked transition to our renewable energy future. Instead of moving heavily into renewable energies, fossil companies choose to spread doubt about global warming, as tobacco companies discredited the smoking-cancer link. Methods are sophisticated, including funding to help shape school textbook discussions of global warming.

CEOs of fossil energy companies know what they are doing and are aware of long-term consequences of continued business as usual. In my opinion, these CEOs should be tried for high crimes against humanity and nature.

Conviction of ExxonMobil and Peabody Coal CEOs will be no consolation, if we pass on a runaway climate to our children. Humanity would be impoverished by ravages of continually shifting shorelines and intensification of regional climate extremes. Loss of countless species would leave a more desolate planet.

If politicians remain at loggerheads, citizens must lead. We must demand a moratorium on new coal-fired power plants. We must block fossil fuel interests who aim to squeeze every last drop of oil from public lands, off-shore, and wilderness areas. Those last drops are no solution. They yield continued exorbitant profits for a short-sighted self-serving industry, but no alleviation of our addiction or long-term energy source.

Moving from fossil fuels to clean energy is challenging, yet transformative in ways that will be welcomed. Cheap, subsidized fossil fuels engendered bad habits. We import food from halfway around the world, for example, even with healthier products available from nearby fields. Local produce would be competitive if not for fossil fuel subsidies and the fact that climate change damages and costs, due to fossil fuels, are also borne by the public.

A price on emissions that cause harm is essential. Yes, a carbon tax. Carbon tax with 100 percent dividend[3] is needed to wean us off fossil fuel addiction. Tax and dividend allows the marketplace, not politicians, to make investment decisions.

Carbon tax on coal, oil and gas is simple, applied at the first point of sale or port of entry. The entire tax must be returned to the public, an equal amount to each adult, a half-share for children. This dividend can be deposited monthly in an individual's bank account.

Carbon tax with 100 percent dividend is non-regressive. On the contrary, you can bet that low and middle income people will find ways to limit their carbon tax and come out ahead. Profligate energy users will have to pay for their excesses.

Demand for low-carbon high-efficiency products will spur innovation, making our products more competitive on international markets. Carbon emissions will plummet as energy efficiency and renewable energies grow rapidly. Black soot, mercury and other fossil fuel emissions will decline. A brighter, cleaner future, with energy independence, is possible.

Washington likes to spend our tax money line-by-line. Swarms of high-priced lobbyists in alligator shoes help Congress decide where to spend, and in turn the lobbyists' clients provide "campaign" money.

The public must send a message to Washington. Preserve our planet, creation, for our children and grandchildren, but do not use that as an excuse for more tax-and-spend. Let this be our motto: "One hundred percent dividend or fight!"

The next President must make a national low-loss electric grid an imperative. It will allow dispersed renewable energies to supplant fossil fuels for power generation. Technology exists for direct-current high-voltage buried transmission lines. Trunk lines can be completed in less than a decade and expanded analogous to interstate highways.

Government must also change utility regulations so that profits do not depend on selling ever more energy, but instead increase with efficiency. Building code and vehicle efficiency requirements must be improved and put on a path toward carbon neutrality.

The fossil-industry maintains its strangle-hold on Washington via demagoguery, using China and other developing nations as scapegoats to rationalize inaction. In fact, we produced most of the excess carbon in the air today, and it is to our advantage as a nation to move smartly in developing ways to reduce emissions. As with the ozone problem, developing countries can be allowed limited extra time to reduce emissions. They will cooperate: they have much to lose from climate change and much to gain from clean air and reduced dependence on fossil fuels.

We must establish fair agreements with other countries. However, our own tax and dividend should start immediately. We have much to gain from it as a nation, and other countries will copy our success. If necessary, import duties on products from uncooperative countries can level the playing field, with the import tax added to the dividend pool.

Democracy works, but sometimes churns slowly. Time is short. The 2008 election is critical for the planet. If Americans turn out to pasture the most brontosaurian congressmen, if Washington adapts to address climate change, our children and grandchildren can still hold great expectations.

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[1] Dr. James E. Hansen, a physicist by training, directs the NASA Goddard Institute for Space Studies, a laboratory of the Goddard Space Flight Center and a unit of the Columbia University Earth Institute, but he speaks as a private citizen today at the National Press Club and at a Briefing to the House Select Committee on Energy Independence & Global Warming.

[2] Target atmospheric CO_2: where should humanity aim? J. Hansen, M. Sato, P. Kharecha, D. Beerling, R. Berner, V. Masson-Delmotte, M. Raymo, D.L. Royer, J.C. Zachos, http://arxiv.org/abs/0804.1126 and http://arxiv.org/abs/0804.1135

[3] The proposed "tax and 100% dividend" is based largely on the cap and dividend approach described by Peter Barnes in "Who Owns the Sky: Our Common Assets and the Future of Capitalism", Island Press, Washington, D.C., 2001 (http://www.ppionline.org/ppi_ci.cfm?knlgAreaID=116&subsecID=149&contentID=3867).

Appendix B

Farmland Conversion Study

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FARMLAND CONVERSION STUDY REPORT FINAL

For:

99 Houghton Industrial Park
314.30 Acres
Houghton Road and State Route 99
County of Kern, State of California

Portion of Section 7
Township 31 South, Range 28 East, M. D. B. & M.

Prepared for:

Mitchell Property Management, LP

Prepared by:

McIntosh & Associates
McIntosh & Associates Engineering, Inc. © 2017
2001 Wheelan Court
Bakersfield, California 93309
(661) 834-4814

Project No. 006-012-001

JUNE 2017

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1.0 Introduction

1.1 Purpose of Study

This **Farmland Conversion Study Report** is intended as a **FINAL** to the previously prepared Farmland Conversion Study Report, dated May 2009. All material from the previous May 2009 study is still applicable to the proposed project's potential impact to agricultural lands. Since the previous study was prepared, the proposed project has continued to be farmed. This Farmland Conversion Study Report Final is new information that has become available since the previous report dated May 2009.

1.2 Proposed Project Description

The proposed project is generally located between Houghton Road to the south, Di Giorgio Road to the north, State Route 99 along the western edge, and Highway 204 (South Union Avenue) along the eastern frontage. The proposed project is situated 1.10 miles southeast of the Bakersfield City Limits in the County of Kern, State of California. The proposed project is in a portion of Section 7 in Township 31 South, Range 28 East, of the Mount Diablo Baseline and Meridian. *(Refer to Figure A-1 Proposed Project Location Map)*

The proposed project is comprised mostly of agricultural land; however, a steel building is located on the east side near Highway 204 (South Union Avenue) along Lamb Avenue and was probably used as a shop for field equipment, vehicle maintenance, and storage. The proposed project is adjacent to other related agricultural land uses and a small cluster of rural residential property with corrals and equestrian facilities, and mobile homes bordering the northeast, east and southeast areas. Agricultural land on the north side of Di Giorgio Road, east side of Highway 204 (South Union Avenue), south side of Houghton Road, and west side of Highway 99. There is an automobile wrecking yard (Higgins Auto Wrecking, 12825 South Union Avenue) located adjacent to the southeast portion of the proposed project. A retention basin has been excavated for agricultural purposes and is located on south edge of the proposed project near Houghton Road.

The proposed light-to-medium industrial park, with associated neighborhood commercial and highway commercial uses, consists of 314.30 acres identified by Assessor's Parcel Number 185-140-08 and 185-160-08. Changes in the development of the proposed project are listed. *(Refer to Table 1 Proposed Land Use and Zoning)* *(Refer to Figure A-4 Assessor's Parcel Map 185-14)*

According to the Metropolitan Bakersfield General Plan (MBGP), the current land use designation for the proposed project is R-IA (Resource-Intensive Agriculture) and HC (Highway Commercial). *(Refer to Figure B-1 Metropolitan Bakersfield General Plan Map)* According to the County of Kern Zoning Ordinance, the entire proposed project is currently Zoned A

(Exclusive Agriculture). The property owner is proposing to amend the Metropolitan Bakersfield General Plan and change the land use zoning designations. *(Refer to Figure A-3 Zoning Map 143-7) (Refer to Table 1 Proposed Land Use and Zoning)*

Table 1 Proposed Land Use and Zoning

Metropolitan Bakersfield General Plan Amendment			Kern County Zoning Change		
From	To	Gross Acres	From	To	Gross Acres
R-IA Resource-Intensive Agriculture	**LI** Light Industrial	107.72	**A** Exclusive Agriculture	**M-1 PD** Light Industrial, Precise Development Combining	107.72
	SI Service Industrial	159.58		**M-2 PD** Medium Industrial, Precise Development Combining	159.58
	HC Highway Commercial	(Existing HC Acreage 15.99) 9.01		**CH PD** Highway Commercial	25.00
	GC General Commercial	22.00		**C-2 PD** General Commercial	22.00
TOTAL ACREAGE		**314.30**	**TOTAL ACREAGE**		**314.30**

2.0 Farmland Conversion Supplemental Data

The following data includes new information that has been compiled based on new reports, studies, and/or responses to questionnaires.

2.1 California Land Conservation Act (Williamson Act)

The total acres of prime and nonprime farmland reported to the State Department of Conservation with the Kern County Annual Subvention Report for the years 2014 - 2015 were

1,468,900.00 acres of prime and non-prime land under a California Land Conservation (Williamson Act) contract. Of that total 144,339.68 acres (approximately 10 percent) were enrolled in Farmland Security Zone contracts. Non-renewals initiated for the year totaled 99.31 acres of prime and non-prime property.

2.2 Trends of Farmland Conversion in Kern County

The most recent year 2014 California Land Conservation (Williamson Act) Status Report, which is prepared by the Department of Conservation, provides a breakdown of contracted lands in Kern County receiving benefit of decreased property taxation for the years 2013 - 2014. *(Refer to Table 2 Years 2013 – 2014 California Land Conservation - Williamson Act)*

Table 2 Years 2013 - 2014 California Land Conservation (Williamson Act)

California Land Conservation (Williamson Act) Years 2013 - 2014		
Williamson Act Contract	Prime	632,177 acres
	Non-Prime	911,620 acres
Land Conservation Act Nonrenewal (Year 2011)	Prime	48,158 acres
	Non-Prime	31,628 acres
Farmland Security Zone Contract - Urban	Prime	25,316 acres
	Non-Prime	0 acres
Farmland Security Zone Contract – Non-Urban	Prime	133,751 acres
	Non-Prime	0 acres
Farmland Security Zone – Non-contracted*	Prime	13,172 acres
	Non-Prime	0 acres

* These lands have requested non-renewal of their contract and are in the process of "backing out" of the 9 year contract.

3.0 Environmental Setting

3.1 State of California Agricultural Production

According to the most recent years 2013 - 2014 California Agricultural Statistics Review prepared by the California Department of Food and Agriculture, California had 80,500 farming operations for the year 2012. This number represents less than 4 percent of the nation's total farming operations; however, these farms account for 12.8 percent of the national gross cash receipts from farming.

California farmland totaled 25.4 million acres for the year 2010, down less than 0.5 percent from the year 2010 acreage, and the number of farms decreased by 0.4 percent from the year 2005. The average size farm in California is 312 acres compared with the United States average of 312

acres. California now produces more than 400 commodities, and produced nearly half of United States grown fruits, nuts, and vegetables.

3.2 Kern County Agricultural Production – Year 2015

The most recent year 2015 Agricultural Crop Report (September 12, 2016) prepared by the Kern County Agricultural Commissioner's Office states that Kern County contains 839,079 acres of harvested land. Within that acreage, 73,550 acres were harvested for vegetable crops, 442,146 acres were harvested for fruit crops, and 339,746 acres for field crops. The year 2015 total value of agricultural commodities produced in Kern County was $6,878,823,690.00, a decrease of approximately 9.0 percent over the year 2014 crop value. The total harvested acreage decreased approximately 4.5 percent. The year 2015 top five commodities were grapes, almonds, citrus, milk, and cattle.

3.3 Agricultural Production on Proposed Project - Years 2009 - 2015

Doug Kaiser Farms, Permit No. 1500666 is the grower from years 2007 - 2009. Mitchell Property Management LP, Permit No. 1502896, was the grower for the years 2003 through 2006 and 2009 to present. Agricultural production grown on the proposed project from years 2009 - 2015 are listed below. *(Refer to Table 3 Agricultural Production on Proposed Project - Years 2009 - 2015)*

Table 3 Agricultural Production on Proposed Project - Years 2009 - 2015

Agricultural Production on Proposed Project - Years 2009 - 2015 Portion of Section 7, Township 31 South, Range 28 East, M.D.B.&M.					
YEAR	Permit and Permitee	Crop	Acres	Yield Per Acre (Ton)	Total Yield (Ton)
2009	Mitchell Property Management, LP Permit No. 1502896	Corn/Fod	119.2	5.04	600.8
		Oat/Fod	63.3	2.5	158.25
		Alfalfa	91.6	7.34	672.3
		Sudan Grass	18.4	4.5	82.8
2010	Mitchell Property Management, LP Permit No. 1502896	Alfalfa	180.5	7.62	1,375.4
		Oat	89.7	2.5	224.25
		Fallow	19.5	--	--
2011	Mitchell Property Management, LP Permit No. 1502896	Alfalfa	199.5	8.18	1,631.9
		Corn/Fod	89	--	--
2012	Mitchell Property Management, LP Permit No. 1502896	Alfalfa	288.5	8.05	2,322..4
2013	Mitchell Property Management, LP Permit No. 1502896	Alfalfa	251.7	9.03	2,272.9
		Corn/Fod	36.8	--	--

Agricultural Production on Proposed Project - Years 2009 - 2015 Portion of Section 7, Township 31 South, Range 28 East, M.D.B.&M.					
YEAR	Permit and Permitee	Crop	Acres	Yield Per Acre (Ton)	Total Yield (Ton)
2014	Mitchell Property Management, LP Permit No. 1502896	Alflafa	125.8	8.2	1,038.6
		Corn/Fod	162.7	26.35	4,287.1
2015	Mitchell Property Management, LP Permit No. 1502896	Alfalfa	189.8	8.51	1,615.2
		Wheat	40	13.3	532
		Fallow	59	--	--

3.4 Pesticide Usage on Proposed Project

The proposed project has continued to be used for agricultural purposes since the previous study was prepared. Alfalfa and corn/fodder have been grown on the proposed project since the year 2011, therefore it is assumed that the pesticide usage from years 2011 - 2014 is similar. Information pertaining to pesticide use within the proposed property has been provided by the Kern County Geographic Information System Mapping System (GIS), Kern County Department of Agriculture records, and the property owner, Mitchell Property Management, LP.

According to the Kern County Agricultural Commissioner's pesticide permit records, the following pesticides, herbicides, fertilizers, and general soil amendments have been licensed and were applied to the proposed project in the years 2014 - 2015. *(Refer to Table 4 Chemicals and Pesticides Permitted for Use on Proposed Project)*

Table 4 Chemicals and Pesticides Permitted for Use on Proposed Project

Chemicals and Pesticides Permitted for Use on Proposed Project		
Name	Type	Year Applied
Round-up		**2014/2015**
Yukon		**2014**
Lomite		**2014**
Fusilade DX	Herbicide	**2014**
Lorox DX (CA)	Herbicide	**2014**
Oroboost	Enhancer	**2014**

3.5 Agricultural Production on Adjacent Properties

The crops grown on adjacent properties for the years 2008 - 2014 is shown below. *(Refer to Table 5 Agricultural Production on Adjacent Properties - Years 2008 - 2014)*

Table 5 Agricultural Production on Adjacent Properties - Years 2008 - 2014

Agricultural Production on Adjacent Properties Years 2008 - 2014		
YEAR	**Location**	**Crops**
2008	North	Alfalfa, Wheat, Sorghum Milo
	East	Alfalfa, Wheat, Sorghum Milo
	South	Oat/Fod
	West	Wheat
2009	North	Alfalfa
	East	Alfalfa
	South	Oat/Fod
	West	Wheat
2010	North	Alfalfa
	East	Alfalfa, Cotton, Garlic
	South	Alfalfa
	West	N/A
2011	North	Alfalfa
	East	Wheat, Corn/Fod, Garlic
	South	Alfalfa
	West	N/A
2012	North	Corn/Fod, Wheat
	East	Alfalfa
	South	Alfalfa
	West	Wheat, Corn/Fod
2013	North	Alfalfa
	East	Alfalfa
	South	Alfalfa
	West	Carrot, Alfalfa Grass
2014	North	Alfalfa
	East	Alfalfa
	South	N/A
	West	Carrot

Source: *Kern County Geographic Information System (GIS) – Date: January 2015*

3.5.1 Dairy Locations

The dairy closest to the proposed project is Richmar Farms #2, owned by Rich Tillema. It is located approximately 1.25 miles southeast of the proposed project at the northeast corner of Highway 204 (South Union Avenue) and Shafter Road. Existing diaries are generally located more than two miles east and south of the proposed project. *(Refer to Figure I-1 Existing Dairy Location Map) (Refer to Farmland Conversion Study – May 2008)*

3.6 Aerial Photographs - Years 2008 - 2016

Aerial photographs from years 2008 - 2016 were reviewed to help establish the recent use of the proposed project. The majority of the proposed project continues to be used as agricultural land. The following aerial photographs are provided as listed below. *(Refer to Appendix "G" Figures G-1, G-2, G-3, G-4, G-5, G-6, G-7 and G-8 Aerial Photographs)*

May 31, 2008 - Agricultural Land

Conditions on the proposed project and other adjacent properties appear unchanged since the year 2006 aerial photograph in the previous study. Agricultural operations appear to continue on the majority of the proposed project.

May 24, 2009 - Agricultural Land

Conditions on the proposed project and other adjacent properties appear unchanged since the year 2008 aerial photograph in the previous study. Agricultural operations appear to continue on the majority of the proposed project.

April 29, 2011 - Agricultural Land

Conditions on the proposed project and other adjacent properties appear unchanged since the year 2009 aerial photograph. Agricultural operations appear to continue on the majority of the proposed project.

August 07, 2012- Agricultural Land

Conditions on the proposed project and other adjacent properties appear unchanged since the year 2011 aerial photograph. Agricultural operations appear to continue on the majority of the proposed project.

July 30, 2013- Agricultural Land

Conditions on the proposed project and other adjacent properties appear unchanged since the year 2012 aerial photograph. Agricultural operations appear to continue on the majority of the proposed project.

April 15, 2014 - Agricultural Land

Conditions on the proposed project and other adjacent properties appear unchanged since the year 2013 aerial photograph. Agricultural operations appear to continue on the majority of the proposed project.

March 26, 2015 - Agricultural Land

Conditions on the proposed project and other adjacent properties appear unchanged since the year 2014 aerial photograph. Agricultural operations appear to continue on the majority of the proposed project.

October 20, 2016 - Agricultural Land

Conditions on the proposed project and other adjacent properties appear unchanged since the year 2015 aerial photograph. Agricultural operations appear to continue on the majority of the proposed project.

3.7 Agricultural Crops and Yields for Proposed Project - Years 2008 - 2015

According to the farmer, the agricultural crops grown on the proposed project for the years 2008 - 2015 consisted of wheat, alfalfa, corn, and grain crops. The yield per acre, cost to produce, and net value of each year's crop is listed below. *(Refer to Table 6 Agricultural Crops and Yields for Proposed Project - Years 2008 – 2015)*

Table 6 Agricultural Crops and Yields for Proposed Project - Years 2008 - 2015

Agricultural Crops and Yields for Proposed Project Years 2008 - 2015 Portion of Section 7, Township 31S., Range 28E., M.D.M.								
YEAR	Crop	Acres	Yield Per Acre (Ton)	Total Yield (Ton)	Unit Value Per Ton	Cost to Produce[b]	Net Crop Value	Net Value Per unit
2008	Wheat	65	2.92	190	$263.00	*$765.00	$245.00	$1.29
	Alfalfa	150	8.65	1,350	$211.00	*$760.00	$170,850	$126.66
	Corn /Fod	20	--[c]	--	--[c]		--	--
	Fallow	60	--	--	--	300.00[d]	0	($18,000)
2009	Corn/Fod	119.2	5.04 (d)	600.8	--[c]			
	Oat/Fod	63.3	*2.50	158.25	*375.00	$393.00	$34,467.75	$544.51
	Alfalfa	91.6	7.34	672.3	$100.00	$1,575.00	($77,040.00	($841.04)
	Sudan Grass	18.4	4.50	82.80	*$80.00	$1,021.00	($12,162,40)	($661.00)
2010	Alfafla	180.5	7.62	1,375.4	$115.00	$1,420.00	($98,139.00)	($543.71)
	Oat	89.7	*2.50	224.25	*$375.00	$393.00	$48,841.65	$544.50
	Fallow	19.5	--[c]		--[c]	$350.00[d]	0	($17.95)

Agricultural Crops and Yields for Proposed Project Years 2008 - 2015 Portion of Section 7, Township 31S., Range 28E., M.D.M.								
YEAR	Crop	Acres	Yield Per Acre (Ton)	Total Yield (Ton)	Unit Value Per Ton	Cost to Produce[b]	Net Crop Value	Net Value Per unit
2011	Alfalfa	199.5	8.18	1,631.9	$241.00	$1,925.00	$9,249.00	$46.36
	Corn/Fod	89	--[c]		--[c]			
2012	Alfalfa	288.5	8.05	2,322.4	$207.00	$1,425.00	$69,724.00	$241.00
2013	Alfalfa	251.7	9.03	2,272.9	$208.00	*$1,281.00	$150,335.50	$66.14
	Corn/Fod	36.8	--[c]		--[c]	*$1,297.00		
2014	Alfalfa	125.8	8.2	1,038.6	$247.00	$1,425.00	$77,269.00	$74.39
	Corn/Fod	162.7	26.35	4,287.1	$49.80	$1,380.00	($11,029.00)	($67.78)
2015	Alfalfa	189.8	8.51	1,615.2	$169.00	$1,420.00	$44,462.40	$45.86
	Wheat	40	13.3	532	$135.00	$1,106.00	($26,532.00)	($113.97)
	Fallow	59	--	--	--	$350.00[d]	0	($20,650.00)
*Based upon University of California Cooperative Extension, Cost and Return Studies								

a) Bale
b) Per acre
c) No unit value provided by Kern County Department of Agriculture
d) Cost for fallow land maintenance

Year 2015 - Crop Information

Alfalfa – Alfalfa was ranked number nine of the top twenty crops grown in Kern County for the year 2015. The typical yield of alfalfa is 7.16 tons per acre and the cost to produce alfalfa is estimated at $995.00 per acre according to the Kern County 2015 Crop Report. Mitchell Property Management, LP reported that the cost to produce (primarily due to higher water costs) was $1,420.00 per acre. The alfalfa crop value is estimated at $185.00 per ton. Therefore, the net crop value is approximately $45.86 per ton, or $44,462.40 for the 189.8 acres of alfalfa crop.

Wheat – Wheat was not among the top twenty crops grown in Kern County for the year 2015. The typical yield of wheat is 3.19 tons per acre according to the Kern County 2015 Crop Report. Mitchell Property Management, LP reported the net cost to produce the wheat is $1,106.00 per acre. The wheat crop value is estimated at $135.00 per ton. Therefore, the net crop value is approximately ($113.97) per ton, or ($26,532.00) for the 40 acres of wheat crop.

3.8 Soils Survey

As defined by the United States Department of Agriculture (USDA), prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, oilseed crops, and that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods. Prime farmland soils produce the highest yields with minimal units of energy and economic resources, and farming in these soils result in the least damage to the environment.

The United States Department of Agriculture (USDA) of Kern County, California – Southwestern Part were utilized to determine the soil units occurring within the proposed project and are listed below. *(Refer to Table 7 United States Department of Agriculture (USDA) Soil Survey) (Refer to Figure C-4 United States Department of Agriculture (USDA) Soils Survey Map)*

Table 7 United States Department of Agriculture (USDA) - Soils Survey

USDA Soils Survey of Kern County, California – Southwestern Part PROPOSED PROJECT – MAP UNIT LEGEND			
Map Unit Symbol	**Map Unit Name**	**Description**	**Acres in Proposed Project**
KsA (101)	**Bakersfield fine sandy loam, drained, 0 to 1 percent slopes**	This somewhat poorly drained soil is found on flood plains. It is formed in alluvium derived from granitoid rock. The average frost-free season is 250-300 days	**170.22**
CaA (123)	**Granoso sandy loam, 0 to 2 percent slopes, overwash**	This soil somewhat excessively drained, found on alluvial fans and floodplains, derived from mixed rock sources. Runoff is very low.	**144.08**

3.9 Water

Data provided by the California Department of Water Resources indicates the groundwater level in a nearby well was approximately 96.7 feet below ground surface (bgs) in year 2011. The well is located approximately 0.5 miles northeast of the proposed project along McCormick Avenue. The California Department of Water Resources reported that in May 2016 the proposed project has a depth of approximately 175 to 185 feet below ground surface. *(Refer to Figure C-3 Kern County Water Agency Depth of Groundwater Map)*

3.10 Flood Zone

Data provided by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), Kern County, California – Community Panel #060075 1275 B, effective date September 29, 1986. The proposed project is rated Zone C which is areas of minimal flooding and is not within a high risk flood zone area. The proposed project is approximately one mile east of Zone A0 which is special flood hazard areas inundated by types of 100 year shallow flooding where depths are between 1.0 feet and 3.0 feet. *(Refer to Figure C-2 Flood Insurance Rate Map)*

4.0 Impacts of Farmland Conversion

4.1 Methodology

This study utilizes a combination of the analysis of factors provided in the Metropolitan Bakersfield General Plan, the California Agricultural Land Evaluation and Site Assessment Model, and the California Department of Conservation – Office of Land Conservation – Instruction Manual Year 1997 to identify the proposed project's potential impact to agricultural lands.

4.2 Metropolitan Bakersfield General Plan and Kern County General Plan Factors

The Metropolitan Bakersfield General Plan recommends that certain factors be evaluated when determining the appropriateness of proposed agricultural conversions (Metropolitan Bakersfield General Plan - Page V-13). These factors include:

- Soil quality
- Availability of irrigation water
- Proximity to non-agricultural uses
- Proximity to intensive parcelization
- Effect of properties subject to Williamson Act land use contracts
- Ability to be provided with urban services such as sewer, water, roads, etc.
- Ability to affect the application of agricultural chemicals on nearby agricultural properties
- Ability to create a precedent-setting situation that leads to the premature conversion of prime agricultural lands
- Demonstrated project need
- Necessity of buffers such as lower densities, setbacks, etc.

According to the Kern County General Plan, when evaluating General Plan Amendment proposals to change a Map Code 8.1 (Intensive Agriculture) designation to industrial development, the County shall consider the following factors:

- Locations for new industrial activities shall be provided with adequate infrastructure (water, sewage disposal systems, roads, drainage, etc.) to minimize effects on County services.
- Provide for the clustering of new industrial development adjacent to existing industrial uses and along major transportation corridors.
- Require that industrial uses provide design features such as screen walls, landscaping, increased height and/or setbacks, and lighting restrictions between the boundaries of adjacent residential land use designations so as to reduce impacts on residences due to light, noise, sound, and vibration.
- Requests for new Map Code 7.2 (Service Industrial) and Map Code 7.3 (Heavy Industrial) designations should be discouraged on sites contiguous to or located within 1/4 mile of residentially designated property.
- All industrial development equal to or greater than 40 acres in a rural area will require the adoption of a Specific Plan prior to development approval.
- Where feasible, locate future industrial activities in close proximity to railroad facilities and inter- and intra-State transportation corridors to minimize extensive travel through urban areas and to promote alternative transportation of goods.

This section includes a general discussion of the above-mentioned factors. This study's findings regarding these factors are included in Section 6.0 Conclusions.

In California, the nation's leading farm state, the issue is complicated by widely varying numbers about the extent of conversion and by contrasting opinions about the causes and consequences of farmland loss. The Metropolitan Bakersfield General Plan area has been experiencing intense urbanization for the last two decades, and is actively annexing properties by providing the infrastructure needed to serve more densely populated communities. Urbanization in farming areas typically begins with conversion of one or a few parcels adjacent to the city limit line. The encroachment of urban uses on existing agricultural areas is prevalent adjacent to the City, where both farmers and urban neighbors operate with both negative and positive consequences. The challenge is to minimize the negative interactions and create the conditions for a long-term and mutually beneficial coexistence between farmers and urban residents. The negative interactions can be divided into the impacts that farmers can have on urban neighbors and the impacts that urban neighbors can have on farmers.

Farming operations can affect urban neighbors by creating inconveniences or discomforts such as equipment noise, odors from manure and other chemicals, and dust or smoke. Farming operations may also result in impacts such as traffic of farm machinery on the streets. The introduction of adjacent residential uses creates a greater number of land use conflicts than non-residential urban uses such as commercial and industrial uses.

The introduction of urban uses in existing agricultural areas can affect farming operations. Urban uses can create adverse impacts such as the introduction of pests, disease and weeds, increased flooding and siltation, and increased traffic, vandalism, and trespassing. In Kern County, a farmer

must receive a "Restricted Materials Permit" to apply chemicals to the crops, and the Kern County Department of Agriculture monitors the application by permits, to ensure that it is applied within regulations. For example, there are restrictions on the application of cotton harvest aides (DEF, Folex, Paraquat) during the cotton defoliation season. DEF, Folex and Paraquat shall not be applied within 1/8 mile of any school. Paraquat should not be applied within 1/8 mile of any residential zoned or inhabited area, or within 1/4 mile if applied by air. DEF or Folex shall not be applied within 1/2 mile of any area zoned as residential or any school in session or due to be in session within 24 hours. Restrictions to chemical and pesticides application are an additional impact on farming operations resulting from residential developments near existing agricultural areas.

The proposed project may have an impact on local growers. Farmers near the proposed project will inevitably be affected by the planned development. Substantial planned urban development on properties near the proposed project indicates that this property is in the logical path of development. In addition, Highway 99 will provide a buffer between uses within the proposed project and agricultural activities west of it. The future South Beltway will provide a buffer on the south side, Di Giorgio Road on the north side, and Highway 204 (South Union Avenue) on the east side.

The conversion of this proposed project from agricultural use to commercial and industrial development use is not expected to create cumulative or growth-inducing impacts to other nearby farmlands. Existing land use designation of properties to the northwest, northeast, west, and southeast, as well as, proposed and pending land use designation amendments and planned future development of properties to the east and south *(Refer to Figure B-3 County of Kern Proposed Development)* demonstrate that the proposed project is along the logical path of urban development and the proposed project in itself will not induce further growth.

The impact of the proposed commercial and industrial development on local growers is considered minimal because of the restrictions and limitations that are already in place as a result of rural residential development near the proposed project.

Existing and planned urban development on properties directly adjacent to, and near the proposed project indicates that this property is in the logical path of development. The following factors indicate that the proposed project area and adjacent properties will be affected by future urban development:

- The Proposed South Beltway Alignment is located along the southern proposed project boundary.
- General Plan Amendment and Zone change is proposed for 28.67 acres west of the proposed project to allow for Light Industrial uses.
- General Plan Amendments located northwest of the proposed project to allow for Service Industrial uses.

- General Plan Amendment located at the northeast corner of Hosking Road and Highway 99 to allow for retail commercial center with approximately one million square feet of leasable commercial space and a 300-room hotel (140,000 square feet) on 109 acres
- General Plan Amendment located at Taft Highway and Chevalier to allow for General Commercial, Office Commercial and High Density residential.
- Zone Change located South of Taft Highway and Chevalier to allow for Commercial and Residential development.

Planned future development near the proposed project. *(Refer to Figure B-3 Proposed Development Proposed Project*) Planned Metropolitan Bakersfield General Plan Circulation Element roadway system expansion near the proposed project. *(Refer to Figure B-2 Metropolitan Bakersfield General Plan (MBGP) Circulation Element Map)* This demonstrate that the proposed project is along the logical path of urban development.

4.3 California Department of Conservation - Factors

In this section, prime farmland is defined and discussed, and the prime farmland soils in the proposed project. *(Refer to Table 7 United States Department of Agriculture (USDA) Soil Survey) (Refer to Figure C-4 United States Department of Agriculture (USDA) Soils Map)* As defined by the United States Department of Agricultural, are soils that are best suited to producing food, seed, forage, fiber, and oilseed crops. In addition, prime farmland produces the highest yields with minimal units of energy and economic resources, and farming theses soils results in the least damage to the environment.

Prime farmland soils commonly get an adequate and dependable supply of moisture from precipitation or irrigation. Temperature and growing season are favorable, and the level of acidity or alkalinity is acceptable. The soils have few rocks and are permeable to water and air, not excessively erodible or saturated with water for long periods and are not flooded during the growing season. The proposed project (314.30 acres) will meet the requirements for prime farmland if undeveloped and water for irrigation is available.

4.3.1 Seven Categories of Important Farmland

The California Department of Conservation has determined seven categories of Important Farmland:

Prime Farmland - This has the best combination of physical and chemical characteristics for crop production. It has the soil quality, growing seasons and moisture supply needed to produce sustained high yield crops when treated and managed, including water management, according to current farming methods. Implementation of the proposed project will result in a loss of approximately 314.30 acres of soil considered prime farmland soil by the Kern County Soil Survey, Southwestern Kern if water for irrigation is available.

Farmland of Statewide Importance - This is land other than prime farmland that has a good combination of physical and chemical characteristics for the production of crops, and has been used for the production of irrigated crops within the last three years. None of the proposed project is in this category.

Unique Farmland – This is land that does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, and land that is currently used for the production of specific high economic value crops. It has the special combination of soil quality, location, growing season and moisture supply needed to produce sustained high quality or high yields of specific crops (i.e. oranges, olives, avocados, cut flowers) when treated and managed according to current farming methods. This category excludes abandoned orchards or vineyards. None of the proposed project is in this category.

Farmland of Local Importance – This land produces crops or has the capability of production, or is used for the production of confined livestock. It is other than Prime, Statewide Importance or Unique Farmland. It may be important to the local economy due to its productivity. A local advisory committee set up by the SCS in each county initially identified farmland of Local Importance. The Kern County Board of Supervisors has determined that there will be no Farmland of Local Importance in Kern County. None of the proposed project is in this category.

Grazing Land – This is land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock. It is identified in minimum mapping units of 40 acres and does not include land previously identified above. None of the proposed project is in this category.

Urban and Built-up Land – This land is used for residential, industrial, commercial, construction, institutional, public administrative purposes, etc. None of the proposed project is in this category.

Other Land – This is land not included in any of the other mapping categories and generally includes rural development with a density of less than one structure per 1.5 acres, marginal agricultural lands, brush, timber, roads and other rural land uses.

4.4 Buffer Zones

Buffer zones are well-defined strips of land located between farmland and urban development used to minimize possible conflicts between these uses. Buffers essentially create a separation between agricultural and urban uses, which minimize negative impacts on both sides of an edge boundary, especially the effects of chemical drift from farming activity. Agricultural buffers come in different forms; natural barriers created by landscape features such as waterways, roads, landscaping, walls, residential setbacks, open space greenbelts, and combinations of various types. Key issues in their design and creation are their permanence, maintenance, and which of

the landowners, developer/homeowner or farmer will provide the land or barrier.

If developments adjacent to agricultural fields do not include buffer zones in their design, the burden falls upon the grower to provide a buffer between these uses. This often means the grower must allocate a portion of their land to the creation of a buffer zone. As an example, growers might be required to refrain from spraying or harvesting the outside rows of their crops. In those cases, buffer zones represent a loss to the farmer of both crop production and income. However, with commercial and industrial development, a buffer zone may include a parking lot or landscape area. Farmers can utilize their entire property for crop production if the adjacent development is commercial or industrial in nature, as these types of uses are not considered to be sensitive receptors.

The Metropolitan Bakersfield General Plan policy implementation for the Land Use Plan states that "Suitable land use buffers, such as transitional lot sizes, shall be planned so as to intervene between existing agricultural uses and planned urban uses."

The roadway rights-of-way will serve as buffers for the proposed project along some of the properties boundaries, such as adjacent to Houghton Road and Highway 204 (South Union Avenue). In addition, State Route 99 on the west boundary provides a buffer between the proposed project and adjacent agricultural land.

4.5 Water Supply

Water is an important input in crop productions. It has been the most important factor responsible for yield increases in the past 20 years. Some water districts have limits on the amount of water they can deliver to agricultural crops. Water demands change somewhat when croplands are converted to urban uses. Net irrigation requirements give the average amount of water required by specific crops at given locations in addition to the amount of water normally received there in the form of precipitation. Urban water consumption depends on the land use established. Some industrial users, such as food processors, require very large volumes of water. Commercial uses require less water than industrial uses, but more water than residential uses.

Vegetable irrigation in a drought year with potential periods of power outages and the announcements of reduced water supply can severely reduce vegetable yields. Growers have seen increases in water supply costs for their crops, which are attributed to the higher costs on energy to run the pump.

The agricultural water wells on the proposed project will be abandoned when the agricultural production ceases in anticipation of the proposed project commercial and industrial development.

4.6 Water Quality

The amount and type of water contamination generated in urban areas differ from those generated in farmlands. Urbanization usually results in increased surface water concentrations of fecal coliforms, oil, grease, and heavy metals. Most farmers systematically apply a variety of pesticides and fertilizers to their crops. Some of these chemicals reach the soil and eventually leach into the groundwater. Soil and groundwater contamination also occur where chemicals are mixed or stored, where wells are constructed or abandoned, and through rainwater infiltration. Agricultural application of pesticides accounts for approximately 92 percent of all pesticide use in California (including chlorine).

Conversion of farmlands to urban use decreases the area whereon which vegetation is treated with chemicals decreases due to the addition of impervious surfaces associated with non-agricultural uses.

4.7 Competition for Water

California is experiencing severe drought conditions. Currently water delivery allocation through the California Aqueduct and State Water Project have been reduced to 0% throughout the southern San Joaquin Valley.

The Department of Water Resources urban water usage (including residential, commercial, and industrial purposes) is equivalent and about 3.2 acre-foot per year; whereas the typical agricultural applied water usage is about 3.5 acre-foot per year. Based on an eight year average of the Department of Water Resources data (Years 1998 - 2005), the commercial and industrial sector comprised approximately 20% of the total urban water usage in California.

Future domestic water usage will depend on the function and intensity of activities within the proposed project. Instead of an on-site privately owned water company, mutual water district or community service district will be required to be formed, and the domestic water will be provided by on-site private well(s) with water treatment, waste water treatment, and distribution facilities. Considering the proposed zoning and land use designation will support urban uses, a comparison of daily water consumption for urban uses is compared to selected crops. *(Refer to Table 8 Water Requirements – Urban and Agricultural) (Refer to Table 9 Statewide Urban Water Usages)*

Table 8 Water Requirements – Urban and Agricultural

Water Requirements - Urban and Agricultural	
Type of Use	**Applied Water Use (Acres Foot Per Acre)**
Urban	**3.2**
Agricultural	**3.35**
Examples of Crop Irrigation Requirements	
Barley	1.3
Grapes	2.9
Cotton	3.2
Deciduous Orchard	3.5
Pasture (Improved)	4.5
Alfalfa	4.7
Source: California Water Plan Update 2013	

Table 9 Statewide Urban Water Uses

Statewide Urban Water Uses	
Type of Use	**Water Use (Million Acre Feet)**
Large Landscape	0.8
Commercial and Institutional	1.1
Industrial	0.5
Residential Interior	2.7
Residential Exterior	3.0
Other	0.6
Total	**8.8**
Source: California Water Plan Update 2013	

4.8 California Agricultural Land Evaluation and Site Assessment Model (LESA)

4.8.1 Land Evaluation Factors

The California Agricultural Land Evaluation and Site Assessment Model (LESA) includes two Land Evaluation factors that are separately rated:

a. **The Land Capability Classification Rating** - The Land Capability Classification indicates the suitability of soils for most kinds of crops. Groupings are made according to the

limitations of the soils when used to grow crops and the risk of damage to soils when used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating (Class I). Specific Subclasses are also utilized to further characterize soils. *(Refer to Figure J-2 Site Assessment (LESA) Worksheet – TABLE 1A, 1B, 2 & 3 – See Table 1A and Table 2)*

b. **The Storie Index Rating** - The Storie Index provides a numeric rating (based upon a 100 scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are considered in the Storie Index rating. The factors are: profile characteristics, texture of the surface layer, slope, and other factors such as drainage or salinity. *(Refer to Figure J-2 Site Assessment (LESA) Worksheet – TABLE 1A, 1B, 2 & 3 – See Table 1A)* In some situations, only the United States Department of Agriculture's Land Capability Classification information may be available. In those cases, the Storie Index ratings can be calculated from information contained in soil surveys by qualified soil scientists. If, however, limitation of time and/or resources restrict the derivation of the Storie Index rating for a given project, it may be possible to adapt the Land Evaluation by relying solely upon the Land Capability Classifications rating.

4.8.2 Site Assessment Factors

The four Site Assessment Factors that are separately rated and included in the California Agricultural Land Evaluation and Site Assessment Model (LESA) are:

a. **The Project Size Rating** - The Project Size Rating is based upon identifying acreage figures for three separate grouping of soil classes within the proposed project, and then determining with grouping generates the highest Project Size Score. The Project Size Rating relies upon acreage figures that were tabulated under the Land Capability Classification Rating. *(Refer to Figure J-2 Site Assessment (LESA) Worksheet – TABLE 1A, 1B, 2 & 3 – See Table 1B and Table 3)*

b. **The Water Resources Availability Rating** - The Water Resources Availability Rating is based upon identifying the various water sources that may supply a given property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. *(Refer to Figure J-3 LESA Worksheet – Table's 4 & 5 – See Table 4 and Table 5)*

c. **The Surrounding Agricultural Land Rating** - Determination of the Surrounding Agricultural Land Rating is based upon identification of a proposed project's Zone of Influence, which is defined as that land near a given project, both directly adjoining and within a defined distance away, that is likely to influence, and be influenced, by the agricultural land use of the proposed project. The Surrounding Agricultural Land Rating is designed to provide a measurement of the level of agricultural land use for lands in close proximity to a given project. The California Agricultural Land Evaluation

and Site Assessment Model (LESA) rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has relatively small percentage of surrounding land in agricultural production. The definition of the Zone of Influence that accounts for surrounding lands up to a minimum of one quarter mile from the proposed project boundary is the result of several iterations during model development for assessing an area that will generally be a representative sample of surrounding land use. *(Refer to Figure J-4 Surrounding Agricultural Land Rating (LESA) Worksheet – TABLE 6)*

d. **The Surrounding Protected Resource Land Rating** - The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating, and it is scored in a similar manner. *(Refer to Figure J-5 Surrounding Projected Resource Land Rating (LESA) Worksheet – TABLE 7)* Protected resource lands are those lands with long-term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

- Williamson Act contracted lands
- Publicly owned lands maintained as a park, forest, or watershed resources
- Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban and industrial uses.

4.8.3 Final Land Evaluation and Site Assessment Scoring

A single Land Evaluation and Site Assessment (LESA) is generated for a given project after all the individual Land Evaluation and Site Assessment factors have been scored and weighted. The California Agricultural Land Evaluation and Site Assessment Model is weighted so that 50 percent of the total Land Evaluation and Site Assessment score of a given project is derived from the Land Evaluation factors and 50 percent from the Site Assessment factors. Individual factor weights are listed *(Refer to Table 10 USDA Land Capability Units),* with the sum of the factor weights required to equal 100 percent. For the proposed project, the final Land Evaluation and Site Assessment score is determined to be 82 points. *(Refer to Table 11 Land Evaluation and Site Assessment Final Score)*

Table 10 USDA Land Capability Units

United Stated Department of Agriculture (USDA) Land Capability Units	
Number	**Definition**
0	Indicates limitations caused by stony, cobbly, or gravelly material in the substratum.
1	Indicates limitations caused by slope or by an actual or potential erosion hazard.

United Stated Department of Agriculture (USDA) Land Capability Units	
Number	**Definition**
2	Indicates a limitation of wetness caused by poor drainage or flooding.
3	Indicates a limitation of slow or very slow permeability of the subsoil or substratum is caused by a clayey subsoil or by a substratum that is semi-consolidated.
4	Indicates a low available water capacity in sandy or gravely soils.
5	Indicates limitations caused by a fine textured or very fine textured surface layer.
6	Indicates limitations caused by salts or alkali.
7	Indicates limitations caused by rocks, stones, or cobblestones.
8	Indicates that the soil has a very low or low available water capacity because the root zone generally is less than 40 inches deep over massive bedrock.
9	Indicates limitations caused by low or very low fertility, acidity, or toxicity that cannot be corrected by adding normal amounts of fertilizer, lime, or other amendments.
10	Indicates a high organic matter content, peats, and mucks.

No unit designations are shown for Class I soils because the soil characteristics are similar for all soils in the class. Unit designations are not given for soils in Classes V through VIII because these soils normally are not intensively managed as cropland.

Table 11 Land Evaluation and Site Assessment Final Score

Land Evaluation and Site Assessment (LESA) FINAL SCORE			
Factor Name	**Factor Rating (0-100 Points)**	**Factor Weighting (Total=1.0)**	**Weighted Factor Rating**
Land Evaluation			
Land Capability Classification	62.55	0.5	31.28
Storie Index Rating	--	-	-
Site Assessment			
Project Size	100	0.15	15
Water Resource Availability	100	0.15	15
Surrounding Agricultural Lands	93	0.15	13.95
Protected Resource Lands	0	0.05	0
		Total LESA Score	**75.23**

The Kern County California Soil Survey for the Southwestern Region does not include the Storie Index for each soil unit, therefore the Land Evaluation portion of the analysis accounts for 50 percent of the Land Evaluation and Site Assessment Score.

4.8.4 Threshold of Significance

The California Agricultural Land Evaluation and Site Assessment Model (LESA) is designed to make determinations of the potential significance of a project's conversion of agricultural lands during the Initial Study phase of the California Environmental Quality Act (CEQA) process. Scoring thresholds are based upon both the total Land Evaluation and Site Assessment score and the component Land Evaluation and Site Assessment separate sub-scores. In this manner the scoring thresholds are dependent upon the attainment of a minimum score for the Land Evaluation and Site Assessment sub-scores so that a single threshold is not the result of heavily skewed sub-scores (i.e., a site with a very high Land Evaluation score but a very low Site Assessment score, or vice-versa). The California Agricultural Land Evaluation and Site Assessment Model (LESA) scoring thresholds are as follows: *(Refer to Table 12 Land Evaluation and Site Assessment Model Scoring Thresholds)*

Table 12 Land Evaluation and Site Assessment Model Scoring Thresholds

Land Evaluation and Site Assessment Model (LESA) Scoring Thresholds	
Total LESA Score	**Scoring Decision**
0 to 39 points	Not considered significant
40 to 59 points	Considered significant only if LE and SA sub-scores are each greater than or equal to 20 points
60 to 79 points	Considered significant unless either LE or SA sub-score is less than 20 points
80 to 100 points	Considered Significant

According to the California Agricultural Land Evaluation and Site Assessment Model Threshold of Significance, the total score of 75.23 points for the proposed project will be considered a significant environmental impact resulting from the conversion of agricultural properties to non-agricultural uses (Land Evaluation and Site Assessment are both more than 20 points). This is due to the proposed project size, water resource availability, soil quality, and surrounding agricultural lands.

5.0 Mitigation

There are no new adverse physical impacts associated with farmland conversion. No new mitigation measures are proposed.

6.0 Conclusions

As previously identified in the Farmland Conversion Study from May 2008, with implementation of mitigation measures found in Section 5.0 Mitigation, impacts will be less than significant.

While conflicts between urban and farming uses may exist, diminishing the edge relationships and exposures between the two, as well as adopting policies and regulations to mitigate their mutual impacts can minimize them. State and Federal Law restricts pesticide use in certain areas, and "right-to-farm" ordinances alone will not diminish the impact of the restrictions on pesticide use on farming operations. The proposed project will be adjacent to residential uses along its eastern boundary. The proposed project will be separated from adjacent properties by existing and planned roadways, which will contribute to minimize land use conflicts. Highway 99 will provide a buffer between uses within the proposed project and agricultural activities west of it. The future South Beltway will provide a buffer on the south side, Di Giorgio Road alignment on the north side, and Highway 204 (South Union Avenue) on the east side.

Implementation of the proposed project will result in a conversion of approximately 314.30 acres of farmland to urban uses. These 314.30 acres include approximately 170.22 acres of soil capability Class II irrigated prime agricultural land and approximately 144.08 acres of soil capability Class III. The lost crop value for the year 2015 is theoretically estimated at $44,462.40 for 189.8 acres of alfalfa and ($26,532.00) for 40 acres of wheat-silage.

According to the California Agricultural Land Evaluation and Site Assessment Model Threshold of Significance, the total score of 75.23 points for the proposed project will be considered a significant environmental impact resulting from the conversion of agricultural properties to non-agricultural uses (Land Evaluation and Site Assessment are both more than 20 points). This is due to the proposed project size, water resource availability, soil quality, and surrounding agricultural lands.

Implementation of the proposed project will result in a significant impact from the conversion of approximately 314.30 acres of land currently used for agricultural uses to urban uses. A statement of overriding considerations for this impact was adopted when the Metropolitan Bakersfield General Plan was certified. However, with implementation of mitigation measures found in Section 5.0 Mitigation, the proposed project will be considered insignificant.

Detailed findings according to the Metropolitan Bakersfield General Plan requirements (Chapter V - Conservation/Soils and Agriculture Element, Policy 14) are presented below:

Soil Quality

Finding: The proposed project is comprised of KsA (101) - Bakersfield sandy loam (170.22 acres) and CaA (123) - Cajon sandy loam (144.08 acres) which, as classified by the United States Department of Agriculture Soil Conservation Service, are Class IIs and Class IIIs soils respectively. This soil unit is also classified as a prime farmland soil by the Kern County Soil Survey, Southwest Part. The entire proposed project is considered prime per the California Land Conservation Act and the Metropolitan Bakersfield General Plan definition. Approval and implementation of the land use change will result in a loss of approximately 314.30 acres of prime agricultural land.

Implementation of the proposed project will result in a conversion of approximately 314.30 acres of farmland to urban uses. These 314.30 acres include approximately 170.22 acres of soil capability Class II irrigated prime agricultural land and approximately 144.08 acres of soil capability Class III. The lost crop value is theoretically estimated at $44,462.40 for 120 acres of alfalfa, $6,074.40 for 40 acres of grain, and ($26,532.00) for 60 acres of corn-silage.

The Metropolitan Bakersfield General Plan states that conversion of prime agricultural lands to urban uses will result in a reduction of the regional agricultural economy and is considered a significant adverse impact. However, statement of overriding considerations for this impact was adopted when the Metropolitan Bakersfield General Plan was certified Implementation of the proposed project will result in a significant impact from the conversion of approximately 314.30 acres of land currently used for agricultural uses to urban uses. However, with implementation of mitigation measures found in Section 5.0 Mitigation, the proposed project will be considered an insignificant impact.

Availability of Irrigation Water

Finding: The proposed project has two water wells located on the property used solely for crop irrigation. In addition, Kern Delta Water District currently manages the groundwater in the vicinity of the proposed project. If water is unavailable from Kern Delta Water District and the main sources of water for irrigation are the water wells.

Water well locations are as follows:

- Water Well - Site 1: One water well located near the northern corner of the proposed project (150 horsepower diesel)
- Water Well - Site 2: One water well located near the center of the proposed project (150 horsepower diesel)

Water demands change somewhat when croplands are converted to urban uses. Urban water consumption is higher in most industrial uses, however commercial and residential

development consume less water. Irrigation in a drought year with potential periods of power outages and the announcements of reduced water supply can severely reduce vegetable yields. Growers have seen increases in water supply costs for their crops which are attributed to the higher costs on energy (electrical and diesel) to run the pump.

Agricultural wells will be abandoned when the agricultural production ceases in anticipation of the proposed project for commercial and industrial development.

No Impact

Proximity to Non-Agricultural Uses

Finding: Planned future development and planned roadway system expansion near and within the proposed project demonstrate that the property is along the logical path of urban development.

- Future South Beltway alignment adjacent to the south boundary of the proposed project. *(Refer to Figure B-2 Metropolitan Bakersfield General Plan Circulation Element)*

The proposed project site is bounded by the Di Gorgio Road alignment to the north, Highway 204 (South Union Avenue) to the east, Houghton Road to the south, and State Highway 99 to west. The roadway right-of-way will serve as buffers for most of the proposed project boundaries.

Planned future development *(Refer to Appendix "B", Figure B-3 County of Kern Proposed Development near Proposed Project),* and the above-mentioned considerations show that the proposed project is along the logical path of urban development.

Proximity to Intensive Parcelization

Finding: The encroachment of urban uses on existing agricultural areas can result in negative interactions between farmers and urban neighbors. Farming operations can affect urban neighbors by creating inconveniences or discomforts such as equipment noise, odors from manure and other chemicals, and dust or smoke. Urban uses can create adverse impacts to farmers such as the introduction of pests, disease and weeds, increased complaints about noise, dust, smoke, odors, and spray drift from pesticide and fertilizer use, restrictions to the application of pesticides and chemicals, increased flooding and siltation, and increased traffic, vandalism, and trespassing.

The proposed project will be significantly and unavoidably affected by the close proximity of urbanized areas. Farming practices will be more restricted as to the manner of application and type of herbicides and pesticides that can be utilized in the vicinity of these urbanized areas. The proposed project, as well as others in the area, is the next logical step

for urbanization in this area due to the planned urban development near the property and its significant impacts to the crop production.

Effects on Properties Subject to Williamson Act Land Use Contracts

Finding: The proposed project is not subject to a Williamson Act land use contracts.

No Impact

Ability to be provided with Urban Services

Finding: As part of the proposed project the developer will provide infrastructure services adequate for the proposed project. Development standards and ordinances will require provisions of infrastructure and public service financing, water facility development, subdivision mapping, vesting of rights, and other matters.

No Impact

Ability to Affect the Application of Agricultural Chemicals on Nearby Agricultural Properties

Finding: Urban encroachment impacts adjacent lands remaining in agricultural production as conflicts arise from the infringement of the new residential users, which include people and animals, into the area.

The level of significance of any impact on local growers resulting from development of the proposed project is considered minimal due to restrictions and limitations that are placed on the growers with the proximity of planned urban developments. In addition, existing and planned roadways will create buffers between the proposed project and adjacent farming operations.

No Impact

Ability to Create a Precedent-Setting Situation that Leads to the Premature Conversion of Prime Agricultural Lands

Finding: The conversion of this proposed project from agricultural use to commercial and industrial development use is not expected to create a precedent-setting situation that leads to the premature conversion of prime agricultural lands. Planned future development shown in *(Refer to Appendix "B", Figure B-3 County of Kern Proposed Development near Proposed Project),* demonstrates that the proposed project is along the logical path of urban development.

No Impact

Demonstrated Proposed Project Need

Finding: The Metropolitan Bakersfield General Plan states that the Bakersfield Planning Department proposed project and the population of the plan area to be 520,500 in the Year 2020. Population growth will result in the need for approximately 37,000 housing units (Metropolitan Bakersfield General Plan – Land Use Element, Page II-4). The proposed project intends to create commercial and industrial development services for the rapidly growing Bakersfield community, and job opportunities in a manner consistent with the goals and policies of the Metropolitan Bakersfield General Plan. The proposed project will also ensure that the area develops in a comprehensive and coordinated fashion with adequate consideration of traffic and circulation, public safety, site and resource management and project financing.

It is assumed that future development in the Metropolitan Bakersfield General Plan planning area will continue to include "prime" agricultural soils that exist on the Valley floor. This loss has not limited itself to the City of Bakersfield and Kern County but has become an issue of statewide concern. The Metropolitan Bakersfield General Plan concludes that conversion of prime agricultural lands to urban uses will result in a reduction of the regional agricultural economy and is considered to be a significant adverse impact. A statement of overriding considerations for this impact was adopted when the Metropolitan Bakersfield General Plan was certified.

Planned urban development northwest of the proposed project, and within close proximity near the proposed project indicates that this property is on the logical path of development. The Metropolitan Bakersfield General Plan encourages the orderly outward expansion of new urban development that maintains continuity of existing development and allows incremental expansion of infrastructure and public services. The proposal complies with the Metropolitan Bakersfield General Plan's criteria.

No Impact

Necessity of Buffers such as Lower Densities, Setbacks, and Etc.

Finding: If urban developments do not include buffer zones in their design, growers must sometimes allocate a portion of their land to the creation of a buffer zone adjacent to agricultural fields. As an example, growers might be required to refrain from spraying or harvesting the outside rows of their crops. In those cases, buffer zones represent a loss to the farmer of both crop production and income.

Buffer zones can consist of a road, canal, walls, easements, setbacks, and etc. The proposed project is bound by the Di Giorgio Road alignment on the north, State Highway 99 on the west, Highway 204 (South Union Avenue) on the east, and Houghton Road to the south. The roads right-of-way will serve as buffers for most of the proposed project boundaries.

The future development of the proposed project is not proposing the creation of a buffer zone. However, compliance with the Kern County Zoning and Subdivision Ordinances, and with implementation of mitigation measures found in Section 5.0 Mitigation will guarantee that adequate buffers be provided to avoid conflict between agricultural and urban uses.

No Impact

7.0 Resources

- **Air Quality Resources Board**

  (Air Quality San Joaquin Valley - 2004)

- **California Department of Conservation – Office of Land Conservation**

  (California Agricultural Land Evaluation and Site Assessment Model (LESA) – Instruction Manual – 1997)

- **California Department of Food and Agriculture**

  (California Agricultural Resource Directory – Year 2006 Crop Year Production Information)

- **California Department of Water Resources**

  (Kern County Water Agency Improvement District No. 4 – May 2016 Depth of Groundwater)

- **California Farm Bureau Federation**

  (Facts and Stats about California Agriculture – Year 2003)

- **California Farm Water Coalition**

  (The Water Fact Book – California Agriculture and Its Use of Water)

- **City of Bakersfield**

  (Metropolitan Bakersfield General Plan Map – Year 2008)

  (Metropolitan Bakersfield General Plan Circulation Element Map)

  (Farmland Conversion in Metropolitan Bakersfield - Working Paper – Year 1991)

- **Farmland Mapping and Monitoring Program – Department Of Conservation**

  (Farmland Conversion Report – 2000 to 2004)

  (Kern County – Interim Farmland Area 2002-2004 Land Use Conversion)

  (Kern County – Important Farmland Area 2002-2004 Land Use Conversion)

  (Important Farmland in California – Year 2002)

- **Federal Emergency Management Agency**

  (Flood Insurance Rate Map Community Panel 060075 1275 B)

- **Greater Bakersfield Chamber Of Commerce**

  (Agriculture in Kern County – Year 2004)

- **Google Earth**

  (Aerial Photographs - www.mapsm.com)

  (March 32, 2008; May 24, 2009; April 29, 2011; August 07, 2012; July 30, 2013; April 15, 2014; March 26, 2015; October 20, 2016)

- **Kern County Planning and Development Services Department**

  (Assessor's Parcel Map No. 185-14)

  (Zoning Maps 143 and 143-7)

  (Flood Insurance Rate Map (FIRM) – Community Panel #060075 1275 B)

  (Proposed Development near Proposed Project Aerial Photo)

  (Kern County Important Farmland Map – Year 2012)

  (Kern County Zoning Ordinance – Year 2007)

  (Williamson Act Land Use Contract – Year 2006)

  (Hazardous Wastes and Substances Proposed Project List – Year 2008)

  (Guidelines for Agricultural Soils/Farmland Conversion Studies)

- **Kern County Department Of Agriculture and Measurement Standards**

  (Pesticide Use Report Data – Years 2014 and 2015)

  (Kern County Agricultural Crops Reports – Years 2008, 2009, 2010, 2011, 2012 and 2013)

  (Pesticide Use Report Data – Years 2003, 2004, 2005, 2006, 2007 and 2008 – *Refer to Farmland Conversion Study – May 2008*)

  (Kern County Agricultural Crop Reports – Summary, Top Twenty Crops, Field Crops, and Vegetable Crops – Years 2003, 2004, 2005, 2006 and 2007 – *Refer to Farmland Conversion Study – May 2008*)

- **Kern County Engineering and Survey Services**

  (Aerial Photographs - August 3, 1956; February 8, 1975; April 5, 1985; May 22, 1990; May 2000; May 2006 – *Refer to Farmland Conversion Study – May 2008*)

- **Kern County Geographic Information System (GIS)**

  (Existing Dairy Locations Map – September 12, 2008 – *Refer to Farmland Conversion Study - May 2008*)

  (Adjacent Crops Maps – Years 2008, 2009, 2010, 2011, 2012, 2013 and 2014)

- **Kern County Water Agency, Bakersfield, California**

  (Water Supply Report – May 2005)

- **Map Quest**

  (Maps - www.mapquest.com)

- **McIntosh & Associates Engineering, Inc.**

  (Proposed Project On-Site Photos)

- **State of California**

  (California Environmental Quality Act, Sacramento - January 1991)

  (California Health and Safety Code § 11501 thru 11503)

  (California Health and Safety Code § 26569.24 thru 26569.28)

  (A. B. 645, Ch. 1135: Organic Food Act - February 21, 1991)

  (Division of Oil, Gas and Geothermal Resources – Year 1998)

- **United States Department of Agriculture, Natural Resources Conservation Services**

  (Southwest Kern Soil Survey Maps and Information – Year 2006)

- **United States Department of Agriculture – Natural Resources Conservation Services**

  (USDA Soil Survey Map - Kern County, California, Southwestern Part)

- **University of California Cooperative Extension**

  (Sample Cost to Establish and Produce)

  (California Production in California)

- **University of California Davis**

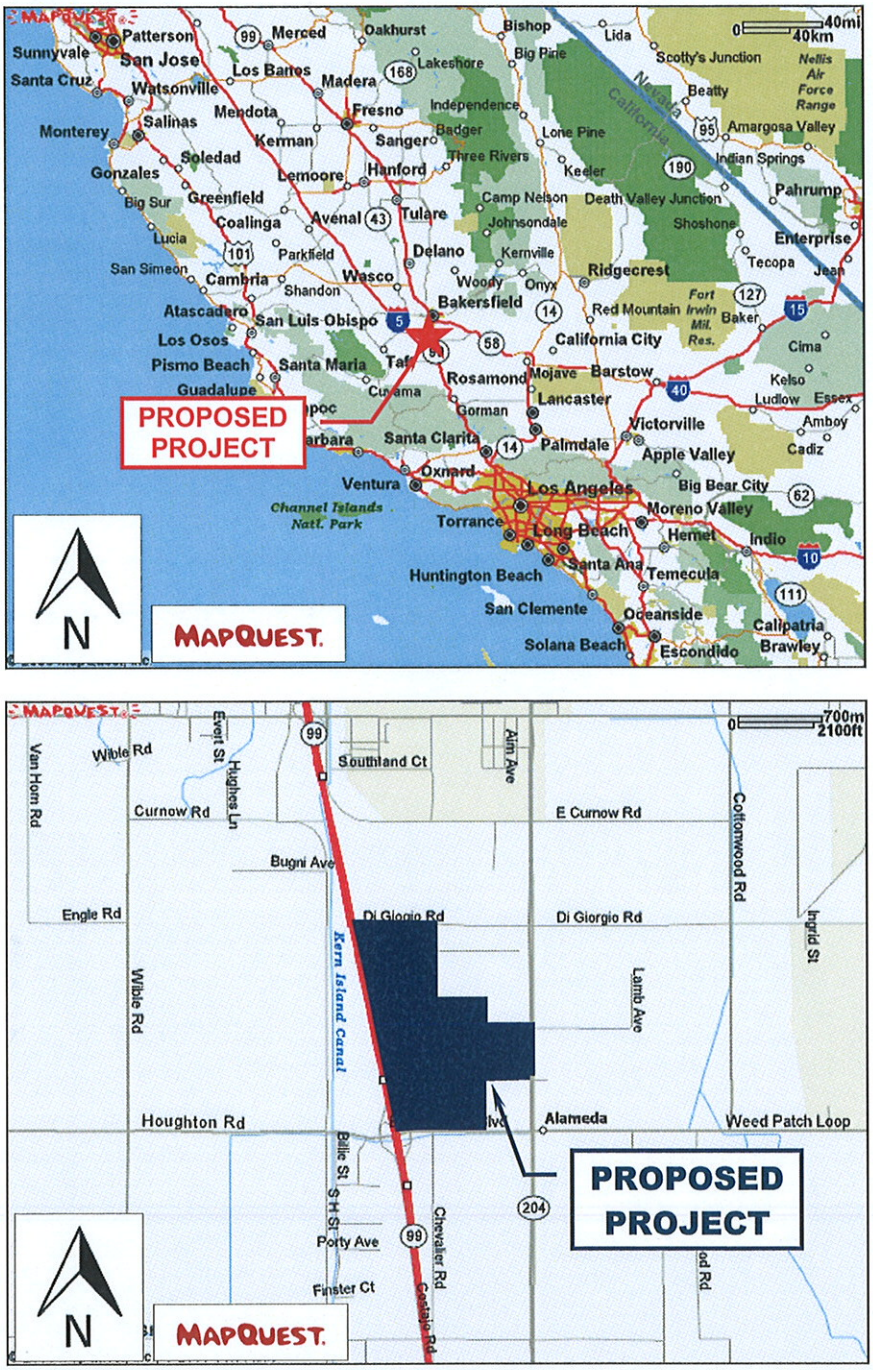
  (Agriculture in Urbanizing Communities – July 21, 2000)

- **United States Department of the Interior - United States Geological Survey**

  (Topographic Quadrangle Maps - Connor and Gosford, California)

APPENDIX A

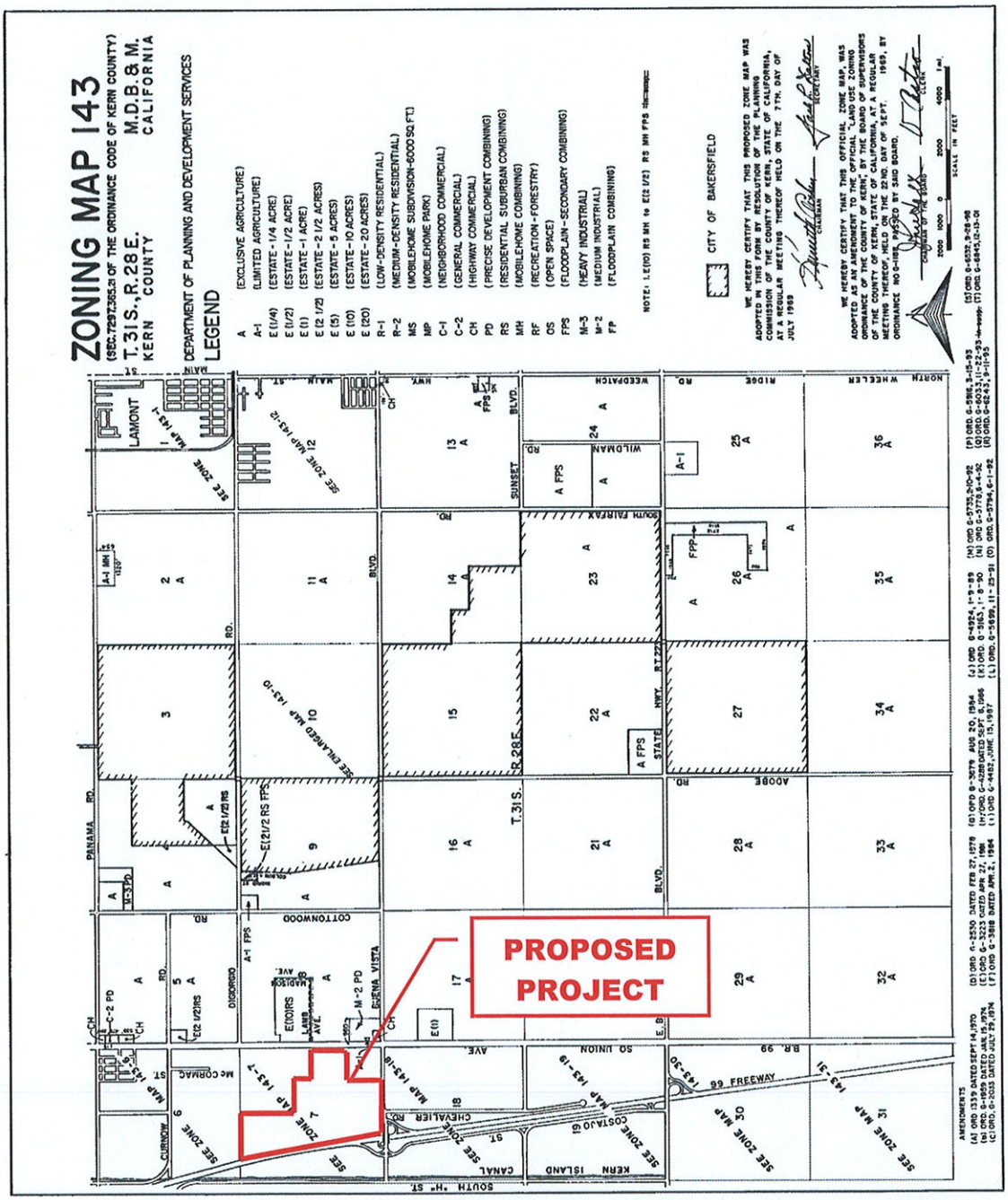
Figures



PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure A-1 - Proposed Project Location Maps



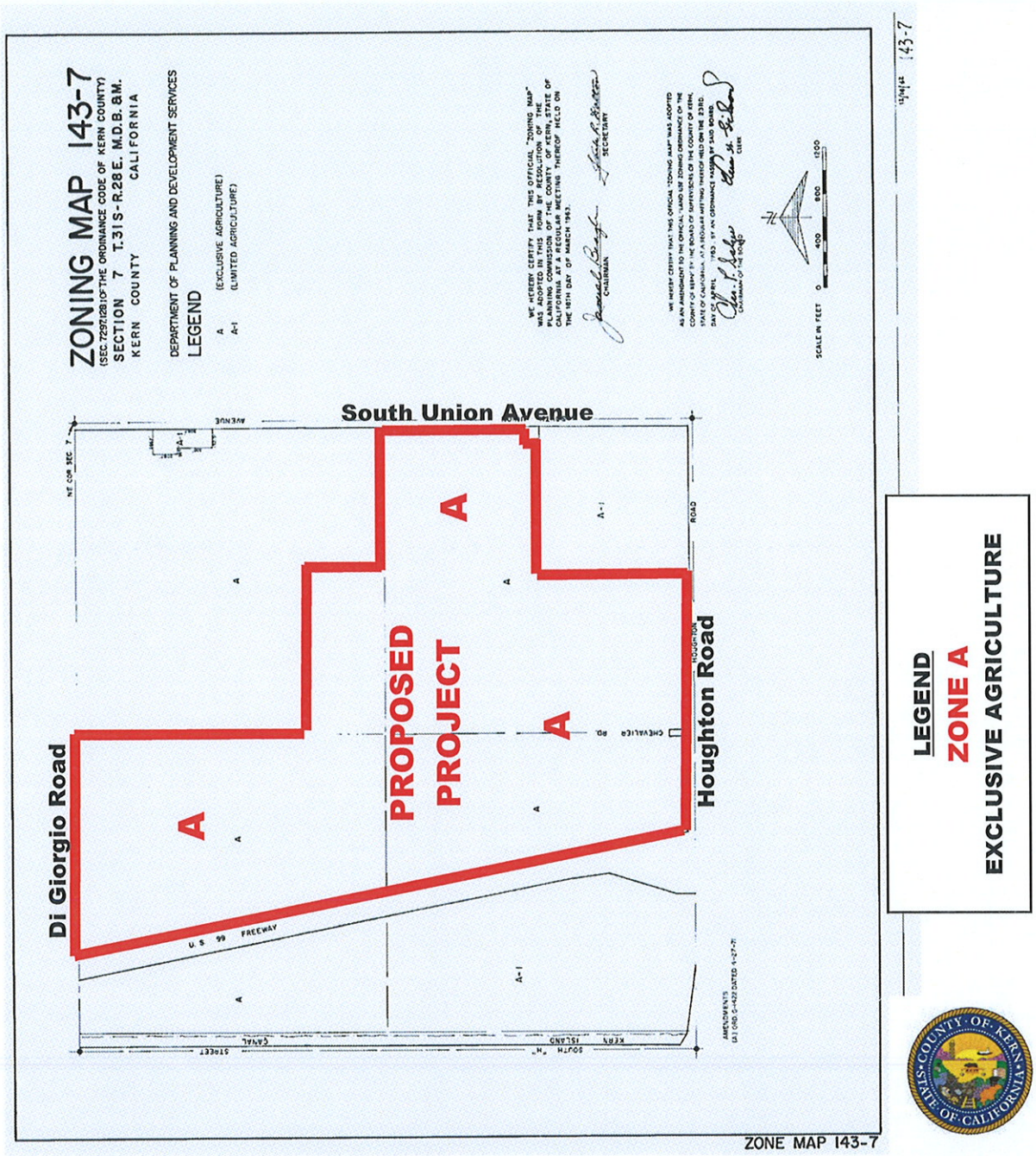
ZONING MAP 143

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7

County of Kern, State of California

Figure A-2 - County of Kern Zoning Map 143

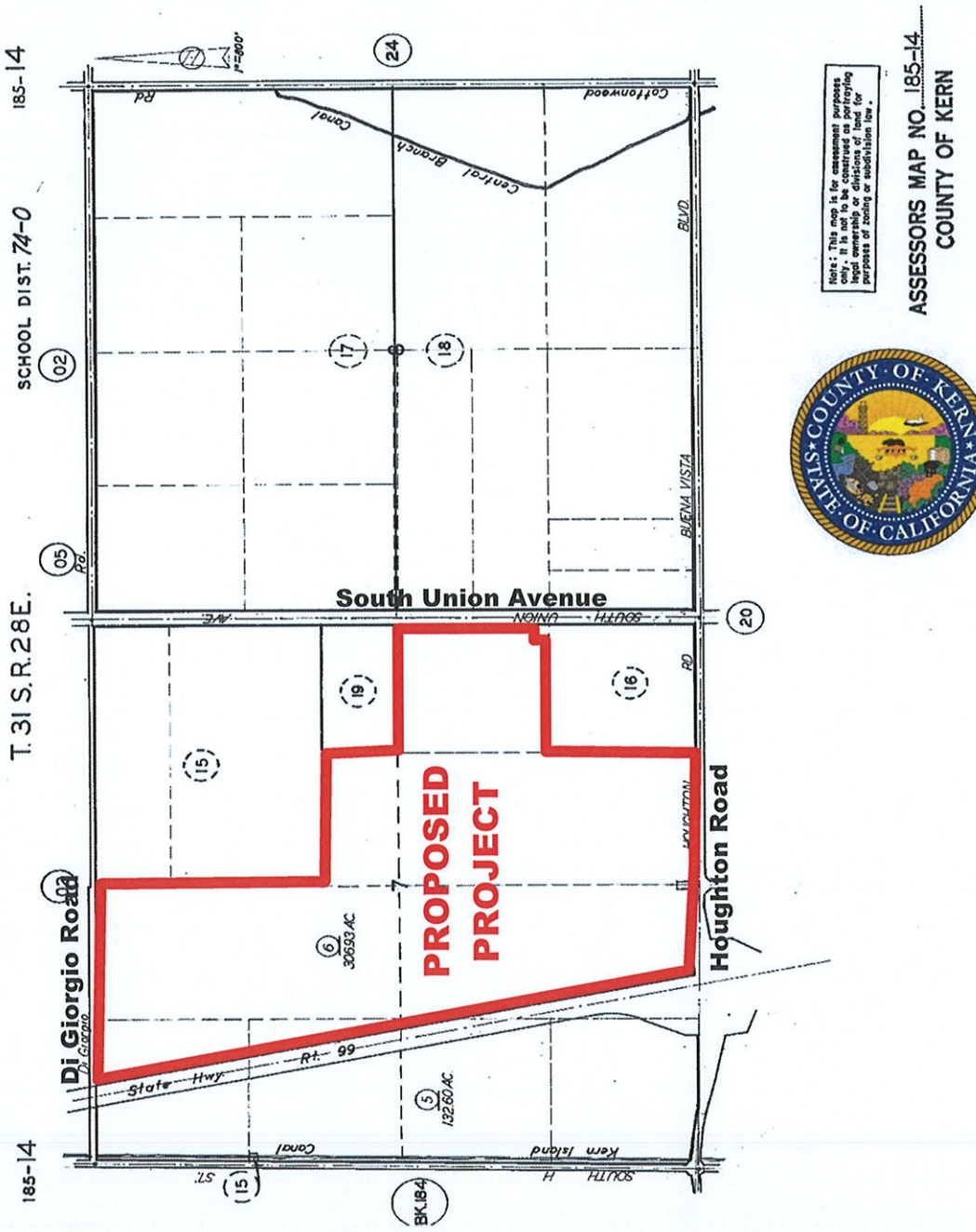


ZONING MAP 143-7

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure A-3 - County of Kern Zoning Map 143-7



ASSESSOR'S PARCEL MAP NO. 185-14

PROPOSED PROJECT

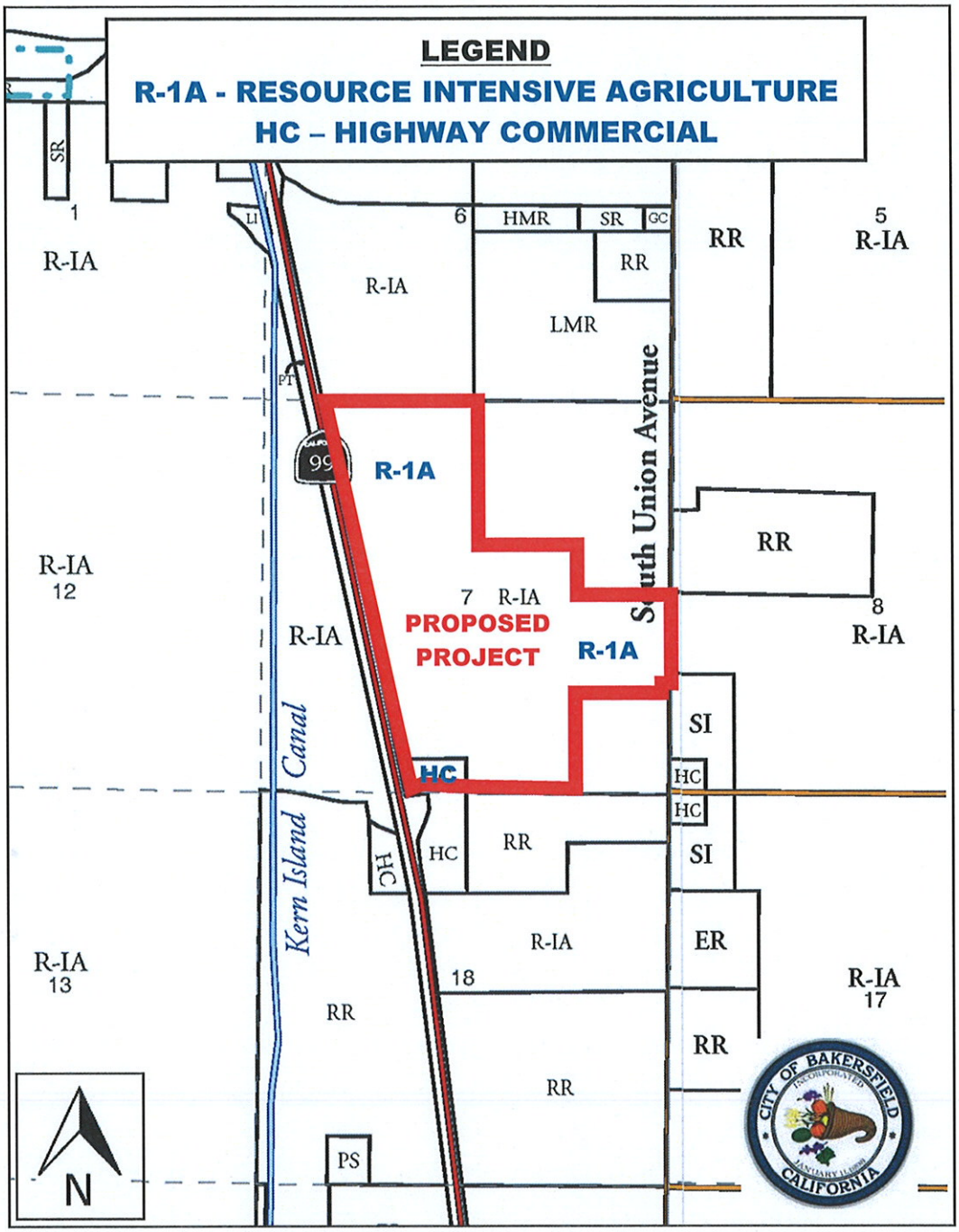
Township 31 South, Range 28 East, Portion of Section 7

County of Kern, State of California

Figure A-4 – Assessor's Parcel Map No. 185-14

APPENDIX B

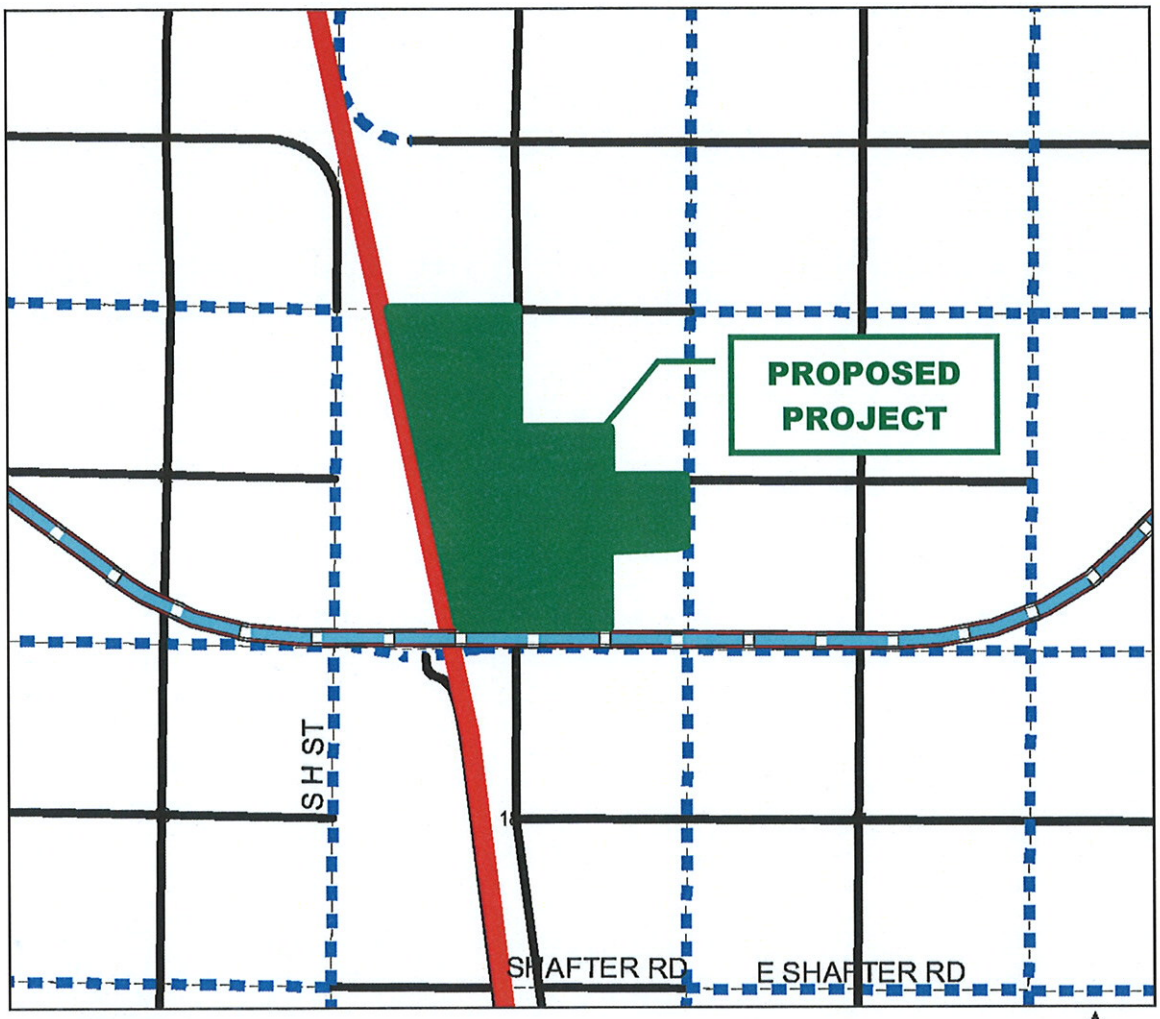
Figures



PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure B-1 - Metropolitan Bakersfield General Plan Map

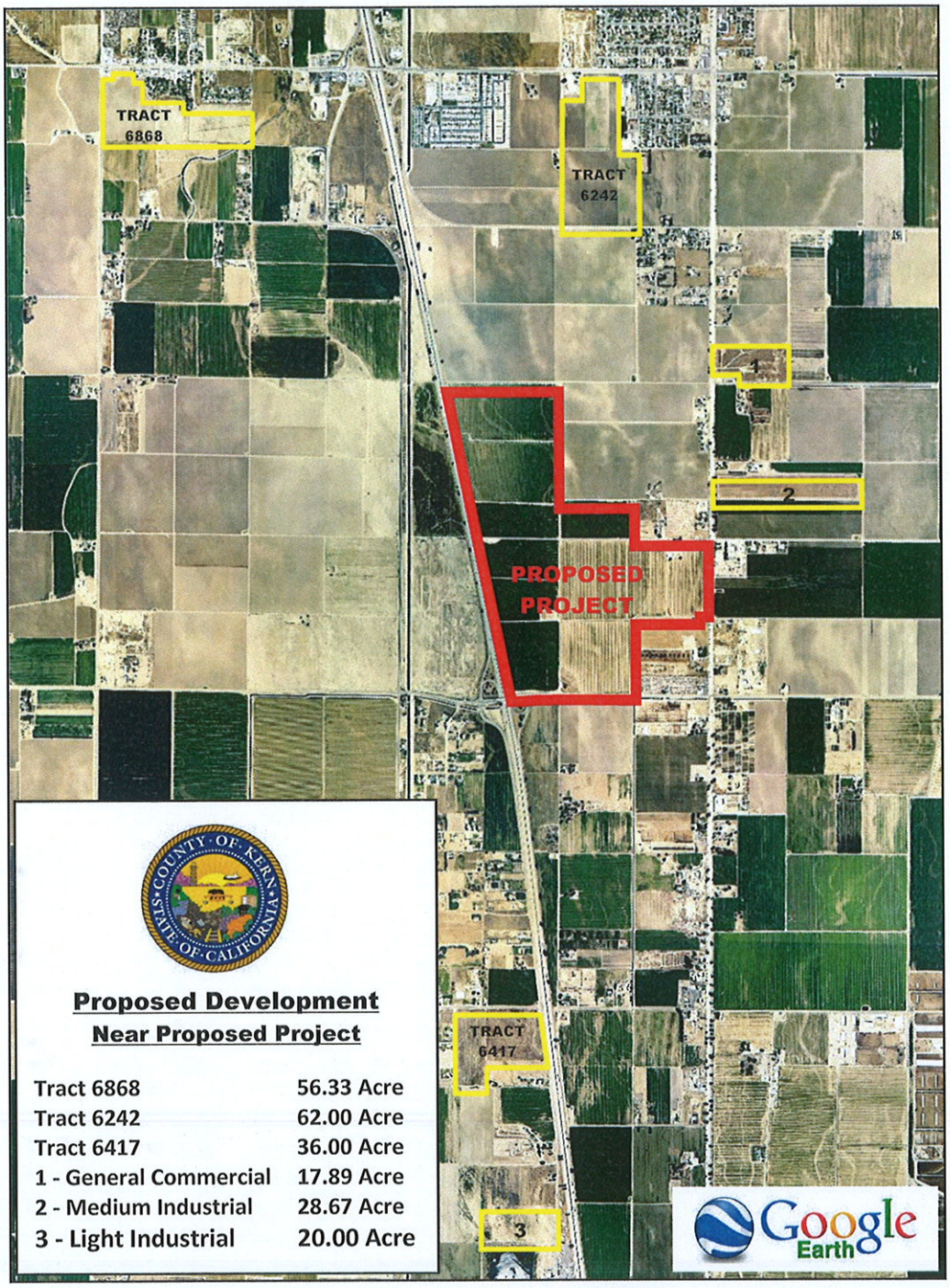


METROPOLITAN BAKERSFIELD GENERAL PLAN CIRCULATION ELEMENT

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure A-3 - Metropolitan Bakersfield General Plan Map
Circulation Element



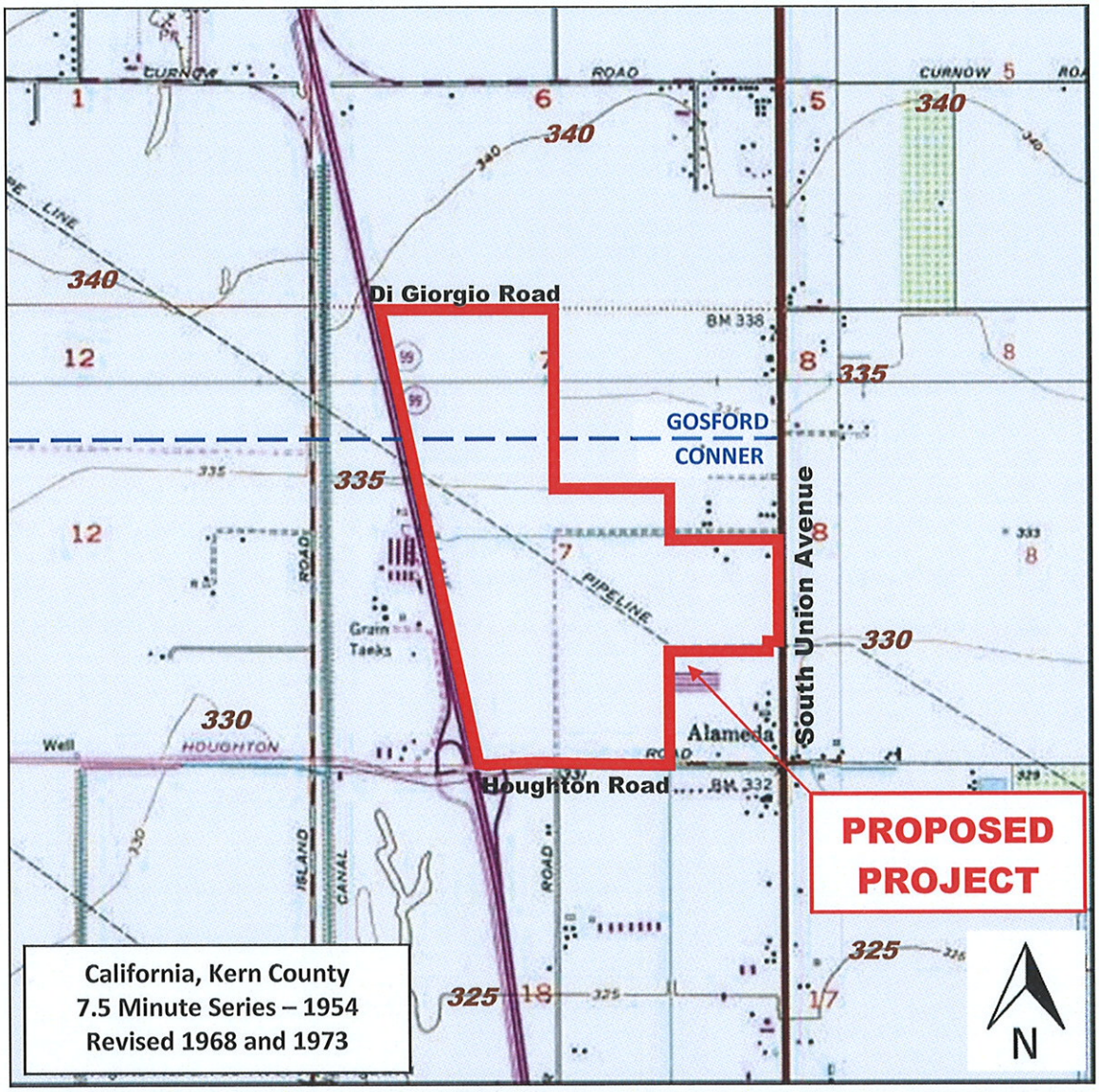
PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure B-3 – County of Kern Proposed Development near Proposed Project

APPENDIX C

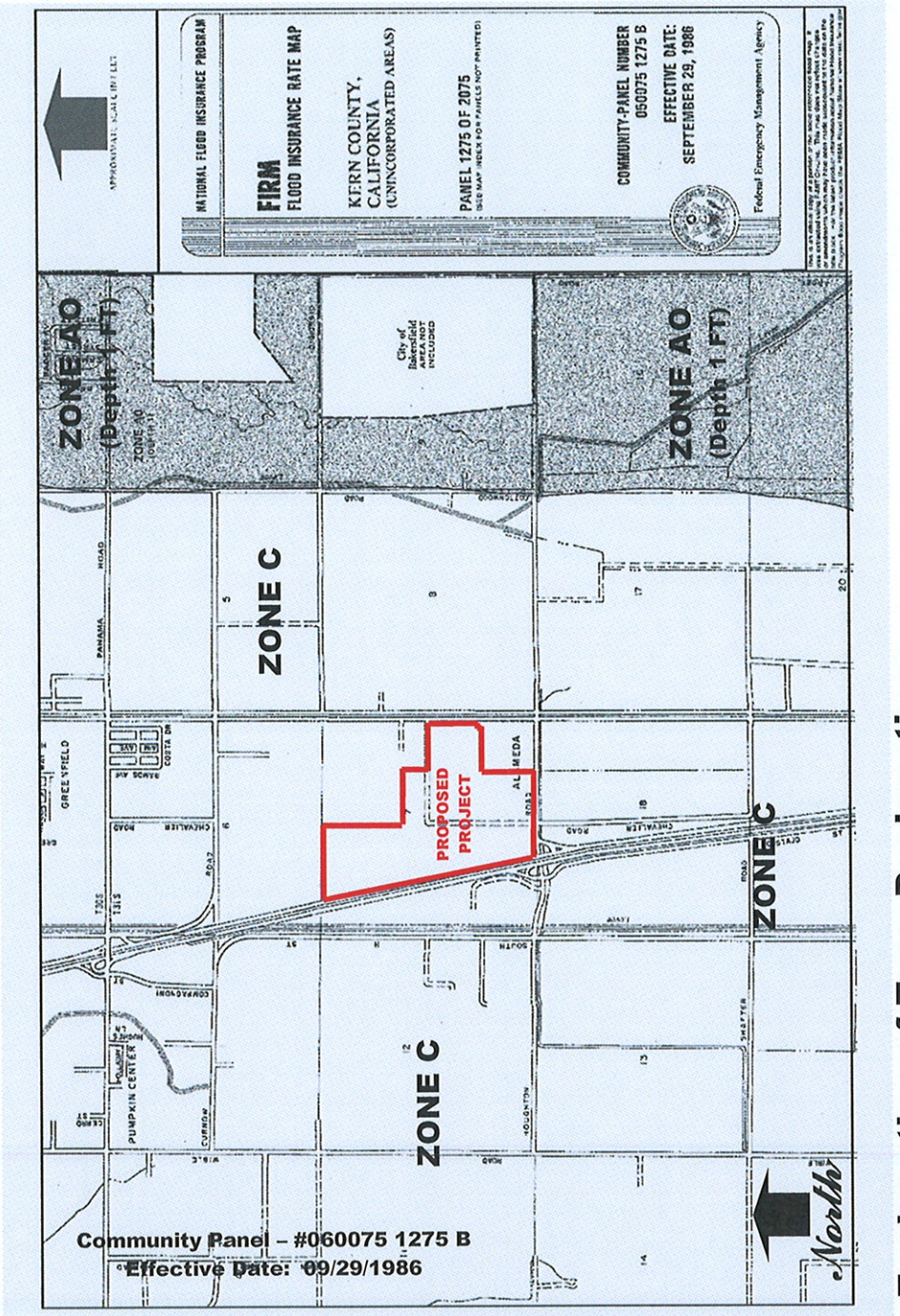
Figures



PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure C-1 - United States Geological Survey Topographic Quadrangle Map



Explanation of Zone Designations

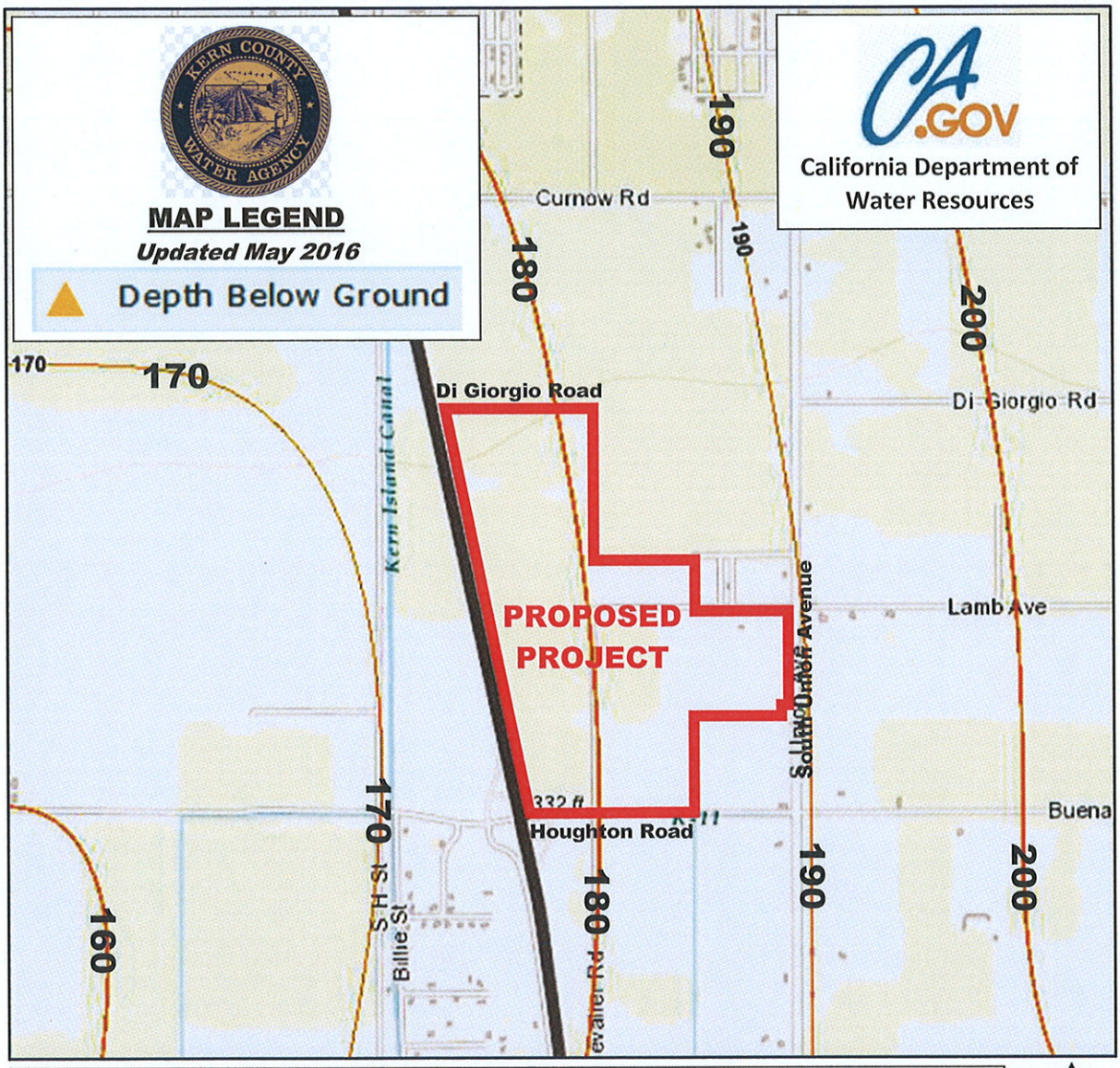
ZONE AO – Special Flood Hazard Areas inundated by types of 100-year shallow flooding where depths are between 1.0 and 3.0 feet; depths are shown, or areas of 100-yfear alluvial fan flooding, depths and velocities shown, but no flood hazard factors are determined.

ZONE C – Areas of Minimal flooding.

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure C-2 – Flood Insurance Rate Map (FIRM)



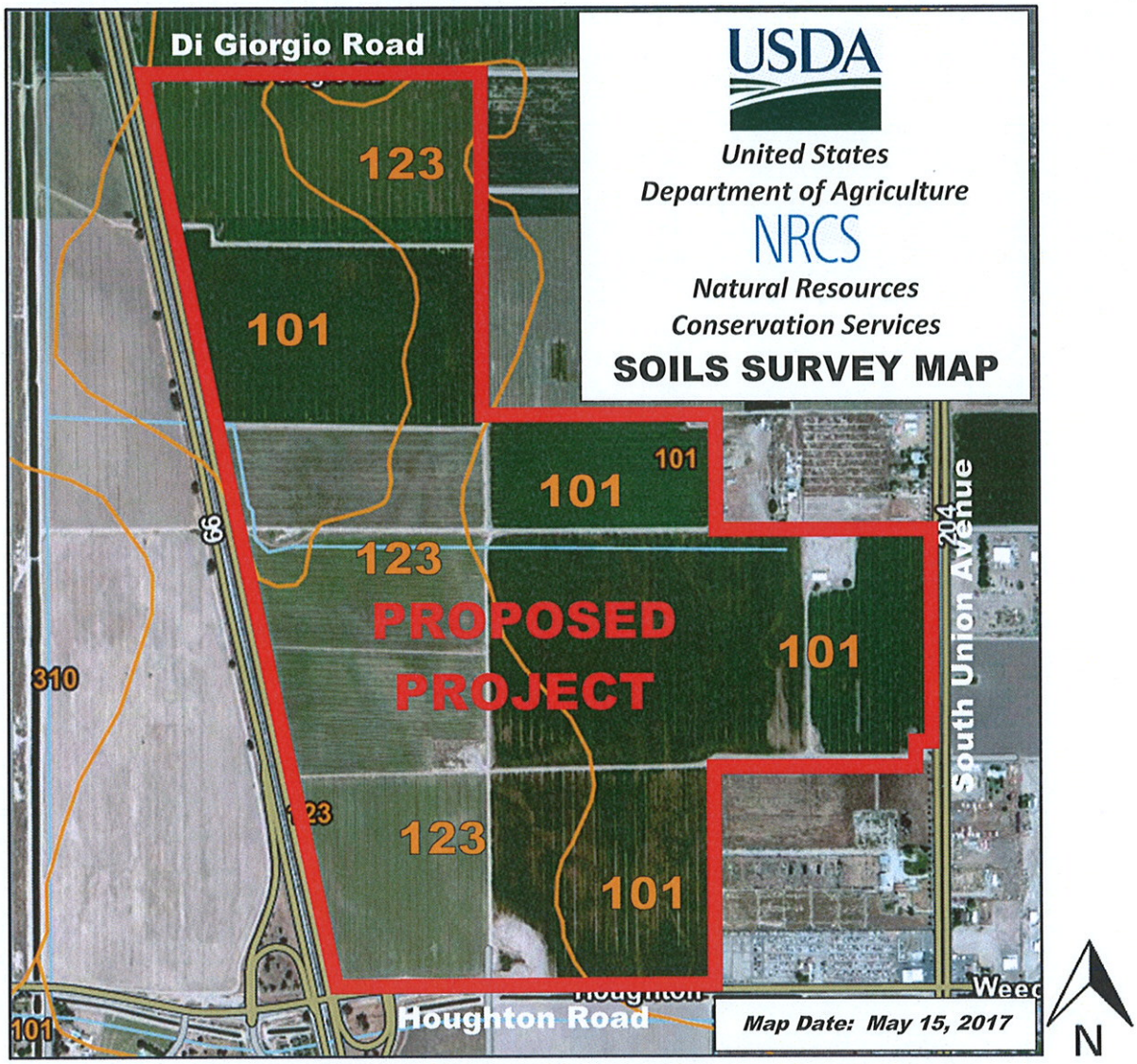
California Department of Water Resources
Kern County Water Agency Improvement District No. 4
APPROXMATE DEPTH TO GROUNDWATER BELOW THE GROUND SURFACE IS REPRESENTED IN FEET

Spring 2016 Depth of Groundwater

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure C-3 – Depth of Groundwater Map



Kern County, California, Southwest Part (CA666)

PROPOSED PROJECT – MAP UNIT LEGEND		
Map Unit Symbol	**Map Unit Name**	**Description**
KsA (101)	Bakersfield fine sandy loam, drained, 0 to 1 percent slopes	This somewhat poorly drained soil is found on flood plains. It is formed in alluvium derived from granitoid rock. The average frost-free season is 250-300 days
CaA (123)	Granoso sandy loam, 0 to 2 percent slopes, overwash	This soil somewhat excessively drained, found on alluvial fans and floodplains, derived from mixed rock sources. Runoff is very low.

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7

County of Kern, State of California

Figure C-4 - USDA Soils Survey Map

APPENDIX D

Figures

TABLE A-10
KERN COUNTY
2010-2012 Land Use Conversion

CALIFORNIA DEPARTMENT OF CONSERVATION
Division of Land Resource Protection

Farmland Mapping and Monitoring Program

PART I
County Summary and Change by Land Use Category

LAND USE CATEGORY	TOTAL ACREAGE INVENTORIED		2010-12 ACREAGE CHANGES			
	2010	2012	ACRES LOST (-)	ACRES GAINED (+)	TOTAL ACREAGE CHANGED	NET ACREAGE CHANGED
Prime Farmland	608,790	597,771	13,168	2,149	15,317	-11,019
Farmland of Statewide Importance	213,463	212,867	3,135	2,539	5,674	-596
Unique Farmland	91,830	89,694	4,878	2,742	7,620	-2,136
Farmland of Local Importance	0	0	0	0	0	0
IMPORTANT FARMLAND SUBTOTAL	914,083	900,332	21,181	7,430	28,611	-13,751
Grazing Land	1,827,390	1,843,605	5,205	21,420	26,625	16,215
AGRICULTURAL LAND SUBTOTAL	2,741,473	2,743,937	26,386	28,850	55,236	2,464
Urban and Built-up Land	141,897	143,726	562	2,391	2,953	1,829
Other Land	2,330,998	2,325,719	8,712	4,433	13,145	-4,279
Water Area	9,890	9,876	14	0	14	-14
TOTAL AREA INVENTORIED	5,224,258	5,224,258	35,674	35,674	71,348	0

PART II
Land Committed to Nonagricultural Use

LAND USE CATEGORY	TOTAL ACREAGE 2012
Prime Farmland	DATA NOT AVAILABLE
Farmland of Statewide Importance	
Unique Farmland	
Farmland of Local Importance	0
IMPORTANT FARMLAND SUBTOTAL	0
Grazing Land	0
AGRICULTURAL LAND SUBTOTAL	0
Urban and Built-up Land	0
Other Land	0
Water Area	0
TOTAL ACREAGE REPORTED	0

PART III Land Use Conversion from 2010 to 2012

LAND USE CATEGORY		Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance	Subtotal Important Farmland	Grazing Land	Total Agricultural Land	Urban and Built-up Land	Other Land	Water Area	Total Converted To Another Use
Prime Farmland (1)(2)	to:	--	2	12	0	14	11,464	11,468	599	1,101	0	13,168
Farmland of Statewide Importance (1)	to:	3	--	1	0	4	2,687	2,691	24	420	0	3,135
Unique Farmland (1)	to:	7	1	--	0	8	4,161	4,169	67	662	0	4,878
Farmland of Local Importance	to:	0	0	0	--	0	0	0	0	0	0	0
IMPORTANT FARMLAND SUBTOTAL		10	3	13	0	26	18,292	18,318	690	2,173	0	21,181
Grazing Land (2)(4)	to:	1,439	511	880	0	2,830	--	2,830	552	1,823	0	5,205
AGRICULTURAL LAND SUBTOTAL		1,449	514	893	0	2,856	18,292	21,148	1,242	3,996	0	26,386
Urban and Built-up Land (3)	to:	32	6	0	0	38	101	139	--	423	0	562
Other Land (5)	to:	668	2,019	1,849	0	4,536	3,027	7,563	1,149	--	0	8,712
Water Area	to:	0	0	0	0	0	0	0	0	14	--	14
TOTAL ACREAGE CONVERTED	to:	2,149	2,539	2,742	0	7,430	21,420	28,850	2,391	4,433	0	35,674

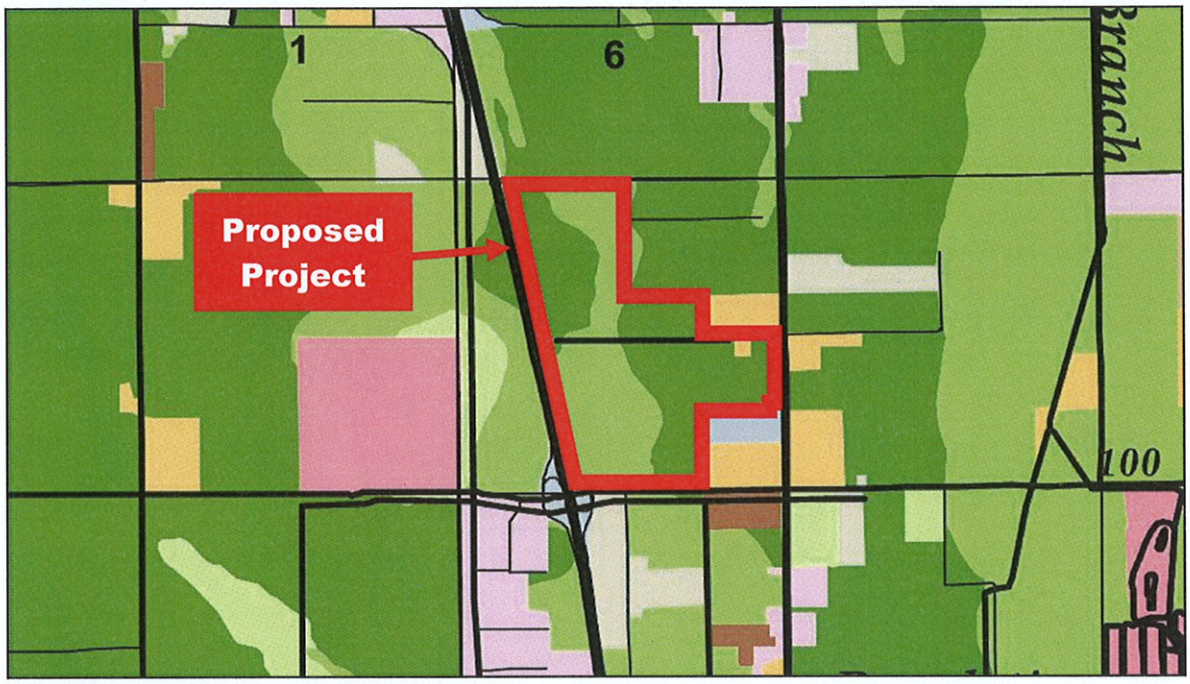
(1) Conversion to Grazing Land due to land left idle or land used for dryland grain production for three or more update cycles.
(2) Conversion to Other Land primarily due to the identification of a wetland area and to land left idle for three or more update cycles that has been graded for development, primarily in the Bakersfield area.
(3) Conversion from Urban and Built-up Land primarily the result of the use of detailed digital imagery to delineate more distinct urban boundaries.
(4) Conversion to Prime Farmland is due to the addition of irrigated crops. These conversions were primarily located on the Allensworth and Hacienda quads.
(5) Conversion to irrigated agricultural categories and Grazing Land is due to new irrigated farmland and newly identified dryland grain areas, primarily in the San Joaquin Valley.

KERN COUNTY

TABLE A-10

Kern County - 2010 – 2012 Land Use Conversion Table

Figure D-1 – Land Use Conversion Table



Source: California Department of Conservation

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Grazing Land
- Confined Animal Agriculture
- Nonagricultural and Natural Vegetation
- Semi-agricultural and Rural Commercial Land
- Vacant or Disturbed
- Rural Residential Land
- Urban and Built-Up Land
- Water

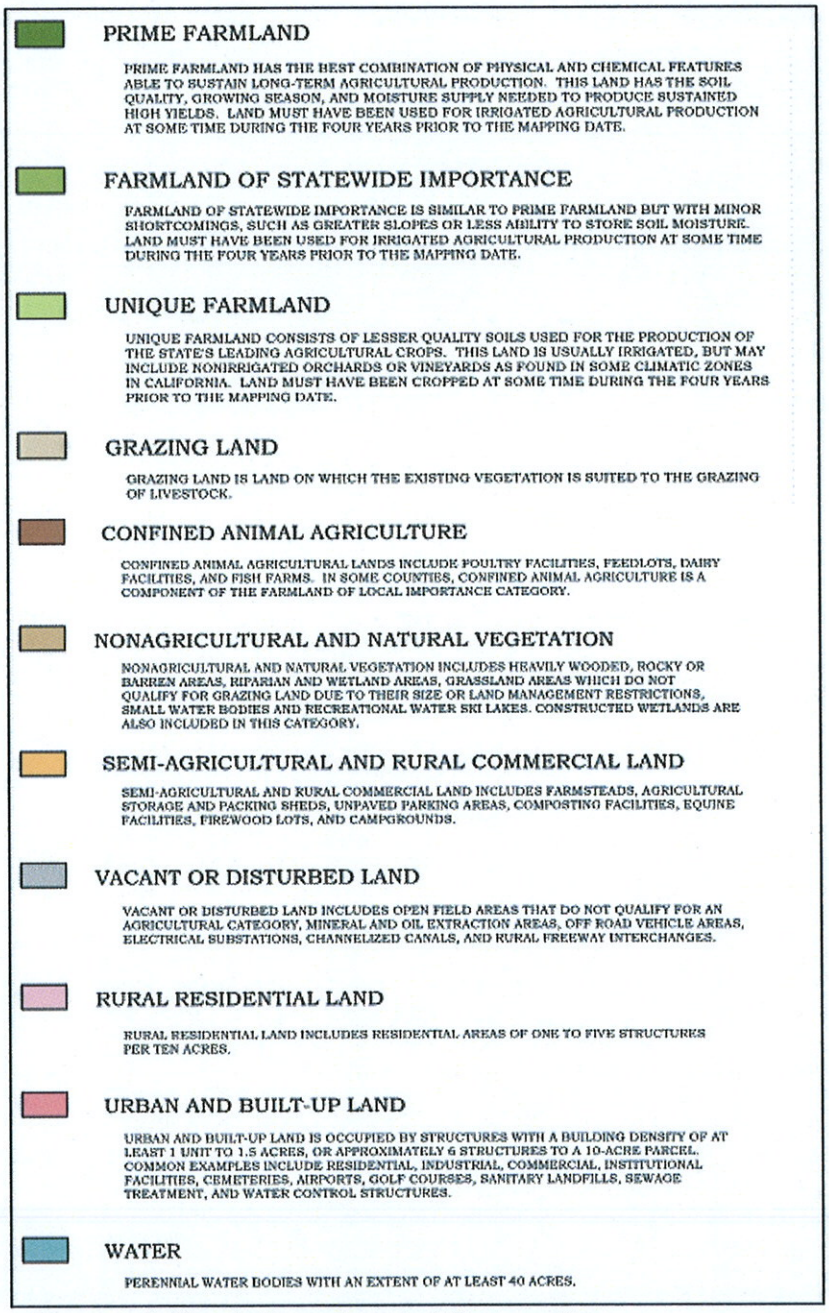
NORTH
Not to Scale

Important Farmland Map – 2012

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure D-2 – Kern County Important Farmland



Source: California Department of Conservation

Important Farmland Map Legend – 2012

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure D-3 – Kern County Important Farmland Legend

APPENDIX E

Figures

KERN COUNTY 2008 CROP REPORT SUMMARY

CROP	YEAR	HARVESTED ACRES	RANGE	TOTAL VALUE
Fruit & Nut Crops	2008	326,546	------	$1,787,077,000
	2007	309,544	------	$1,871,861,000
Field Crops & Rangeland	2008	450,922	1,483,000	$562,302,000
	2007	513,529	1,798,000	$542,866,000
Vegetable Crops	2008	94,786	------	$649,674,000
	2007	92,874	------	$555,732,300
Nursery Crops	2008	2,799	------	$84,822,000
	2007	3,193	------	$105,317,380
Industrial & Wood Crops	2008	------	------	$11,208,000
	2007	------	------	$7,646,500
Seed Crops	2008	3,484	------	$4,624,000
	2007	3,882	------	$6,039,000
Livestock & Poultry	2008	------	------	$232,545,000
	2007	------	------	$230,431,000
Livestock & Poultry Products	2008	------	------	$651,132,000
	2007	------	------	$732,707,000
Apiary Products	2008	------	------	$49,931,000
	2007	------	------	$39,547,000
Totals	**2008**	**878,538**	**1,483,000**	**$1,033,312,000**
	2007	**923,022**	**1,798,000**	**$4,092,147,180**
Total value without Timber	2008			$4,032,829,655
	2007			$4,092,087,680

(Information provided by the Kern County Agricultural Commissioner's Office)



KERN COUNTY 2008 CROP REPORT

TOP 20 CROPS

	COMMODITY	VALUE	2007 RANKING
1.	Milk, Market & Manufacturing	$ 601,606,000	1
2.	Grapes, All	561,480,000	2
3.	Citrus, All	487,040,000	3
4.	Almonds, Including By-Products	386,605,000	4
5.	Carrots, Fresh & Processing	378,003,000	5
6.	Hay, Alfalfa	283,074,000	7
7.	Cattle & Calves	220,546,000	8
8.	Pistachios	191,969,000	6
9.	Potatoes, All	92,856,000	11
10.	Silage & Forage	91,579,000	10
11.	Cotton, Including Processed Cottonseed	87,234,000	9
12.	Pomegranates, Fresh & Processing	61,391,000	19
13.	Tomatoes, Fresh & Processing	56,723,000	14
14.	Wheat	50,041,000	13
15.	Apiary Products	49,931,000	16
16.	Eggs	48,117,000	17
17.	Nursery Fruit and Nut Trees & Vines	43,368,000	12
18.	Cherries	36,189,000	21
19.	Bell Peppers, Fresh & Processing	36,050,000	15
20.	Roses	27,441,000	18

(Information provided by the Kern County Agricultural Commissioner's Office)

Field Crops 2008

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Barley	a/2008	2,100	2.32	4,870	Ton	$248	$1,209,000
	a/2007	1,600	1.38	2,210	Ton	$157	$348,000
Beans, Dry Edible	2008	1,896	1.5	2,840	Ton	$901	$2,560,000
	2007	4,811	1.28	6,180	Ton	$729	$4,506,000
Cotton Lint, Upland & Acala	2008	21,949	b/1,526	c/67,000	Bale	d/0.75	$25,106,000
	2007	30,750	b/1,707	c/105,000	Bale	d/0.75	$39,401,000
Cotton Lint, Pima	2008	30,289	b/1,420	c/86,000	Bale	d/1.09	$46,692,000
	2007	44,625	b/1,546	c/138,000	Bale	d/1.05	$72,507,000
Cottonseed, Processing	2008	---	---	24,700	Ton	$625	$15,436,000
	2007	---	---	92,700	Ton	$537	$49,777,000
Hay, Alfalfa	2008	155,000	8.65	1,341,000	Ton	$211	$283,074,000
	2007	165,000	8.08	1,334,000	Ton	$169	$225,386,000
Hay, Grain	2008	32,000	3.84	122,900	Ton	$180	$22,126,000
	2007	32,000	2.83	90,400	Ton	$142	$12,797,000
Hay, Other	2008	15,000	2.15	32,200	Ton	$99	$3,181,000
	2007	15,000	2.49	37,300	Ton	$120	$4,469,000
Pasture, Irrigated	2008	8,000	---	---	Acre	$160	$1,280,000
	2007	8,000	---	---	Acre	$150	$1,200,000
Pasture, Other	2008	---	---	---	Acre	---	$4,674,000
	2007	---	---	---	Acre	---	$4,942,000
Pasture, Range	2008	1,483,000	---	---	Acre	$5	$7,416,000
	2007	1,798,000	---	---	Acre	$5	$8,988,000

Field Crops 2008

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Safflower	2008	464	0.5	232	Ton	$280	$65,000
	2007	696	0.49	344	Ton	$334	$115,000
Silage and Forage	2008	108,000	22.5	2,430,000	Ton	$38	$91,579,000
	2007	105,000	20.44	2,146,000	Ton	$29	$61,219,000
Sugar Beets	2008	424	39.86	16,900	Ton	$45	$765,000
	2007	447	33.11	14,800	Ton	$40	$584,000
Wheat	2008	65,000	2.92	190,000	Ton	$263	$50,041,000
	2007	90,000	3.11	280,000	Ton	$173	$48,423,000
Miscellaneous	e/2008	10,800	---	71,600	Ton	---	$7,098,000
	e/2007	15,600	---	60,600	Ton	---	$8,204,000
Totals	**2008**	**f/450,922**	---	---	---	---	**$562,302,000**
	2007	**f/513,529**	---	---	---	---	**$542,866,000**

*Revised
a/ May contain dryland.
b/ Pounds Lint per Acre.
c/ 500 Pound Net Weight Bale.
d/ Price per Pound.
e/ Includes: Field Corn (Grain), Tiffany Teff, Rye, Sorghum and Straw.
f/ Does not include Range acreage.

(Information provided by the Kern County Agricultural Commissioner's Office)

Vegetable Crops 2008

* Information provided by the Department of Agricultural and Measurements Standards

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Cantaloupe	2008	666	15.47	10,300	Ton	$329.00	$3,392,000
	2007	815	13.26	10,800	Ton	$254.00	$2,738,000
Garlic, Processed	2008	2,580	8.72	22,500	Ton	$534.00	$11,992,000
	2007	2,610	9.12	23,800	Ton	$512.00	$12,187,000
Garlic, Fresh	2008	372	9.94	3,700	Ton	$900.00	$3,365,000
	2007	410	6.35	2,600	Ton	$1,900.00	$4,949,000
Lettuce, Head	2008	1,230	16.50	20,300	Ton	------	$6,854,000
	2007	1,260	19.21	24,200	Ton	------	$6,175,000
Melons, Other	2008	469	16.07	7,530	Ton	$449.00	$3,383,000
	2007	469	16.41	7,700	Ton	$431.00	$3,317,000
Onions, Fresh	2008	1,260	22.46	28,300	Ton	$172.00	$4,867,000
	2007	2,760	25.69	70,900	Ton	$220.00	$15,608,000
Onions, Dehydrator	2008	3,110	17.11	53,200	Ton	$183.00	$9,717,000
	2007	2,500	20.28	50,700	Ton	$166.00	$8,417,000
Peppers, Bell	2008	1,840	15.71	28,900	Ton	$1,158.00	$33,465,000
	2007	2,670	18.01	48,100	Ton	$869.00	$41,790,000
Potatoes, All	2008	15,990	24.70	395,010	Ton	---	$92,856,000
	2007	16,470	15.97	263,090	Ton	---	$59,559,300
Spring Total	2008	12,640	27.72	350,400	Ton	---	$73,453,000
	2007	13,950	16.65	232,200	Ton	---	$46,524,000
Fresh Market	2008	---	---	210,000	Ton	$292.00	$61,371,000
	2007	---	---	120,000	Ton	$283.00	$33,987,000
Processing	2008	---	---	87,900	Ton	$131.00	$11,557,000
	2007	---	---	82,200	Ton	$150.00	$12,327,000
Culls	2008	---	---	52,500	Ton	$10.00	$525,000
	2007	---	---	30,000	Ton	$7.00	$210,000
Winter Total	2008	3,350	13.32	44,610	Ton	---	$19,403,000
	2007	2,520	12.26	30,890	Ton	---	$13,035,300
Fresh Market	2008	---	---	35,700	Ton	$541.00	$19,314,000
	2007	---	---	24,700	Ton	$526.00	$12,992,000
Culls	2008	---	---	8,910	Ton	$10.00	$89,100
	2007	---	---	6,190	Ton	$7.00	$43,300
Tomatoes, Fresh	2008	---	---	---	Ton	---	---
	2007	---	---	---	Ton	---	---
Tomatoes, Processing	2008	---	---	---	Ton	---	---
	2007	---	---	---	Ton	---	---
	2008	720	19.86	14,300	Ton	$252.00	$3,608,000

Vegetable Crops 2008

* Information provided by the Department of Agricultural and Measurements Standards

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Watermelons, Seeded	2007	1,000	31.10	31,100	Ton	$136.00	$4,239,000
Watermelons, Seedless	2008	1,450	12.76	18,500	Ton	$252.00	$4,663,000
	2007	2,010	25.12	50,500	Ton	$222.00	$11,228,000
Miscellaneous	a/2008	65,100	---	2,187,000	Ton	---	$471,512,000
	b/2007	59,900	---	2,028,000	Ton	---	$385,525,000
Totals	**2008**	**94,786**	**---**	**2,789,540**	**Ton**	**---**	**$649,674,000**
	2007	**92,874**	**---**	**2,611,490**	**Ton**	**---**	**$555,732,300**

a/ Includes: Arugula, Asparagus, Bok Choy, Broccoli (Fresh & Processed), Butter Lettuce, Cabbage (Fresh & Processed), Carrots, Cauliflower, Celery, Chard, Chinese Greens, Cilantro, Collard, Corn (Sweet), Cucumber (Fresh & Processed), Daikon, Dandelion, Dill, Eggplant, Endive, Escarole, Fennel, Kale, Kohlrabi, Leaf Lettuce, Leek, Mustard, Parsley (Fresh & Processed), Parsnip, Peppers (Chili & Processed), Pumpkins, Radishes, Red Beets, Romaine Lettuce, Rutabaga, Spinach (Fresh & Pro-cessed), Squash, Sweet Potatoes, Tomatoes (Fresh & Processed) and Turnips.

b/ Includes: Arugula, Asparagus, Bok Choy, Broccoli (Fresh & Processed), Butter Lettuce, Cabbage (Fresh & Processed), Carrots, Cauliflower, Celery, Chard, Chinese Greens, Cilantro, Collard, Corn (Sweet), Daikon, Dandelion, Dill, Eggplant, Fennel, Gai Choy, Kale, Kohlrabi, Leaf Lettuce, Leek, Mustard, Onions (Green), Parsley (Fresh & Processed), Parsnip, Peppers (Chili & Processed), Pumpkins, Radishes, Red Beets, Romaine Lettuce, Rutabaga, Spinach, Squash, Sweet Potatoes, Tomatoes (Fresh & Processed), and Turnips.

KERN COUNTY 2009 CROP REPORT SUMMARY

Commodity	Year	Harvested Acres	Range	Total Value
Fruit & Nut Crops	2009	333,460	------	$ 1,952,661,000
	2008	326,546	------	$ 1,787,077,000
Field Crops & Rangeland	2009	414,273	1,498,000	276,645,000
	2008	450,922	1,483,000	562,302,000
Vegetable Crops	2009	83,005	------	601,397,000
	2008	94,786	------	649,674,000
Nursery Crops	2009	2,035	------	63,861,000
	2008	2,799	------	84,822,000
Industrial & Wood Crops	2009	------	------	11,125,000
	2008	------	------	11,208,000
Seed Crops	2009	3,425	------	7,305,000
	2008	3,484	------	4,621,000
Livestock & Poultry	2009	------	------	182,768,000
	2008	------	------	232,545,000
Livestock & Poultry Products	2009	------	------	469,313,000
	2008	------	------	651,132,000
Apiary Products	2009	------	------	41,423,000
	2008	------	------	49,931,000
Totals	2009	**836,198**	**1,498,000**	**$3,606,498,000**
	2008	**878,538**	**1,483,000**	**$4,033,312,000**
Total value without Timber	2009			$3,606,015,855
	2008			$4,032,829,655

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)



KERN COUNTY 2009 CROP REPORT

TOP 20 CROP

	COMMODITY	VALUE	2008 RANKING
1.	Grapes, All	$ 664,499,000	2
2.	Milk, Market & Manufacturing	437,610,000	1
3.	Almonds, Including By-Products	435,305,000	4
4.	Carrots, Fresh & Processing	343,128,000	5
5.	Citrus, All	332,926,000	3
6.	Pistachios	331,120,000	8
7.	Cattle & Calves	174,216,000	7
8.	Hay, Alfalfa	106,144,000	6
9.	Pomegranates, Fresh & Processing	99,018,000	12
10.	Potatoes, All	99,926,000	9
11.	Cotton, Including Processed Cottonseed	63,206,000	11
12.	Tomatoes, Fresh & Processing	59,045,000	13
13.	Silage & Forage	46,001,000	10
14.	Apiary Products	41,423,000	15
15.	Eggs	30,102,000	16
16.	Bell Peppers, Fresh & Processing	28,844,000	19
17.	Wheat	27,837,000	14
18.	Nursery Fruit and Nut Trees & Vines	27,457,000	17
19.	Roses	27,201,000	20
20.	Onions	26,437,000	24

(Information provided by the Kern County Agricultural Commissioner's Office)

Kern County 2009 Crop Report
Field Crops

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Barley	a/2009	1,750	2.12	3,710	Ton	$ 235.00	$ 871,000
	a/2008	2,100	2.32	4,870	Ton	$ 248.00	$ 1,209,000
Beans, Dry Edible	2009	3,276	1.53	5,010	Ton	719.00	3,604,000
	2008	1,896	1.50	2,840	Ton	901.00	2,560,000
Cotton Lint, Upland & Acala	2009	17,330	b/1,645	57,000	Bale	d/0.79	22,414,000
	2008	21,949	b/1,526	67,000	Bale	d/0.75	25,106,000
Cotton Lint, Pima	2009	22,260	b/1,438	c/64,000	Bale	d/1.23	39,062,000
	2008	30,289	b/1,420	c/86,000	Bale	d/1.09	46,692,000
Cottonseed, Processing	2009	—	—	13,600	Ton	127.00	1,730,000
	2008	—	—	24,700	Ton	625.00	15,436,000
Hay, Alfalfa	2009	145,000	7.34	1,065,000	Ton	100.00	106,144,000
	2008	155,000	8.65	1,341,000	Ton	211.00	283,074,000
Hay, Grain	2009	25,000	3.04	75,900	Ton	78.00	5,948,000
	2008	32,000	3.84	122,900	Ton	180.00	22,126,000
Hay, Other	2009	11,000	2.05	22,600	Ton	90.00	2,042,000
	2008	15,000	2.15	32,200	Ton	99.00	3,181,000
Pasture, Irrigated	2009	7,000	—	—	Acre	135.00	945,000
	2008	8,000	—	—	Acre	160.00	1,280,000
Pasture, Other	2009	—	—	—	Acre	—	2,871,000
	2008	—	—	—	Acre	—	4,674,000
Pasture, Range	2009	1,498,000	—	—	Acre	5.00	7,445,000
	2008	1,483,000	—	—	Acre	5.00	7,416,000
Safflower	2009	—	—	—	Ton	—	—
	2008	464	0.50	232	Ton	280.00	65,000
Silage and Forage	2009	100,000	15.33	1,533,000	Ton	30.00	46,001,000
	2008	108,000	22.50	2,430,000	Ton	37.70	91,579,000
Sugar Beets	2009	447	33.11	14,800	Ton	40.00	603,000
	2008	424	39.86	16,900	Ton	45.30	765,000
Wheat	2009	65,000	1.71	111,000	Ton	251.00	27,837,000
	2008	65,000	2.92	190,000	Ton	263.00	50,041,000
Miscellaneous	e/2009	16,210	—	47,900	Ton	—	9,128,000
	f/2008	10,800	—	71,600	Ton	—	7,098,000
Totals	**2009**	**g/414,273**	—	—	—	—	**$ 276,645,000**
	2008	**g/450,922**	—	—	—	—	**$ 562,302,000**

*Revised a/ May contain dryland. b/ Pounds Lint per Acre. c/ 500 Pound Net Weight Bale. d/ Price per Pound. e/ Includes: Field Corn (Grain), Tiffany Teff, Rye, Safflower, Sorghum and Straw f/ Includes: Field Corn (Grain), Tiffany Teff, Rye, Sorghum and Straw. g/ Does not include Range acreage.

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2010 CROP REPORT SUMMARY

Commodity	Year	Harvested Acres	Range	Total Value
Fruit & Nut Crops	2010	363,437	------	$ 2,699,492,000
	*2009	349,848	------	$ 2,012,491,000
Field Crops & Rangeland	2010	365,832	1,554,000	383,658,000
	*2009	410,316	1,520,000	285,671,000
Vegetable Crops	2010	70,197	------	694,036,000
	*2009	66,910	------	541,455,000
Nursery Crops	2010	1,985	------	67,404,700
	2009	2,036	------	63,861,000
Industrial & Wood Crops	2010	------	------	10,970,000
	2009	------	------	11,125,000
Seed Crops	2010	2,318	------	6,767,000
	2009	3,425	------	7,305,000
Livestock & Poultry	2010	------	------	284,603,000
	2009	------	------	182,769,000
Livestock & Poultry Products	2010	------	------	555,680,000
	*2009	------	------	469,313,000
Apiary Products	2010	------	------	54,650,000
	*2009	------	------	41,583,000
Totals	2010	**803,769**	**1,554,000**	**$4,757,260,700**
	*2009	**832,535**	**1,520,000**	**$3,615,573,000**
Total value without Timber	2010			$4,757,228,700
	*2009			$3,615,431,000

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)



KERN COUNTY
2010 CROP REPORT
TOP 20 CROP

	COMMODITY	VALUE	2009 RANKING
1.	Grapes, All	$ 703,961,000	1
2.	Almonds, Including By-Products	622,973,000	3
3.	Pistachios	533,847,000	6
4.	Milk, Market & Manufacturing	521,460,000	2
5.	Citrus, Fresh & Processing	487,419,000	5
6.	Carrots, Fresh & Processing	391,523,000	4
7.	Cattle & Calves	265,349,000	7
8.	Cotton, Including Processed Cottonseed	148,357,000	11
9.	Potatoes, Fresh & Processing	130,956,000	*9
10.	Pomegranates, Fresh & Processing	114,727,000	*10
11.	Hay, Alfalfa	105,162,000	8
12.	Cherries	96,826,000	21
13.	Tomatoes, Fresh & Processing	54,764,000	12
14.	Apiary Products	54,650,000	14
15.	Silage & Forage	51,009,000	13
16.	Bell Peppers, Fresh & Processing	43,429,000	16
17.	Fruit and Nut Trees & Vines	42,035,000	18
18.	Onions, Fresh & Processing	41,580,000	20
19.	Wheat	39,226,000	17
20.	Eggs & Egg Product Nursery	32,046,000	15

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)

Kern County 2010 Crop Report
Field Crops

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Barley	a/2010	1,670	1.41	2,350	Ton	$ 171.00	$ 403,000
	a/2009	1,750	2.12	3,710	Ton	$ 235.00	$ 871,000
Beans, Dry Edible	2010	2,842	1.55	4,410	Ton	759.00	3,348,000
	2009	3,276	1.53	5,010	Ton	719.00	3,604,000
Cotton Lint, Upland & Acala	2010	20,535	b/1,450	59,600	Bale	d/1.20	35,731,000
	*2009	17,330	b/1,636	56,700	Bale	d/0.79	22,414,000
Cotton Lint, Pima	2010	32,275	b/1,480	c/95,400	Bale	d/1.75	83,479,000
	*2009	22,260	b/1,426	c/63,500	Bale	d/1.23	39,062,000
Cottonseed, Processing	2010	---	---	59,800	Ton	487.00	29,147,000
	*2009	---	---	45,800	Ton	259.00	11,847,000
Hay, Alfalfa	2010	120,000	7.62	914,000	Ton	115.00	105,162,000
	2009	145,000	7.34	1,065,000	Ton	100.00	106,144,000
Hay, Grain	2010	20,000	5.28	106,000	Ton	89.70	9,506,000
	*2009	25,000	3.04	75,900	Ton	78.40	5,948,000
Hay, Other	2010	12,000	2.56	30,700	Ton	113.00	3,484,000
	*2009	11,000	3.05	33,600	Ton	128.00	4,302,000
Pasture, Irrigated	2010	7,000	---	---	Acre	135.00	945,000
	2009	7,000	---	---	Acre	135.00	945,000
Pasture, Other	2010	---	---	---	Acre	---	1,117,000
	2009	---	---	---	Acre	---	2,871,000
Pasture, Range	2010	1,554,000	---	---	Acre	10.00	15,539,000
	*2009	1,520,000	---	---	Acre	5.00	7,598,000
Safflower	2010	1,110	3.55	3,940	Ton	303.00	1,195,000
	2009	---	---	---	Ton	---	---
Silage and Forage	2010	75,000	22.04	1,653,000	Ton	30.90	51,009,000
	2009	100,000	15.33	1,533,000	Ton	30.00	46,001,000
Wheat	2010	62,500	3.36	210,000	Ton	187.00	39,226,000
	2009	65,000	1.71	111,000	Ton	251.00	27,837,000
Miscellaneous	e/2010	10,900	---	78,300	Ton	---	4,367,000
	*f/2009	12,700	---	45,100	Ton	---	6,227,000
Totals	**2010**	**g/365,832**	---	---	---	---	**$ 383,658,000**
	***2009**	**g/410,316**	---	---	---	---	**$ 285,671,000**

*revised a/ May contain dryland. b/ Pounds Lint per Acre. c/ 500 Pound Net Weight Bale. d/ Price per Pound.
e/ Includes: Field Corn (Grain), Sorghum and Straw. f/ Includes: Field Corn (Grain), Rye, Safflower, Sorghum, Sugar Beets and Straw. g/ Does not include Range acreage.

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2011 CROP REPORT SUMMARY

Commodity	Year	Harvested Acres	Range	Total Value
Fruit & Nut Crops	2011	385,319	------	$ 2,772,705,000
	2010	363,437	------	$ 2,699,492,000
Field Crops & Rangeland	2011	409,005	1,480,000	604,861,000
	2010	365,832	1,554,000	383,658,000
Vegetable Crops	2011	75,130	------	699,919,000
	*2010	70,197	------	694,192,000
Nursery Crops	2011	2,121	------	61,815,600
	2010	1,985	------	67,404,700
Industrial & Wood Crops	2011	------	------	14,470,000
	2010	------	------	10,970,000
Seed Crops	2011	2,984	------	12,729,000
	2010	2,318	------	6,767,000
Livestock & Poultry	2011	------	------	354,864,000
	2010	------	------	284,603,000
Livestock & Poultry Products	2011	------	------	787,746,000
	2010	------	------	555,680,000
Apiary Products	2011	------	------	55,429,000
	2010	------	------	56,650,000
Totals	2011	**874,559**	**1,480,000**	**$5,364,538,600**
	*2010	**803,769**	**1,554,000**	**$4,757,416,700**
Total value without Timber	2011			$5,364,362,600
	*2010			$4,757,384,700

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)



KERN COUNTY
2011 CROP REPORT
TOP 20 CROP

	COMMODITY	VALUE	2010 RANKING
1.	Milk, Market & Manufacturing	$ 745,466,000	4
2.	Almonds, Including By-Products	727,408,000	2
3.	Grapes, All	707,583,000	1
4.	Citrus, Fresh & Processing	540,035,000	5
5.	Carrots, Fresh & Processing	418,740,000	6
6.	Pistachios	389,527,000	3
7.	Cattle & Calves	338,540,000	7
8.	Hay, Alfalfa	246,601,000	11
9.	Cherries	227,121,000	12
10.	Cotton, Including Processed Cottonseed	174,233,000	8
11.	Potatoes, Fresh & Processing	100,423,000	9
12.	Silage & Forage	83,894,000	15
13.	Apiary Products	55,429,000	14
14.	Pomegranates, Fresh & Processing	55,070,000	10
15.	Tomatoes, Fresh & Processing	50,280,000	13
16.	Garlic, Fresh & Processing	42,089,000	21
17.	Bell Peppers, Fresh & Processing	42,049,000	16
18.	Eggs & Egg Product	39,789,000	20
19.	Wheat	36,354,000	19
20.	Nursery Fruit and Nut Trees & Vines	28,589,000	17

(Information provided by the Kern County Agricultural Commissioner's Office)

Kern County 2011 Crop Report
Field Crops

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Barley	a/2011	7,000	0.88	6,180	Ton	$ 209.00	$ 1,290,000
	a/2010	1,670	1.41	2,350	Ton	$ 171.00	$ 403,000
Beans, Dry Edible	2011	1,390	1.25	1,740	Ton	1,260.00	2,189,000
	2010	2,842	1.55	4,410	Ton	759.00	3,348,000
Cotton Lint, Upland & Acala	2011	21,860	b/1,430	62,600	Bale	d/0.95	29,748,000
	2010	20,535	b/1,450	59,600	Bale	d/1.20	35,731,000
Cotton Lint, Pima	2011	45,435	b/1,510	c/137,400	Bale	d/1.50	103,177,000
	2010	32,275	b/1,480	c/95,400	Bale	d/1.75	83,479,000
Cottonseed, Processing	2011	---	---	78,800	Ton	524.00	41,308,000
	2010	---	---	59,800	Ton	487.00	29,147,000
Hay, Alfalfa	2011	125,000	8.18	1,022,000	Ton	241.00	246,601,000
	2010	120,000	7.62	914,000	Ton	115.00	105,162,000
Hay, Grain	2011	24,000	3.09	74,100	Ton	205.00	15,216,000
	2010	20,000	5.28	106,000	Ton	89.70	9,506,000
Hay, Other	2011	14,000	3.60	50,400	Ton	150.00	7,560,000
	2010	12,000	2.56	30,700	Ton	113.00	3,484,000
Pasture, Irrigated	2011	7,000	---	---	Acre	160.00	1,120,000
	2010	7,000	---	---	Acre	135.00	945,000
Pasture, Other	2011	---	---	---	Acre	---	1,851,000
	2010	---	---	---	Acre	---	1,117,000
Pasture, Range	2011	1,480,000	---	---	Acre	15.00	22,199,000
	2010	1,554,000	---	---	Acre	10.00	15,539,000
Safflower	2011	1,660	1.26	2,090	Ton	423.00	884,000
	2010	1,110	3.55	3,940	Ton	303.00	1,195,000
Silage and Forage	2011	90,000	21.26	1,913,000	Ton	43.90	83,894,000
	2010	75,000	22.04	1,653,000	Ton	30.90	51,009,000
Wheat	2011	64,000	2.55	163,000	Ton	223.00	36,354,000
	2010	62,500	3.36	210,000	Ton	187.00	39,226,000
Miscellaneous	e/2011	7,660	---	51,000	Ton	---	11,470,000
	f/2010	10,900	---	78,300	Ton	---	4,367,000
Totals	**2011**	**g/409,005**	---	---	---	---	**$ 604,861,000**
	2010	**g/365,832**	---	---	---	---	**$ 383,658,000**

a/ May contain dryland. b/ Pounds Lint per Acre. c/ 500 Pound Net Weight Bale. d/ Price per Pound.
e/ Includes: Field Corn (Grain) and Sorghum. f/ Includes: Field Corn (Grain), Sorghum and Straw.
g/ Does not include Range acreage.

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2012 CROP REPORT SUMMARY

Commodity	Year	Harvested Acres	Range	Total Value
Fruit & Nut Crops	2012	411,749	------	$ 3,650,049,000
	*2011	410,478	------	$ 3,020,538,000
Field Crops & Rangeland	2012	381,856	1,479,000	539,370,000
	*2011	409,005	1,457,000	604,517,000
Vegetable Crops	2012	79,428	------	714,490,000
	*2011	72,870	------	684,867,000
Nursery Crops	2012	3,008	------	100,824,100
	2011	2,121	------	61,815,600
Industrial & Wood Crops	2012	------	------	15,717,000
	2011	------	------	14,470,000
Seed Crops	2012	2,590	------	7,742,000
	2011	2,984	------	12,729,000
Livestock & Poultry	2012	------	------	395,078,000
	2011	------	------	354,864,000
Livestock & Poultry Products	2012	------	------	732,385,000
	2011	------	------	787,746,000
Apiary Products	2012	------	------	56,707,000
	2011	------	------	55,429,000
Totals	2012	**878,631**	**1,479,000**	**$6,212,362,100**
	*2011	**897,458**	**1,457,000**	**$5,596,975,600**
Total value without Timber	2012			$6,211,987,100
	*2011			$5,596,799,600

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)



KERN COUNTY
2012 CROP REPORT
TOP 20 CROPS

	COMMODITY	VALUE	2011 RANKING
1.	Grapes, All	$ 1,498,987,000	1
2.	Almonds, Including By-Products	821,857,000	3
3.	Milk, Market & Manufacturing	690,062,000	2
4.	Citrus, Fresh & Processing	620,350,000	4
5.	Pistachios	486,213,000	6
6.	Cattle & Calves	382,913,000	7
7.	Carrots, Fresh & Processing	350,439,000	5
8.	Hay, Alfalfa	213,466,000	8
9.	Cotton, Including Processed Cottonseed	147,637,000	10
10.	Potatoes, Fresh & Processing	85,102,000	11
11.	Silage & Forage	75,149,000	12
12.	Pomegranates, Fresh & Processing	58,781,000	14
13.	Nursery Fruit and Nut Trees & Vines	57,555,000	19
14.	Apiary Products	56,707,000	13
15.	Tomatoes, Fresh & Processing	53,657,000	15
16.	Eggs & Egg Product	40,343,000	17
17.	Bell Peppers, Fresh & Processing	40,143,000	16
18.	Wheat	35,294,000	18
19.	Nursery, Roses	33,346,000	23
20.	Onions, Fresh & Dehydrator	28,350,000	22

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2012 CROP REPORT
FIELD CROPS

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Barley	a/2012	6,000	1.32	7,920	Ton	$ 250.00	$ 1,977,000
	a/2011	7,000	0.88	6,180	Ton	$ 209.00	$ 1,290,000
Beans, Dry Edible	2012	2,716	1.80	4,890	Ton	1,030.00	5,052,000
	2011	1,390	1.25	1,740	Ton	1,260.00	2,189,000
Cotton Lint, Upland & Acala	2012	22,515	b/1,670	75,000	Bale	d/1.01	37,907,000
	2011	21,860	b/1,430	62,600	Bale	d/0.95	29,748,000
Cotton Lint, Pima	2012	33,425	b/1,600	c/107,200	Bale	d/1.30	69,852,000
	2011	45,435	b/1,510	c/137,400	Bale	d/1.50	103,177,000
Cottonseed, Processing	2012	---	---	67,300	Ton	593.00	39,878,000
	2011	---	---	78,800	Ton	524.00	41,308,000
Hay, Alfalfa	2012	128,000	8.05	1,031,000	Ton	207.00	213,466,000
	2011	125,000	8.18	1,022,000	Ton	241.00	246,601,000
Hay, Grain	2012	20,000	3.51	70,100	Ton	178.00	12,506,000
	2011	24,000	3.09	74,100	Ton	205.00	15,216,000
Hay, Other	2012	9,200	6.86	63,100	Ton	155.00	9,773,000
	2011	14,000	3.60	50,400	Ton	150.00	7,560,000
Pasture, Irrigated	2012	7,000	---	---	Acre	140.00	980,000
	2011	7,000	---	---	Acre	160.00	1,120,000
Pasture, Other	2012	---	---	---	Acre	---	1,725,000
	2011	---	---	---	Acre	---	1,851,000
Pasture, Range	2012	1,479,000	---	---	Acre	15.00	22,187,000
	*2011	1,457,000	---	---	Acre	15.00	21,855,000
Safflower	2012	4,300	0.66	2,840	Ton	535.00	1,518,000
	2011	1,660	1.26	2,090	Ton	423.00	884,000
Silage and Forage	2012	88,000	20.28	1,785,000	Ton	42.10	75,149,000
	2011	90,000	21.26	1,913,000	Ton	43.90	83,894,000
Wheat	2012	47,500	2.80	133,000	Ton	265.00	35,294,000
	2011	64,000	2.55	163,000	Ton	223.00	36,354,000
Miscellaneous	e/2012	13,200	---	54,500	Ton	---	12,106,000
	f/2011	7,660	---	51,000	Ton	---	11,470,000
Totals	**2012**	**g/381,856**	**---**	**---**	**---**	**---**	**$ 539,370,000**
	***2011**	**g/409,005**	**---**	**---**	**---**	**---**	**$ 604,517,000**

a/ May contain dryland. b/ Pounds Lint per Acre. c/ 500 Pound Net Weight Bale. d/ Price per Pound.
e/ Includes: Field Corn (Grain), Rape, Sorghum-Milo, Straw and Triticale.
f/ Includes: Field Corn (Grain) and Sorghum.
g/ Does not include Range acreage.

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2013 CROP REPORT SUMMARY

Commodity	Year	Harvested Acres	Range	Total Value
Fruit & Nut Crops	2013	422,146	------	$ 4,133,389,000
	*2012	411,579	------	$ 3,790,085,000
Field Crops & Rangeland	2013	339,746	1,488,000	522,365,000
	*2012	381,856	1,479,000	539,374,000
Vegetable Crops	2013	73,550	------	686,789,000
	*2012	79,348	------	714,149,000
Nursery Crops	2013	2,087	------	111,270,590
	2012	3,008	------	100,824,100
Industrial & Wood Crops	2013	------	------	14,176,000
	2012	------	------	15,717,000
Seed Crops	2013	1,550	------	5,305,000
	2012	2,590	------	7,742,000
Livestock & Poultry	2013	------	------	418,926,000
	2012	------	------	395,078,000
Livestock & Poultry Products	2013	------	------	819,880,000
	2012	------	------	732,385,000
Apiary Products	2013	------	------	57,755,000
	2012	------	------	56,707,000
Totals	2013	**839,079**	**1,488,000**	$ 6,769,855,590
	*2012	**878,381**	**1,479,000**	$ 6,352,061,100
Total value without Timber	2013			$ 6,769,668,590
	*2012			$ 6,351,686,100

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)



KERN COUNTY
2013 CROP REPORT
TOP 20 CROPS

	COMMODITY	VALUE	2012 RANKING
1.	Grapes, All	$ 1,822,092,000	1
2.	Almonds, Including By-Products	970,808,000	2
3.	Milk, Market & Manufacturing	764,728,000	3
4.	Citrus, Fresh & Processing	641,691,000	*5
5.	Cattle & Calves	408,897,000	6
6.	Pistachios	388,189,000	*4
7.	Carrots, Fresh & Processing	335,088,000	7
8.	Hay, Alfalfa	217,964,000	8
9.	Cotton, Including Processed Cottonseed	146,537,000	9
10.	Potatoes, Fresh & Processing	109,222,000	10
11.	Pomegranates, Fresh & Processing	88,474,000	12
12.	Cherries	80,228,000	22
13.	Silage & Forage	68,521,000	11
14.	Bell Peppers, Fresh & Processing	59,659,000	17
15.	Apiary Products	57,755,000	14
16.	Nursery Fruit and Nut Trees & Vines	56,056,000	13
17.	Tomatoes, Fresh & Processing	55,115,000	15
18.	Eggs & Egg Product	52,055,000	16
19.	Nursery, Roses	45,353,000	19
20.	Onions, Fresh & Dehydrator	35,156,000	20

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2013 CROP REPORT
FIELD CROPS

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Barley	a/2013	4,450	1.80	8,010	Ton	$ 244.00	$ 1,954,000
	a/2012	6,000	1.32	7,920	Ton	$ 250.00	$ 1,977,000
Beans, Dry Edible	2013	1,841	1.67	3,070	Ton	1,000.00	3,074,000
	2012	2,716	1.80	4,890	Ton	1,030.00	5,052,000
Cotton Lint, Upland & Acala	2013	10,435	b/1,560	32,500	Bale	d/0.99	16,143,000
	2012	22,515	b/1,670	75,000	Bale	d/1.01	37,907,000
Cotton Lint, Pima	2013	35,920	b/1,630	c/117,000	Bale	d/1.68	98,360,000
	2012	33,425	b/1,600	c/107,200	Bale	d/1.30	69,852,000
Cottonseed, Processing	2013	---	---	57,500	Ton	557.00	32,034,000
	2012	---	---	67,300	Ton	593.00	39,878,000
Hay, Alfalfa	2013	116,000	9.03	1,048,000	Ton	208.00	217,964,000
	2012	128,000	8.05	1,031,000	Ton	207.00	213,466,000
Hay, Grain	2013	17,000	5.53	94,000	Ton	213.00	19,977,000
	2012	20,000	3.51	70,100	Ton	178.00	12,506,000
Hay, Other	2013	7,500	3.40	25,500	Ton	175.00	4,463,000
	2012	9,200	6.86	63,100	Ton	155.00	9,773,000
Pasture, Irrigated	2013	7,000	---	---	Acre	140.00	980,000
	2012	7,000	---	---	Acre	140.00	980,000
Pasture, Other	2013	---	---	---	Acre	---	1,640,000
	2012	---	---	---	Acre	---	1,725,000
Pasture, Range	2013	1,488,000	---	---	Acre	12.00	17,851,000
	*2012	1,479,000	---	---	Acre	15.00	22,191,000
Safflower	2013	---	---	---	Ton	---	---
	2012	4,300	0.66	2,840	Ton	535.00	1,518,000
Silage and Forage	2013	93,000	17.11	1,591,000	Ton	43.10	68,521,000
	2012	88,000	20.28	1,785,000	Ton	42.10	75,149,000
Wheat	2013	35,000	2.91	102,000	Ton	280.00	28,519,000
	2012	47,500	2.80	133,000	Ton	265.00	35,294,000
Miscellaneous	e/2013	11,600	---	45,700	Ton	---	10,885,000
	f/2012	13,200	---	54,500	Ton	---	12,106,000
Totals	**2013**	**g/339,746**	**---**	**---**	**---**	**---**	**$ 522,365,000**
	***2012**	**g/381,856**	**---**	**---**	**---**	**---**	**$ 539,374,000**

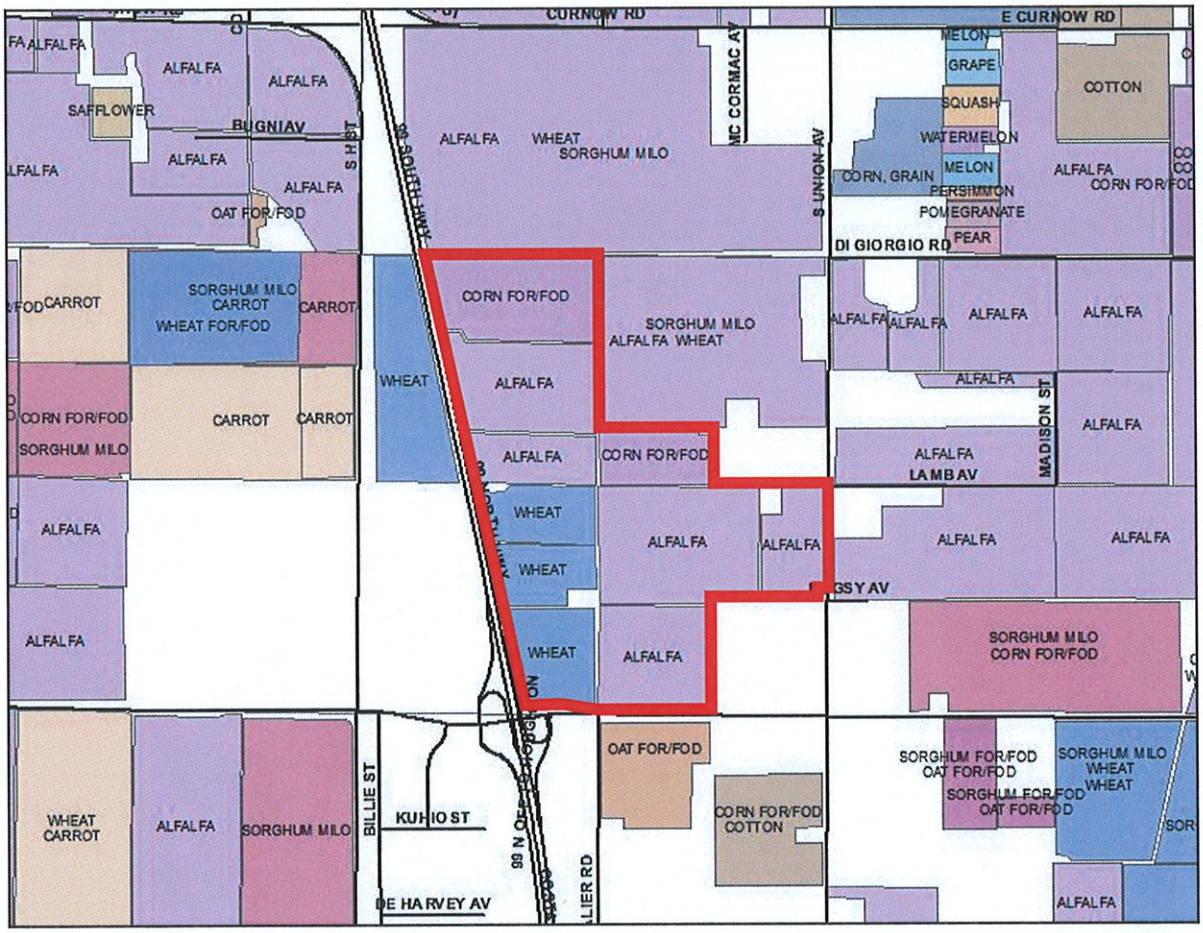
*Revised a/ May contain dryland. b/ Pounds Lint per Acre. c/ 500 Pound Net Weight Bale. d/ Price per Pound.
e/ Includes: Field Corn (Grain), Rape, Rye, Sorghum-Milo, Straw, Sugar Cane, and Triticale.
f/ Includes: Field Corn (Grain), Rape, Sorghum-Milo, Straw and Triticale.
g/ Does not include Range acreage.

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)

APPENDIX F

Figures

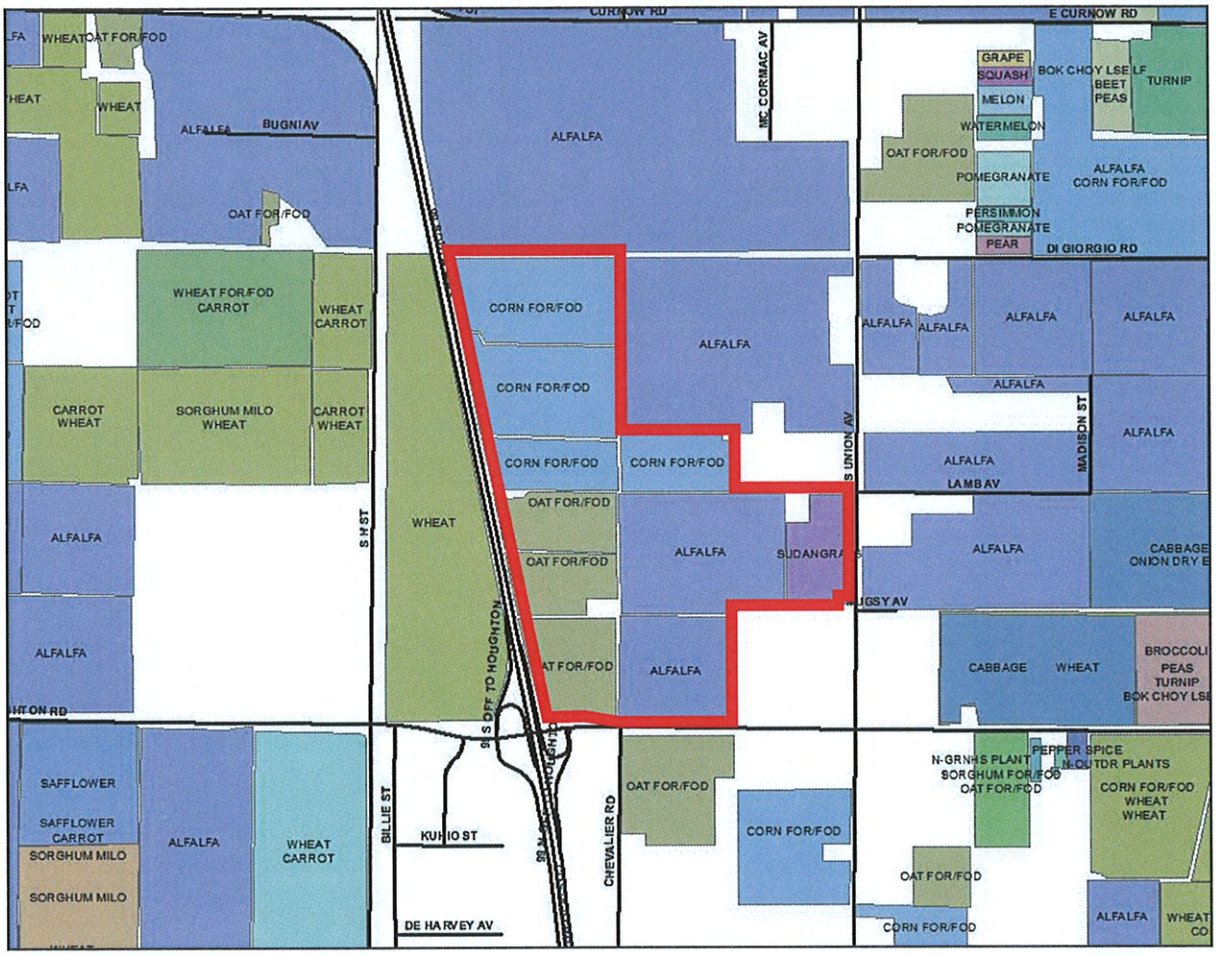


Source: Kern County Geographic Information System Reported Crops

PROPOSED PROJECT

NORTH
Not to Scale

2008 Adjacent Crops
County of Kern, State of California

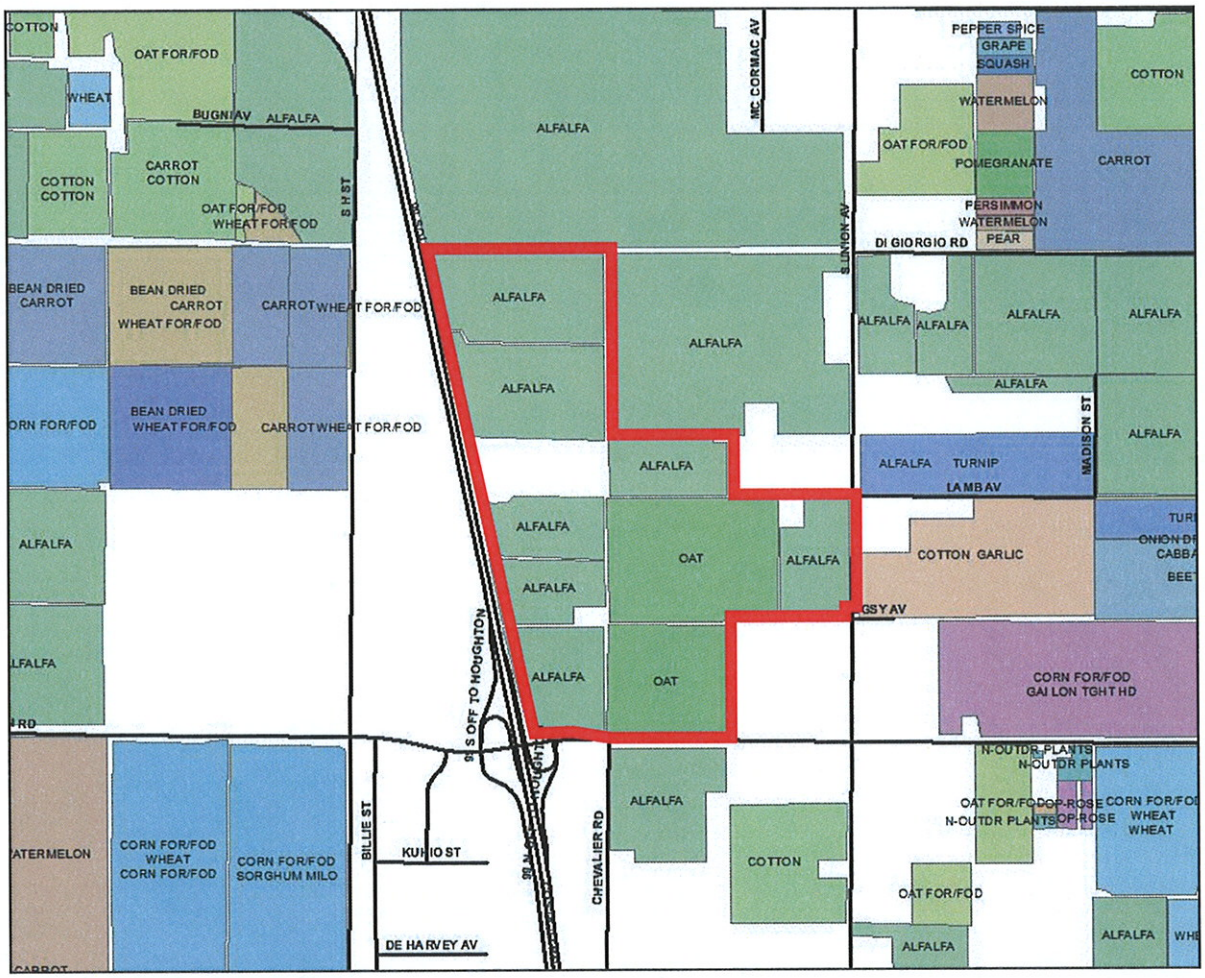


Source: Kern County Geographic Information System Reported Crops

PROPOSED PROJECT

NORTH
Not to Scale

2009 Adjacent Crops
County of Kern, State of California

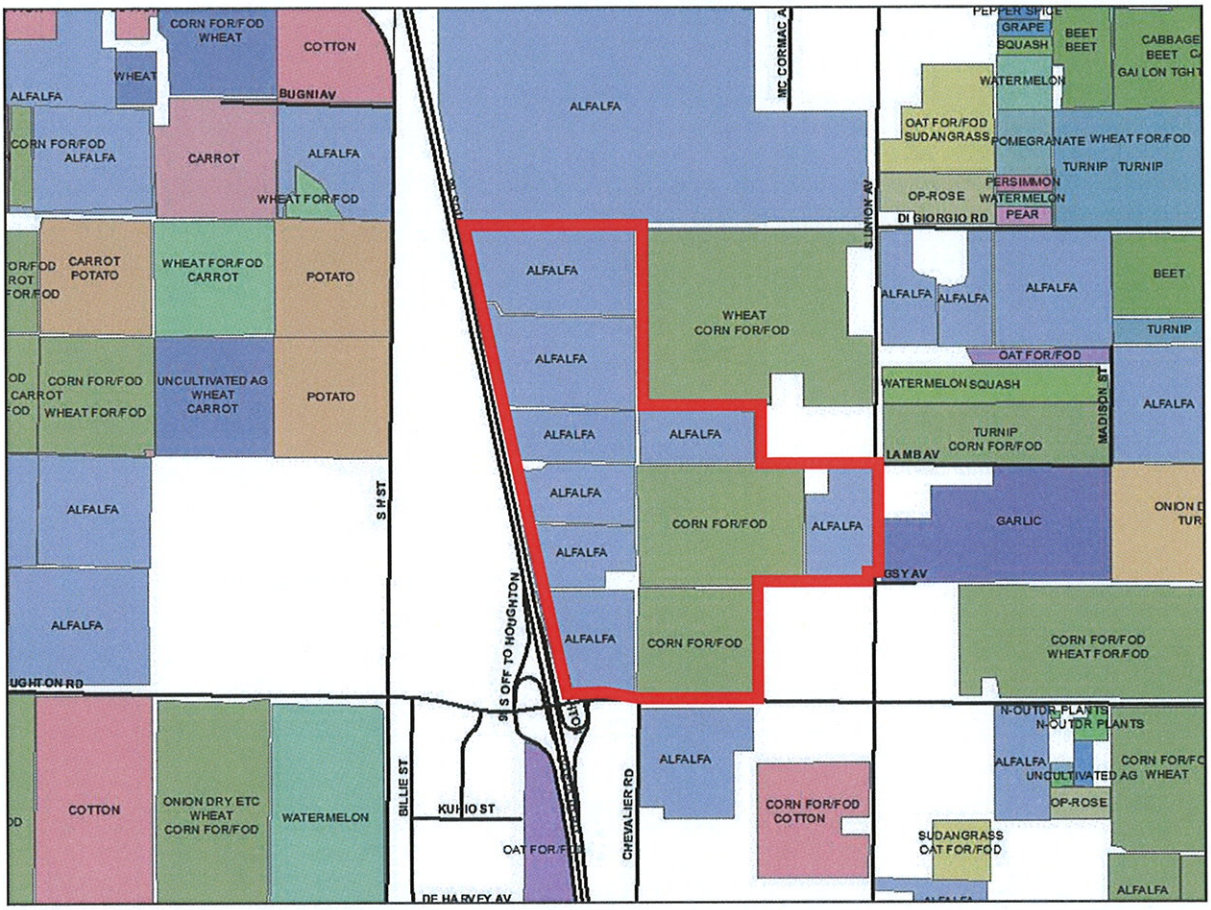


Source: Kern County Geographic Information System Reported Crops

PROPOSED PROJECT

NORTH
Not to Scale

2010 Adjacent Crops
County of Kern, State of California

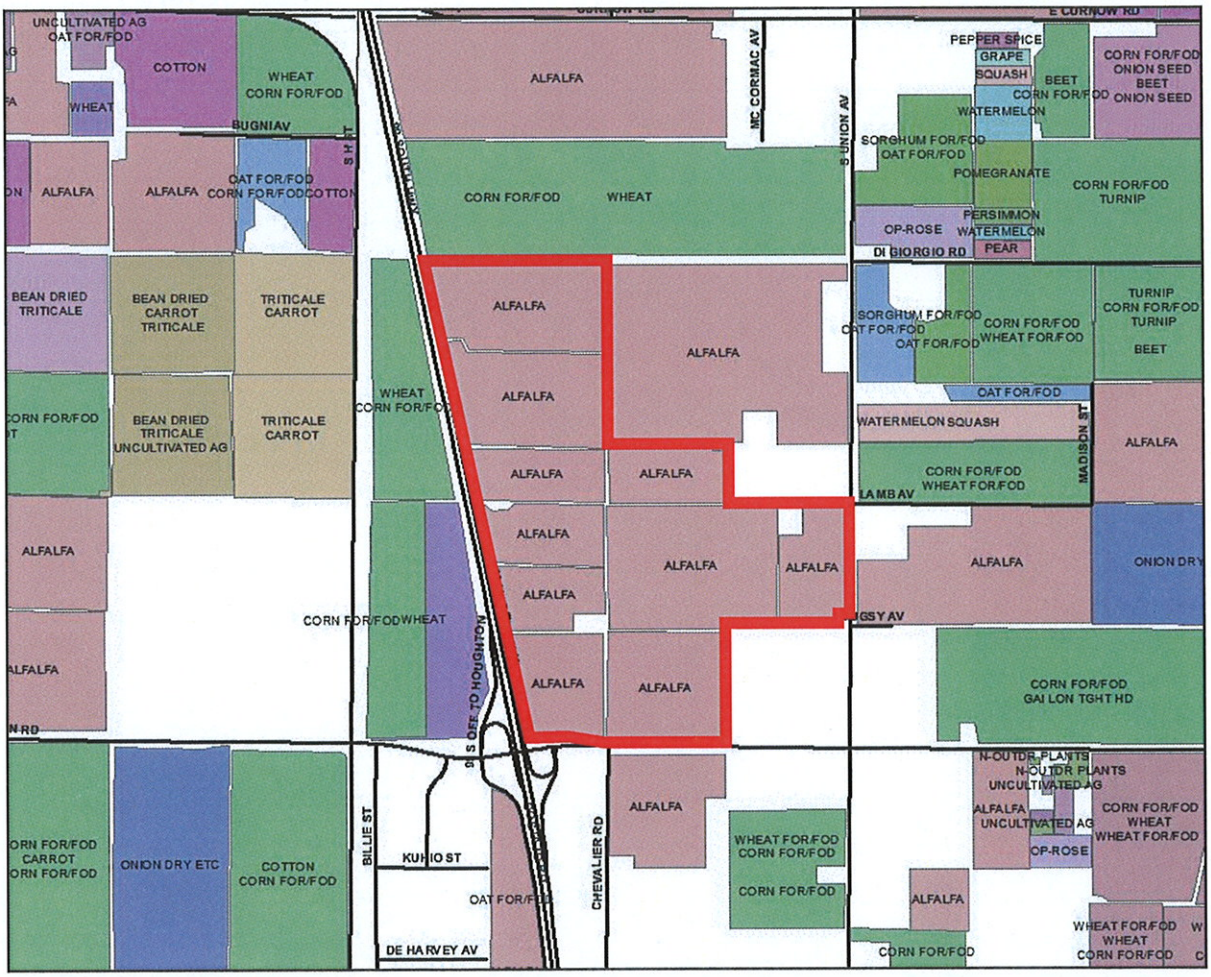


Source: Kern County Geographic Information System Reported Crops

PROPOSED PROJECT

NORTH
Not to Scale

2011 Adjacent Crops
County of Kern, State of California

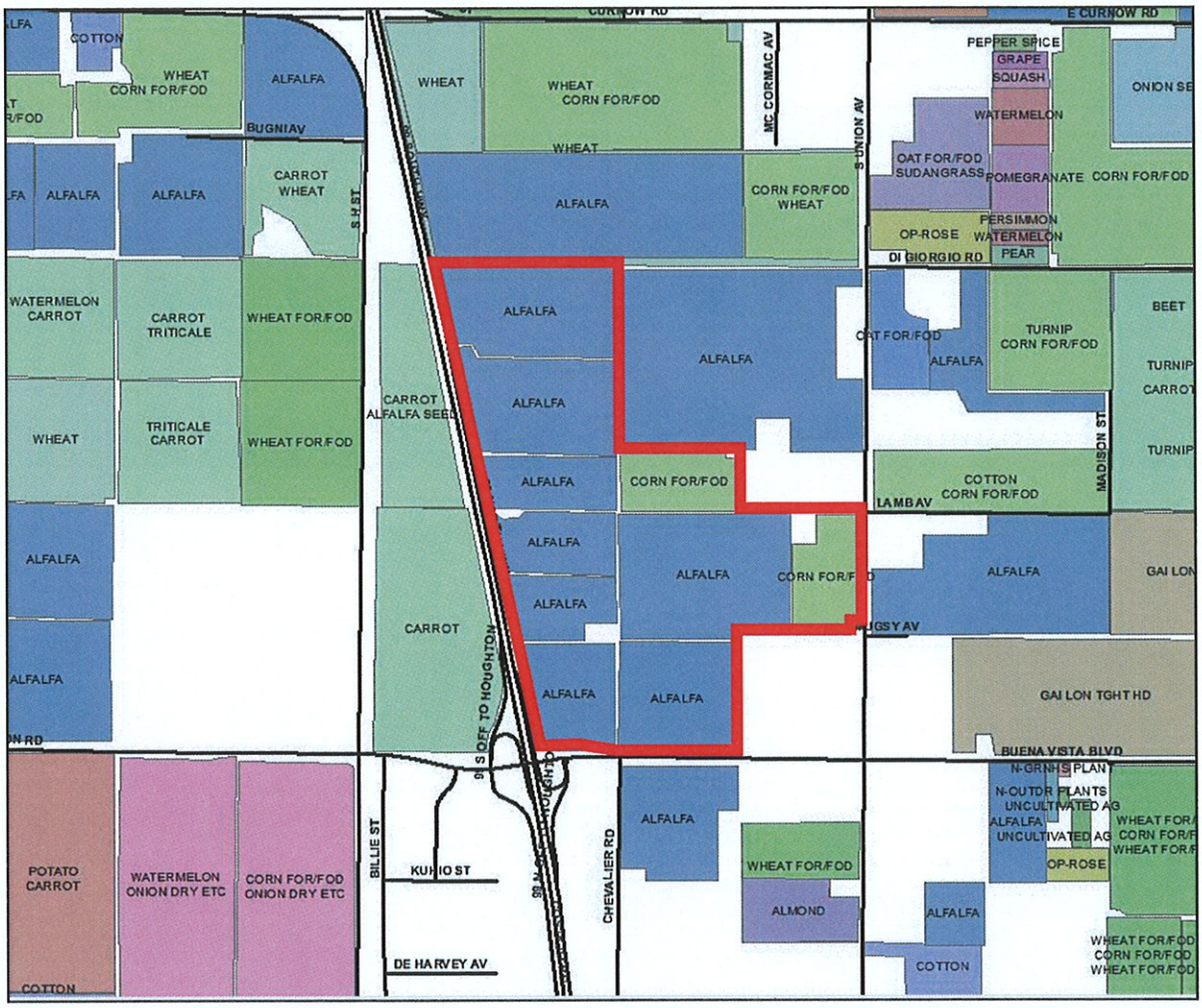


Source: Kern County Geographic Information System Reported Crops

PROPOSED PROJECT

NORTH
Not to Scale

2012 Adjacent Crops
County of Kern, State of California

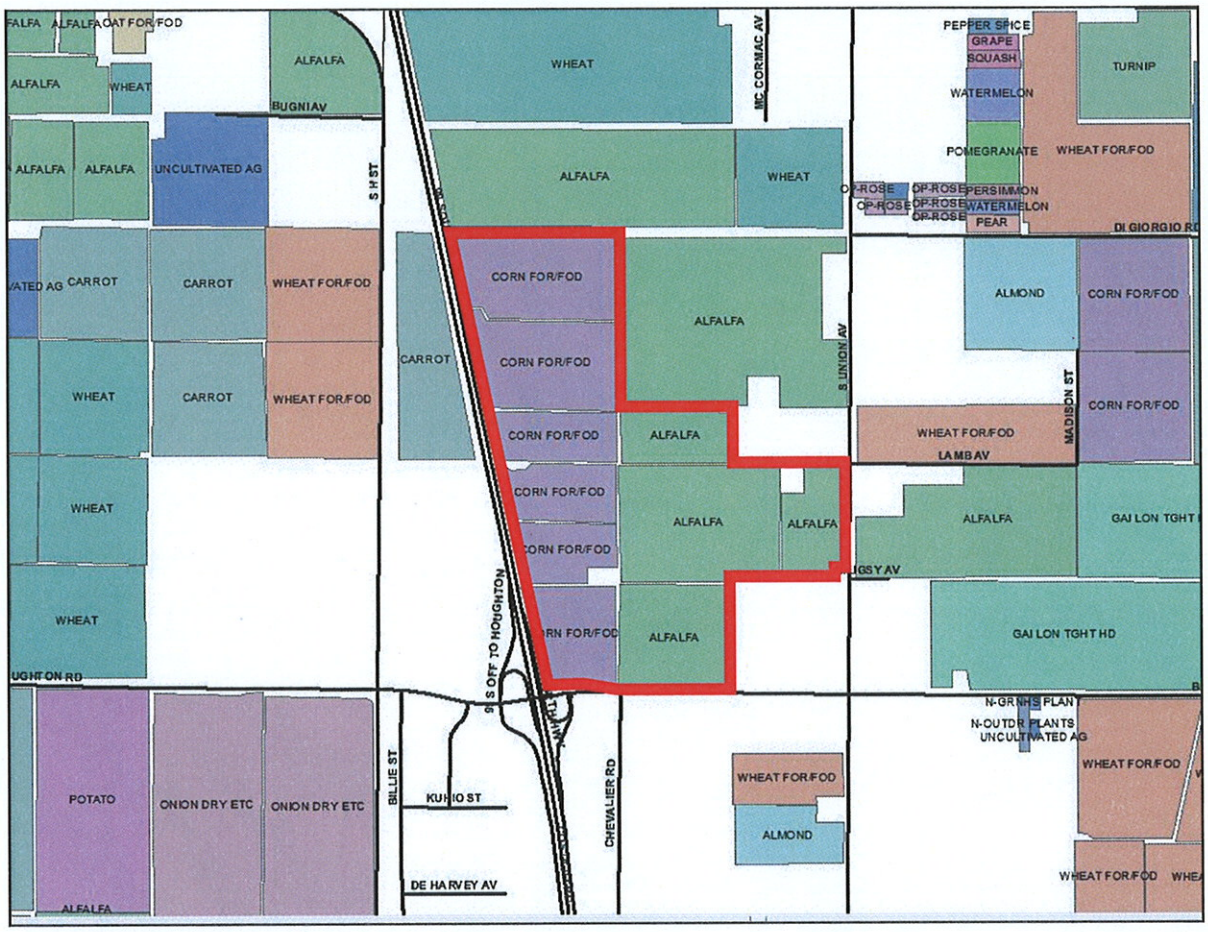


Source: Kern County Geographic Information System Reported Crops

PROPOSED PROJECT

NORTH
Not to Scale

2013 Adjacent Crops
County of Kern, State of California



Source: Kern County Geographic Information System Reported Crops

PROPOSED PROJECT

NORTH
Not to Scale

2014 Adjacent Crops
County of Kern, State of California

APPENDIX G

Figures

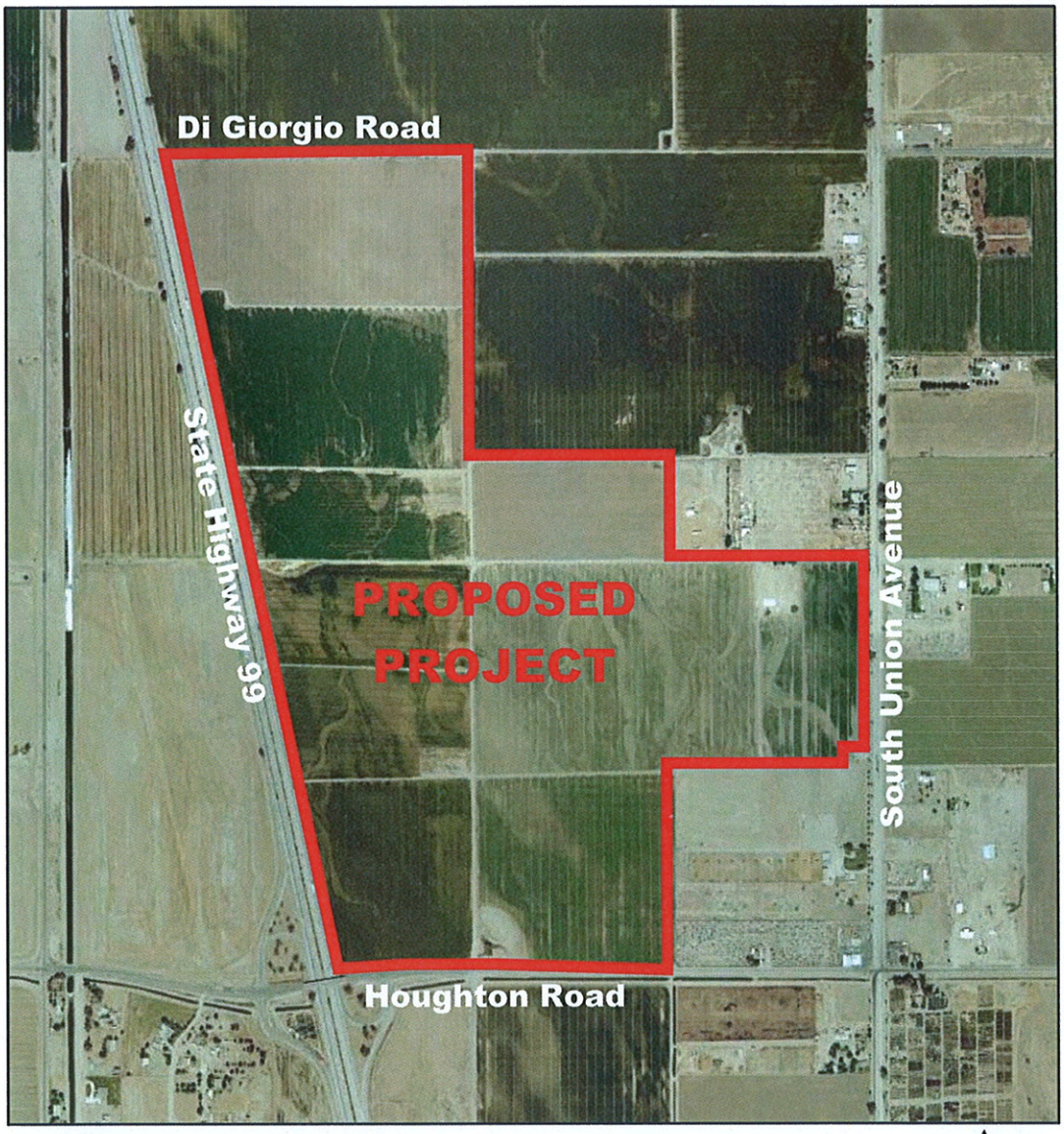


Photo Date: 03/31/2008

2008 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California



Google Earth

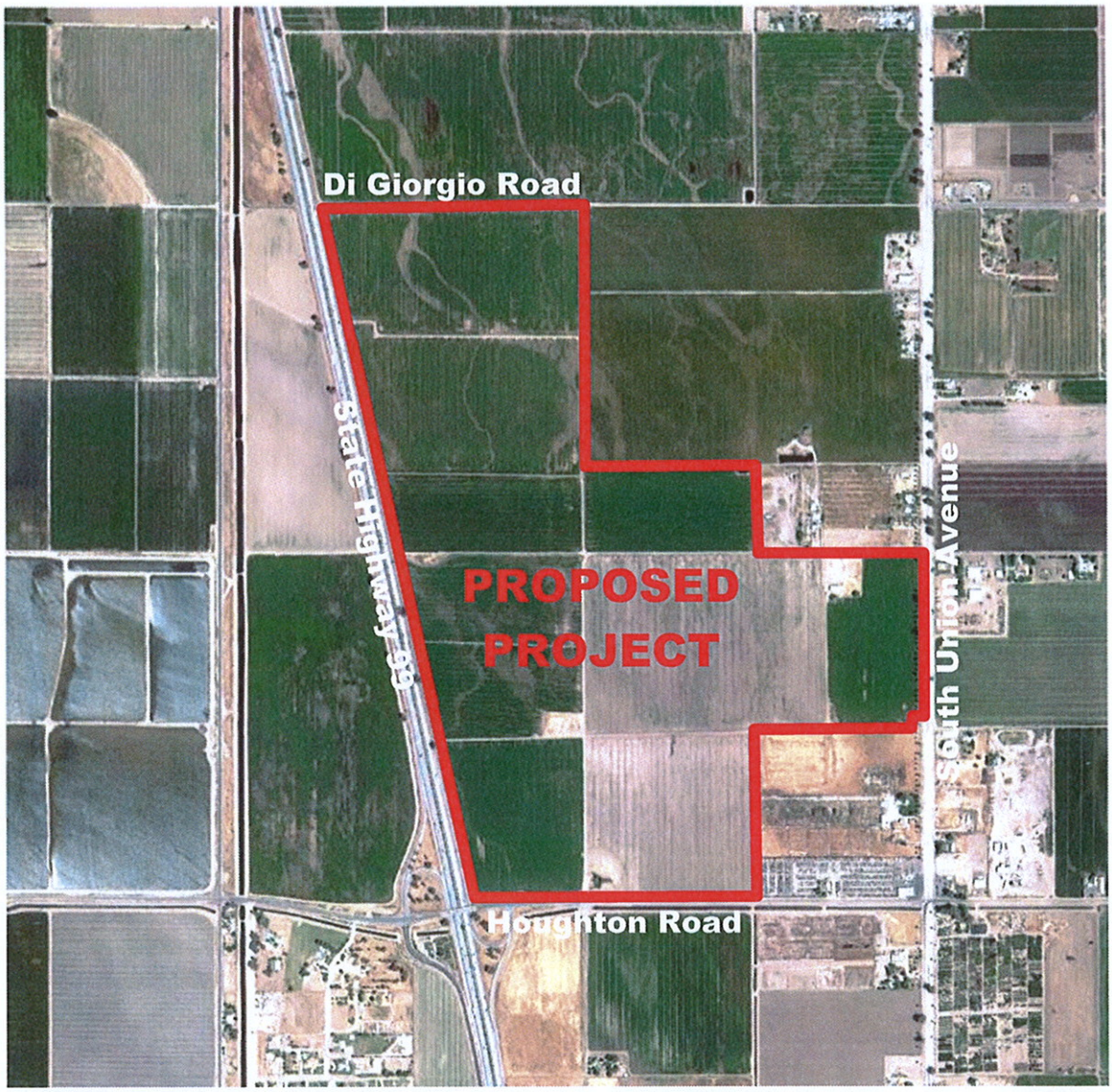
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2009 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California



Google Earth

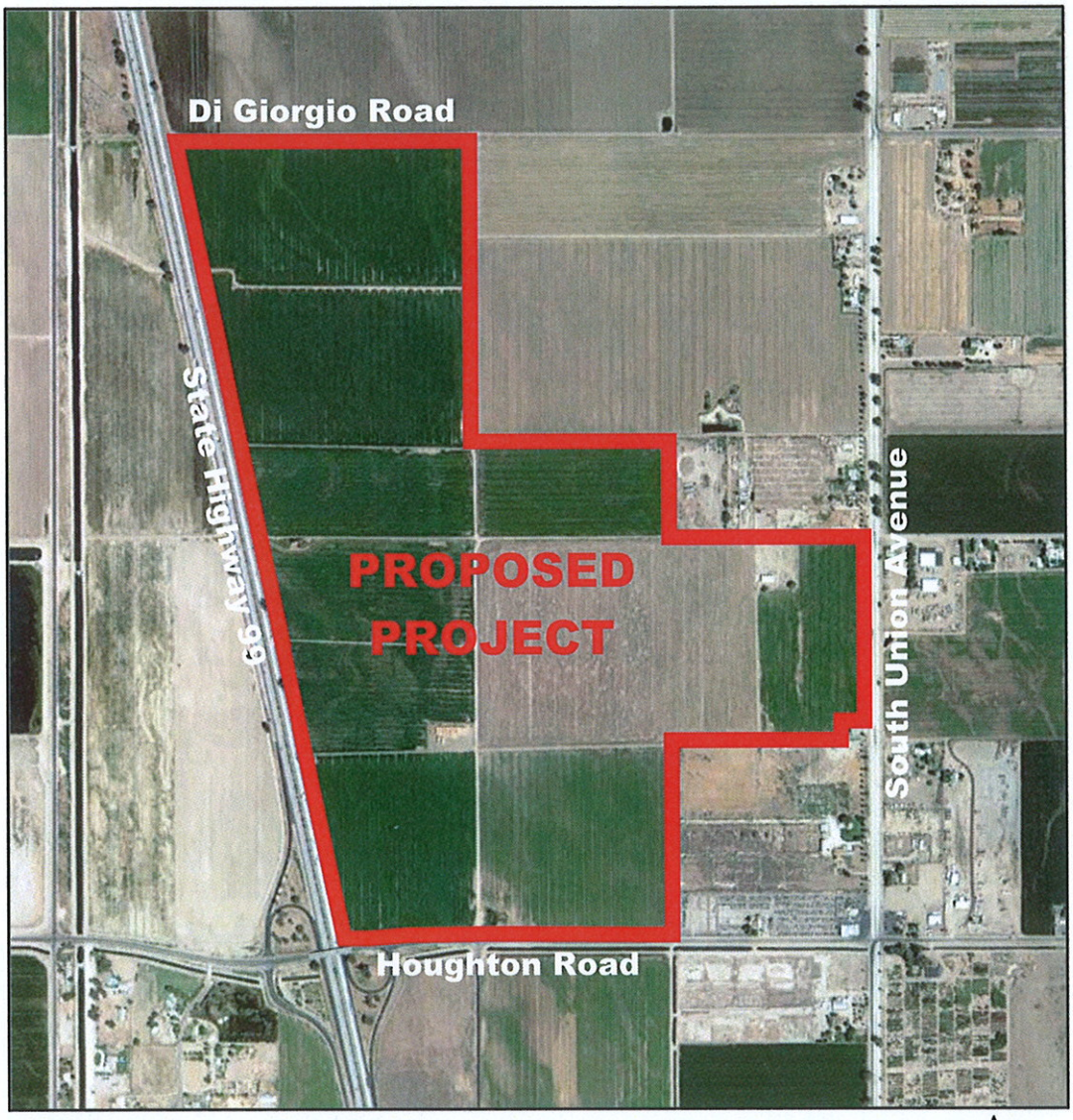
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Photo Date: 04/29/2011

2011 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California



Google Earth

N

Photo Date: 08/07/2012

2012 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California



Google Earth

Photo Date: 07/30/2013

N

2013 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

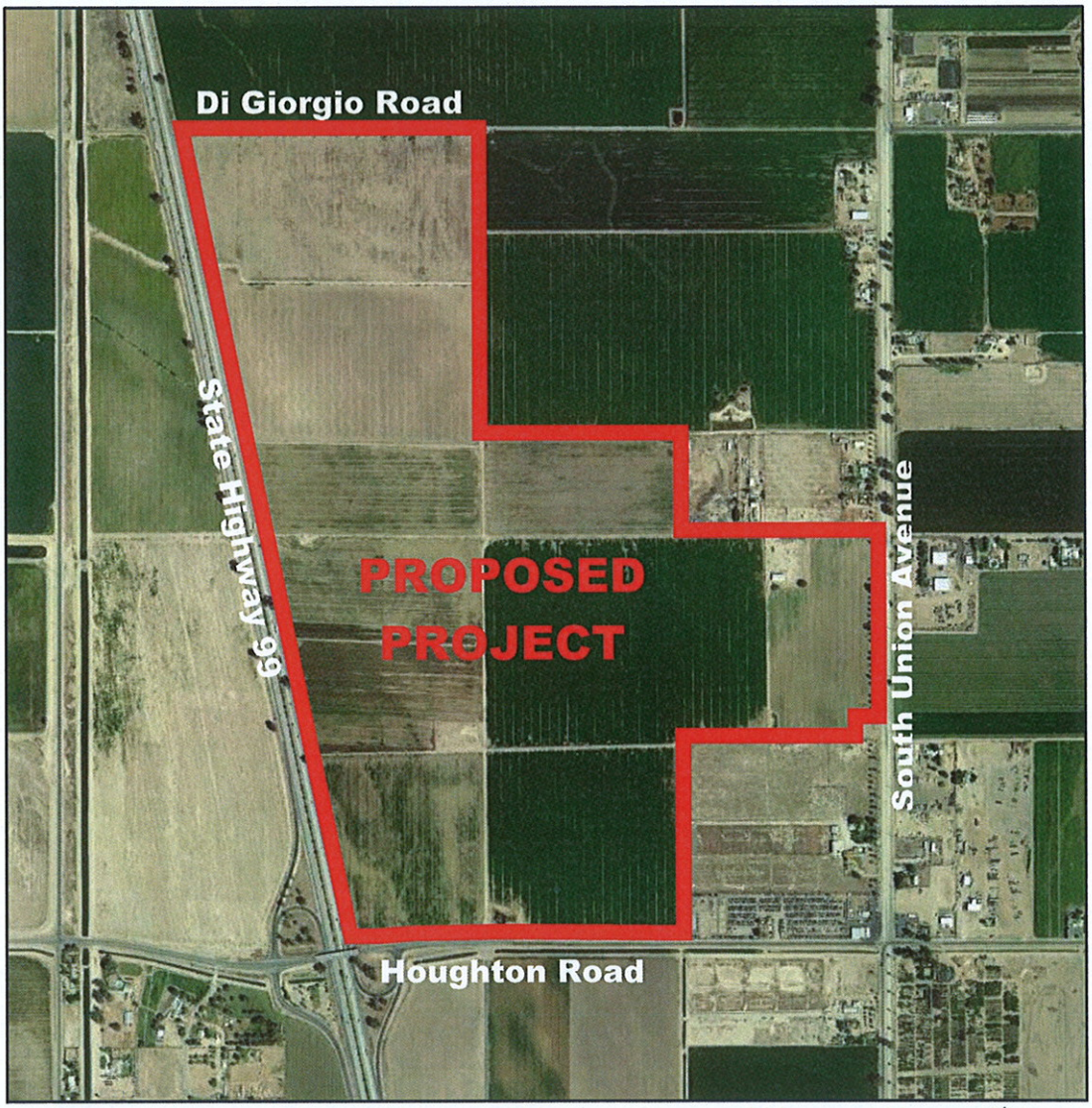


Photo Date: 04/15/2014

2014 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

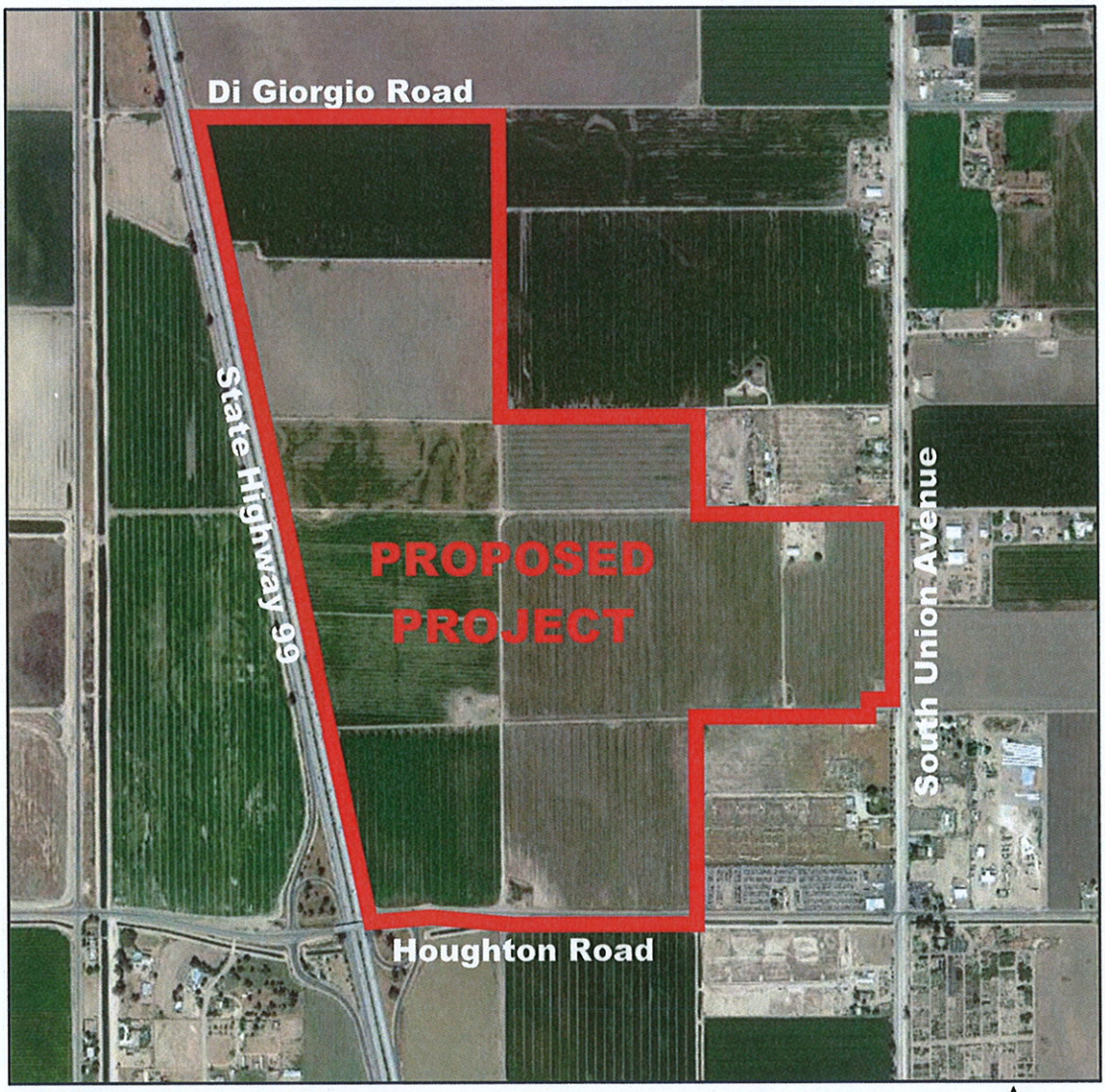
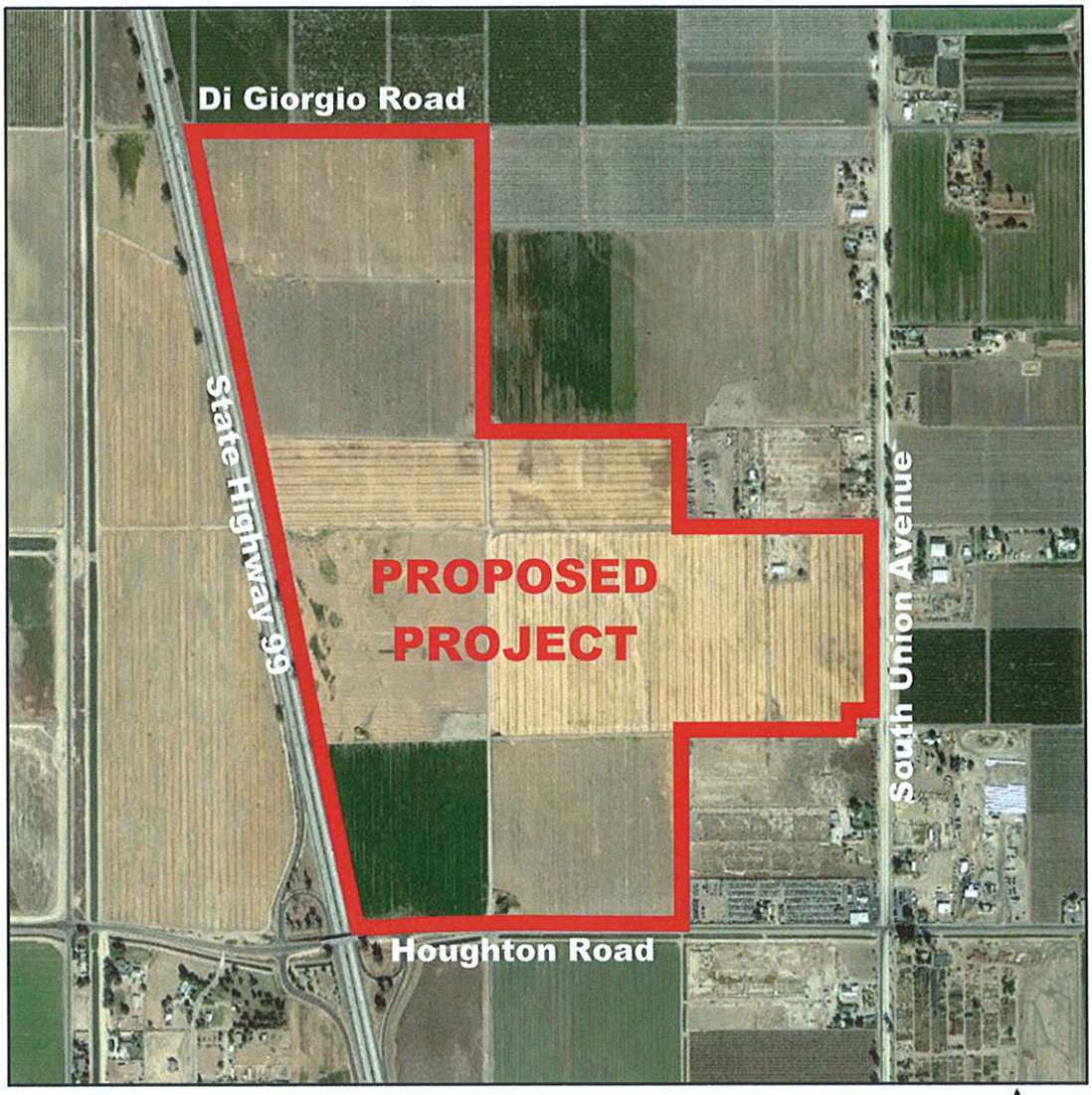


Photo Date: 03/26/2015

2015 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California



Google Earth

N

Photo Date: 10/20/2016

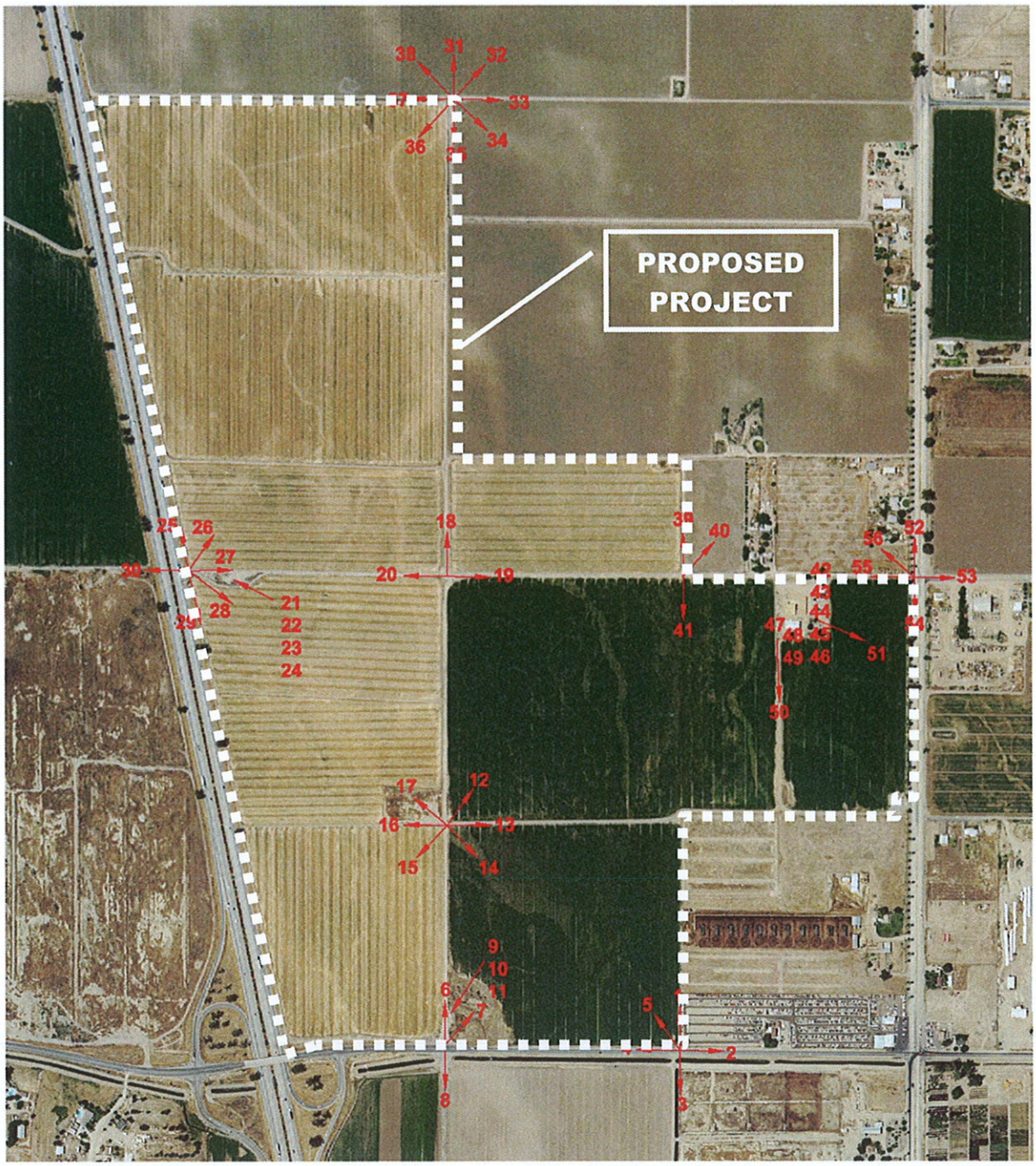
2016 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

APPENDIX H

Figures



NORTH

Not to Scale

Proposed Project Photo Index

99 Houghton Industrial Park

Portion of Section 7, T.31S., R.28E., M.D.B.& M.



Photo 1: Looking north from Houghton Road along the southeast property boundary



Photo 2: Looking east along Houghton Road from southeast corner of property



Photo 3: Looking south from the southeast corner of property



Photo 4: Looking west along southern property boundary



Photo 5: Looking northwest from southeast corner of property



Photo 6: Looking north from south ¼ corner



Photo 7: Looking northeast from south ¼ corner



Photo 8: Looking south from the south ¼ corner



Photo 9: Electrical Box located near the south ¼ corner



Photo 10: Pump located near the south ¼ corner



Photo 11: Power Pole with transformers located near the south ¼ corner



Photo 12: Looking northeast



Photo 13: Looking east



Photo 14: Looking southeast



Photo 15: Looking southwest



Photo 16: Looking west.



Photo 17: Looking northwest



Photo 18: Looking north from center of Section 7



Photo 19: Looking east from center of Section 7



Photo 20: Looking west from center of Section 7



Photo 21: Diesel fuel tank



Photo 22: Diesel powered generator



Photo 23: Pump and diesel generator

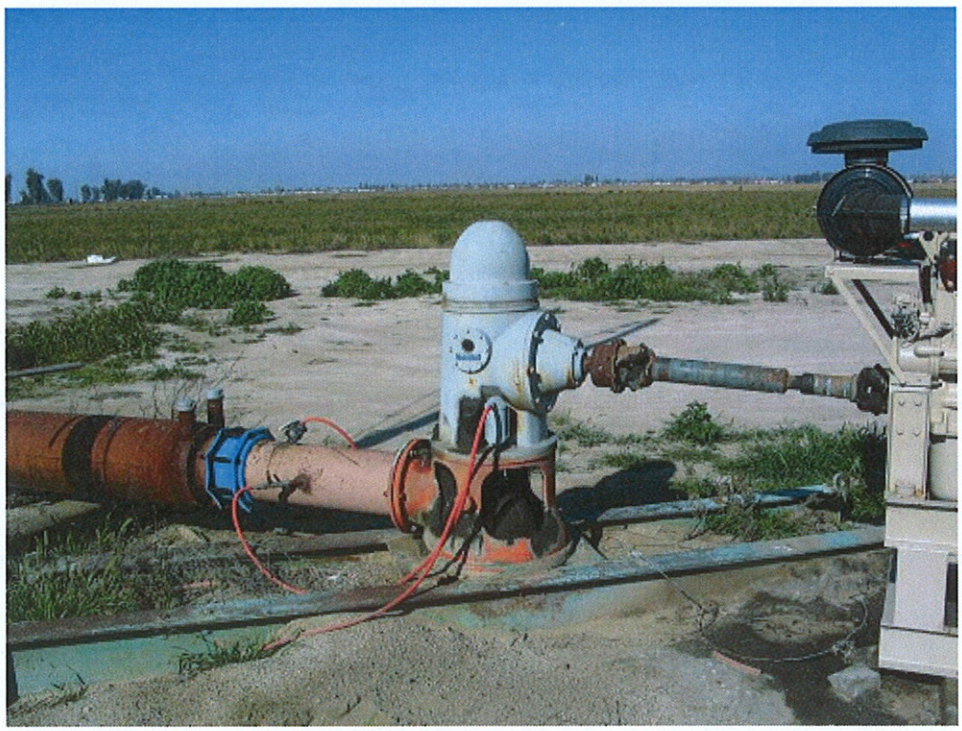


Photo 24: Pump



Photo 25: Looking north from west property boundary



Photo 26: Looking northeast from west property boundary



Photo 27: Looking east from west property boundary



Photo 28: Looking southeast from west property boundary



Photo 29: Looking south from west property boundary

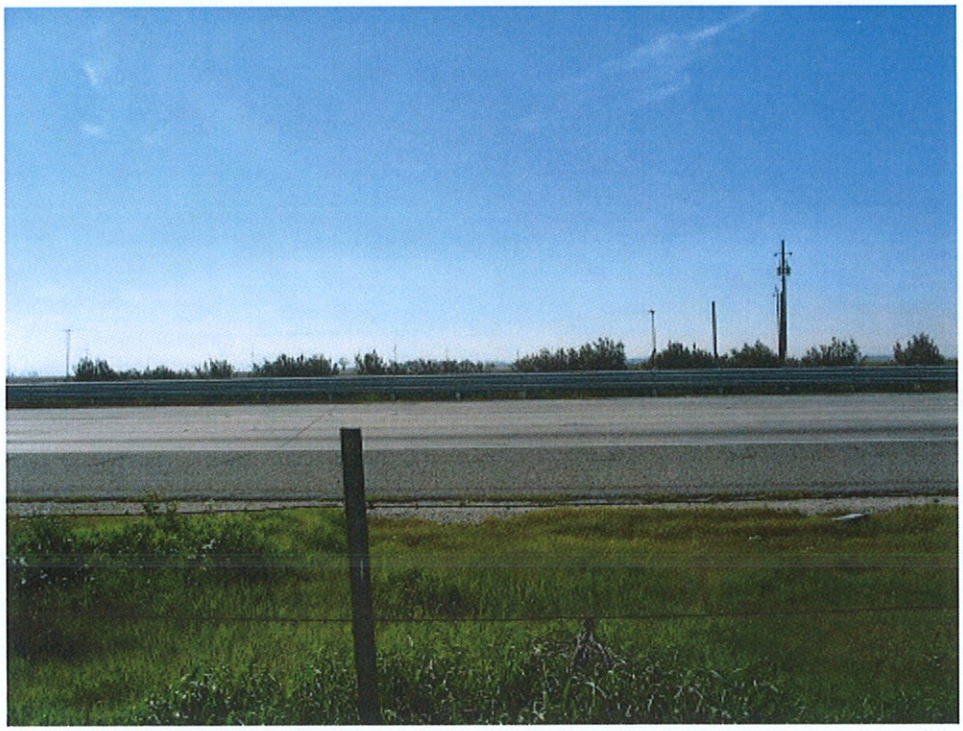


Photo 30: Looking west from west property boundary



Photo 31: Looking north from northeast corner of property (north ¼ corner)



Photo 32: Looking northeast from north ¼ corner



Photo 33: Looking east from north ¼ corner

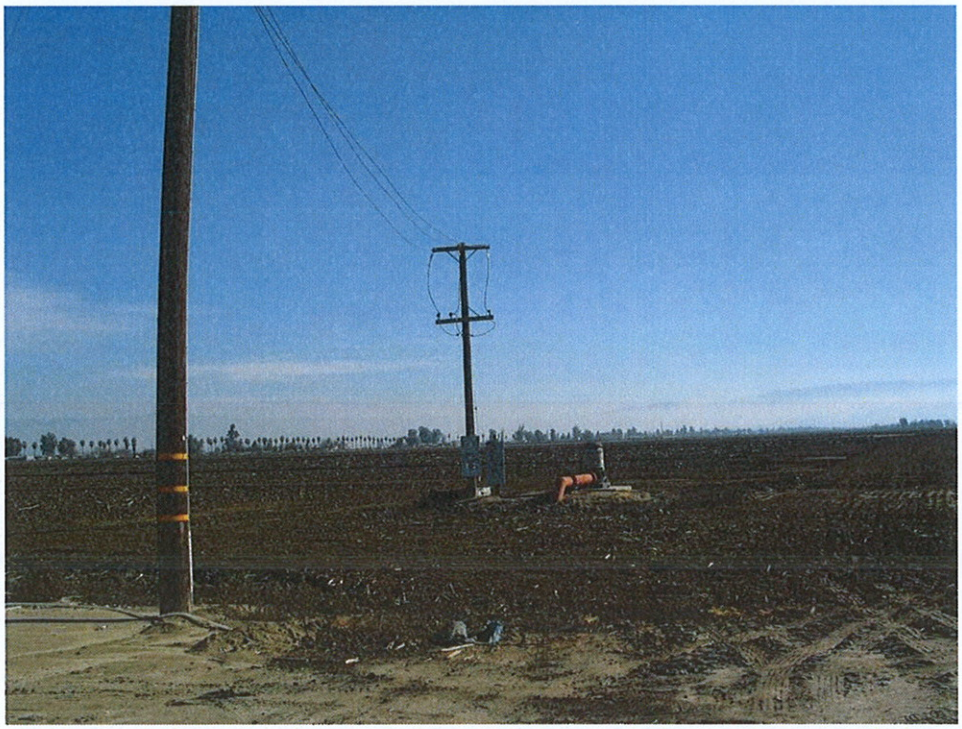


Photo 34: Looking southeast from north ¼ corner (adjacent property)



Photo 35: Looking south from north ¼ corner



Photo 36: Looking southwest from north ¼ corner.



Photo 37: Looking west from north ¼ corner



Photo 38: Looking northwest from north ¼ corner



Photo 39: Looking north



Photo 40: Looking northeast



Photo 41: Looking south



Photo 42: Water storage tank



Photo 43: Water storage tank



Photo 44: Propane storage tank



Photo 45: Storage building, propane tank, electrical panel

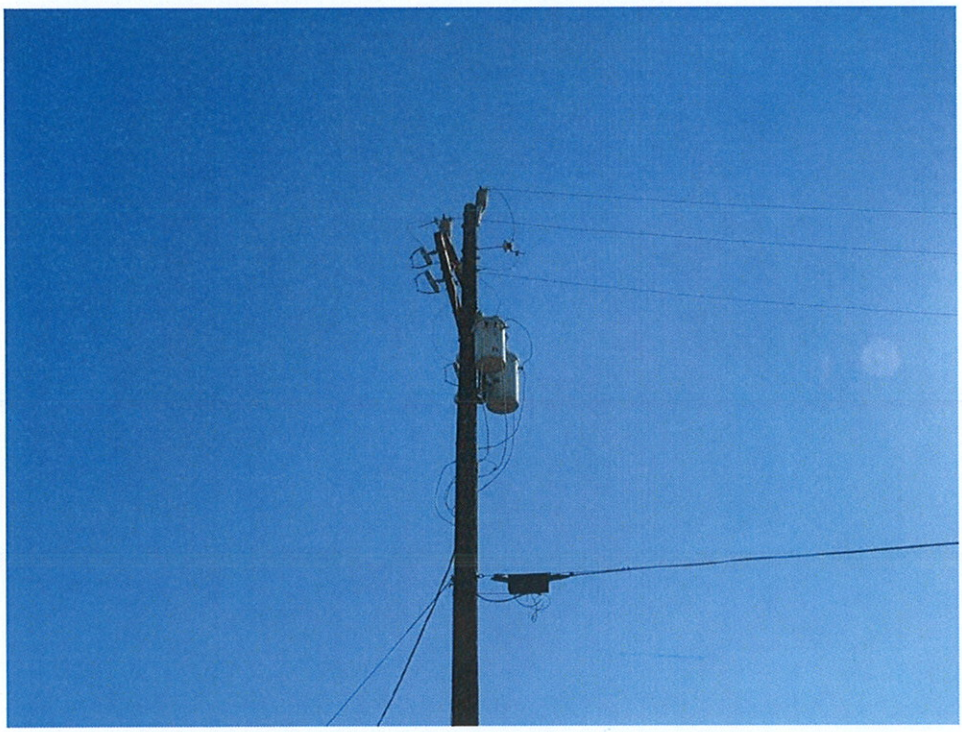


Photo 46: Power pole with transformers



Photo 47: Tires located on the west side of storage building



Photo 48: Storage tank located in back of building



Photo 49: Looking north



Photo 50: Looking south from storage building



Photo 51: Looking southeast from storage building



Photo 52: Looking north along Union Avenue from east ¼ corner



Photo 53: Looking west from east ¼ corner



Photo 54: Looking south from south ¼ corner



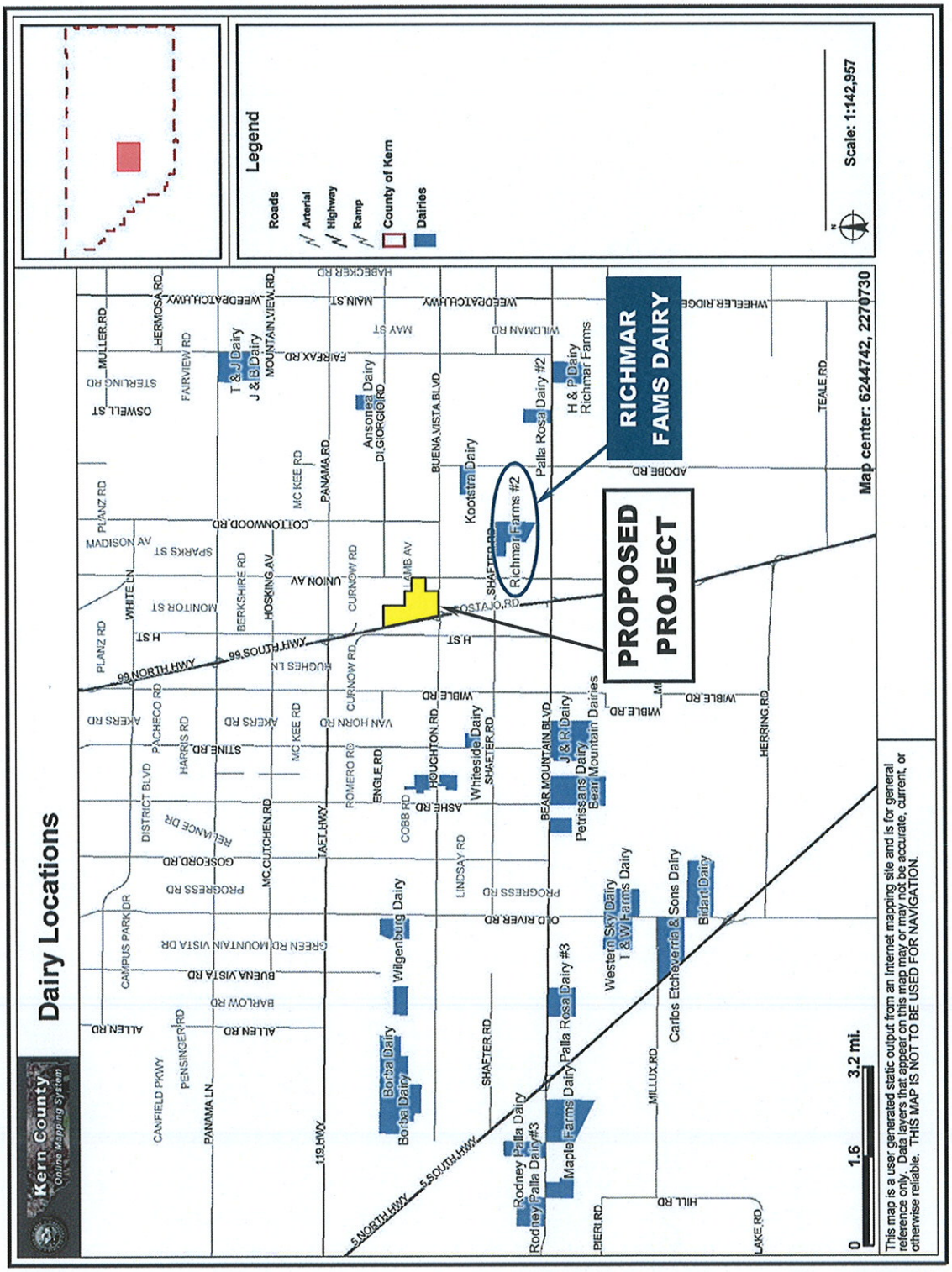
Photo 55: Looking west from east ¼ corner



Photo 56: Looking northwesterly from east ¼ corner

APPENDIX I

Figures

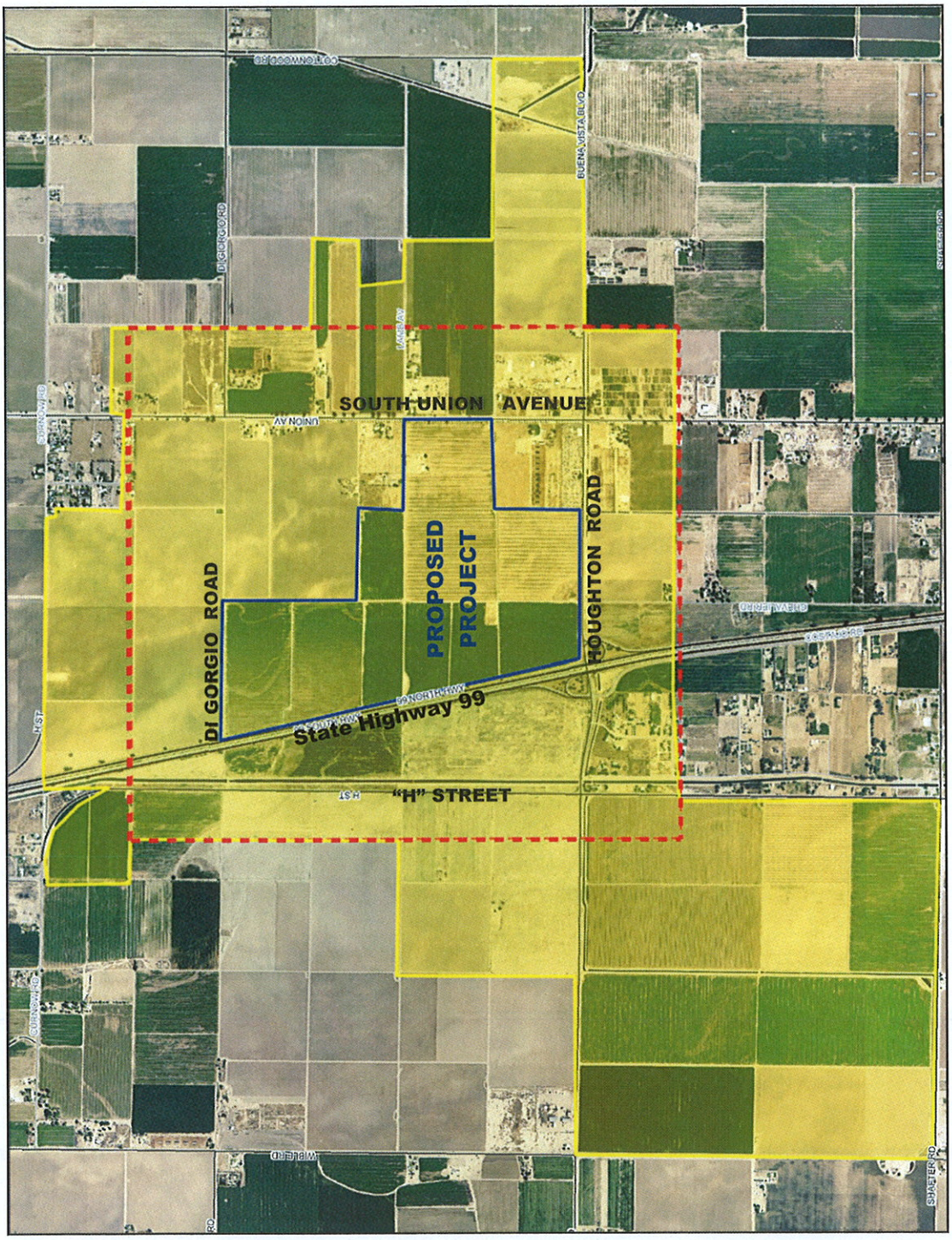


Existing Dairy Locations Map

Kern County Geographic Information System (GIS) – Date: 09-12-2008

APPENDIX J

Figures



Zone of Influence Aerial Photography Boundary

Land Evaluation and Site Assessment (LESA)

Kern County Geographic Information System (GIS)

TABLE 1A
LAND EVALUATION WORKSHEET

Land Capability

Alphabetical Symbol	Numerical Symbol	Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score	LCC Class I - II	LCC Class III	LCC Class IV - VIII
KsA	101	Bakersfield fine sandy loam, drained, 0-1 percent slopes	170.22	53.9	IIs-0	85	35.2		IIs-0	170.22		
CaA	123	Cajon sandy loam, 0 to 2 percent slopes, overwash	144.09	45.6	IIIs-4	65	27.4	Not available	IIIs-4		140.09	
		Totals	0	1.0		LCC Total	62.6	Storie Index Total		170.22	140.09	0 total acres
				(must sum to 1.0)						100	90	project size scores

Highest Project Size Score: 100

TABLE 2
NUMERIC CONVERSION OF LAND CAPABILITY CLASSIFICATION UNITS

Land Capability Classification	LCC Point Rating
I	100
IIe	90
IIs,w	80
IIIe	70
IIIs,w	60
IVe	50
IVs,w	40
V	30
VI	20
VII	10
VIII	0

TABLE 3
PROJECT SIZE SCORING

LCC Class I - II Soils	
Acres	Score
80 or above	100
60-79	90
40-59	80
30-39	50
10-19	30
fewer than 10	0

LCC Class III	
Acres	Score
160 or above	100
120-159	90
80-119	80
60-79	70
40-59	60
20-39	30
10-19	10
fewer than 10	0

LCC Class IV - VIII	
Acres	Score
320 or above	100
240-319	80
160-239	60
100-159	40
40-99	20
fewer than 40	0

Land Evaluation Worksheet (LESA) – TABLE 1A, 1B, 2 and 3

TABLE 4
SITE ASSESSMENT WORKSHEET 2

Water Resources Availability

Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score
314.31	well water	0.75	100	75.0
117.75	surface water	0.25	100	25.0
totals		1.00 (must sum to 1.0)	Total Water Resource Score	100.0

TABLE 5
WATER RESOURCE AVAILABILITY SCORING

Option	Non-Drought Years			Drought Years			Water Resource Score
	Irrigated Production Feasible?	Restrictions: Physical Restrictions?	Restrictions: Economic Restrictions?	Irrigated Production Feasible?	Physical Restrictions?	Economic Restrictions?	
1	yes	no	no	yes	no	no	100
2	yes	no	no	yes	no	yes	95
3	yes	no	yes	yes	no	yes	90
4	yes	no	no	yes	yes	no	85
5	yes	no	no	yes	yes	yes	80
6	yes	yes	no	yes	yes	no	75
7	yes	yes	yes	yes	yes	yes	65
8	yes	no	no	no	-	-	60
9	yes	no	yes	no	-	-	45
10	yes	yes	no	no	-	-	35
11	yes	yes	yes	no	-	-	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

Site Assessment Worksheet 2 (LESA) – TABLE 4 and 5

SURROUNDING AGRICULTURAL LAND RATING

Percent of Project's Zone of Influence in Agricultural Use	Surrounding Agricultural Land Score
90-100%	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
less than 40%	0

Surrounding Agricultural Land Score	93

Surrounding Agricultural Land Rating (LESA) – TABLE 6

TABLE 7
SURROUNDING PROTECTED RESOURCE LAND RATING

Percent of Project's Zone of Influence Defined as Protected	Surrounding Protected Resource Land Score
90 - 100% 100 Points	100
80 - 89	90
75 - 79	80
70 - 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
40 <	0

34.5%

Protected resource lands are those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

- Williamson Act contracted lands
- Publicly owned lands maintained as park, forest, or watershed resources
- Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

Surrounding Protected Resource Land Score 0

Surrounding Projected Resource Land Rating (LESA) – TABLE 7

TABLE 9
California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0 to 39 points	not considered significant
40 to 59 points	considered significant ONLY if LE AND SA subscore are each greater than or equal to 20 points
60 to 79 points	considered significant UNLESS either LE OR SA subscore is LESS than 20 points
80 to 100 points	considered significant

TABLE 8
FINAL LESA SCORESHEET

Factor Name	Factor Rating (0-100 Points)	Factor Weighting (Total=1.0)	Weighted Factor Rating
LAND EVALUATION			
Land Capability Classification	62.55	0.50	31.28
Storie Index Rating	-	-	
SITE ASSESSMENT			
Project Size	100.00	0.15	15.00
Water Resource Availability	100.00	0.15	15.00
Surrounding Agricultural Lands	93.00	0.15	13.95
Protected Resource Lands	0.00	0.05	0.00
		Total LESA Score	75.23

Final Scoresheet (LESA) – TABLE 8
California Model Scoring Thresholds (LESA) – TABLE 9

CALIFORNIA AGRICULTURAL

LAND EVALUATION AND SITE ASSESSMENT MODEL

Instruction Manual



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LAND EVALUATION AND SITE ASSESSMENT MODEL

Instruction Manual
1997



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Office of Land Conservation

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EXECUTIVE SUMMARY

Land Evaluation and Site Assessment (LESA) is a term used to define an approach for rating the relative quality of land resources based upon specific measurable features. The formulation of a California Agricultural LESA Model is the result of Senate Bill 850 (Chapter 812 /1993), which charges the Resources Agency, in consultation with the Governor's Office of Planning and Research, with developing an amendment to Appendix G of the California Environmental Quality Act (CEQA) Guidelines concerning agricultural lands. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095).

The California Agricultural LESA Model is composed of six different factors. Two Land Evaluation factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is separately rated on a 100 point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. It is this project score that becomes the basis for making a determination of a project's potential significance, based upon a range of established scoring thresholds. This Manual provides detailed instructions on how to utilize the California LESA Model, and includes worksheets for applying the Model to specific projects.

INTRODUCTION

Defining the LESA System

The Land Evaluation and Site Assessment (LESA) system is a point-based approach that is generally used for rating the relative value of agricultural land resources. In basic terms, a given LESA model is created by defining and measuring two separate sets of factors. The first set, Land Evaluation, includes factors that measure the inherent soil-based qualities of land as they relate to agricultural suitability. The second set, Site Assessment, includes factors that are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land. While this dual rating approach is common to all LESA models, the individual land evaluation and site assessment factors that are ultimately utilized and measured can vary considerably, and can be selected to meet the local or regional needs and conditions for which a LESA model is being designed to address. In short, the LESA methodology lends itself well to adaptation and customization in individual states and localities. Considerable additional information on LESA may be found in *A Decade with LESA - the Evolution of Land Evaluation and Site Assessment* (8).

Background on LESA Nationwide

In 1981, the federal Natural Resources Conservation Service (NRCS), known then as the Soil Conservation Service, released a new system that was designed to provide objective ratings of the agricultural suitability of land compared to demands for nonagricultural uses of lands. The system became known as Land Evaluation and Site Assessment, or LESA. Soon after it was designed, LESA was adopted as a procedural tool at the federal level for identifying and addressing the potential adverse effects of federal programs (e.g., funding of highway construction) on farmland protection. The Farmland Protection Policy Act of 1981 (5) spells out requirements to ensure that federal programs, to the extent practical, are compatible with state, local, and private programs and policies to protect farmland, and calls for the use of LESA to aid in this analysis. Typically, staff of the NRCS is involved in performing LESA scoring analyses of individual projects that involve other agencies of the federal government.

Since its inception, the LESA approach has received substantial attention from state and local governments as well. Nationwide, over two hundred jurisdictions have developed local LESA methodologies (7). One of the attractive features of the LESA approach is that it is well suited to being modified to reflect regional and local conditions. Typical local applications of LESA include assisting in decision making concerning the sitting of projects, changes in zoning, and spheres of influence determinations. LESA is

also increasingly being utilized for farmland protection programs, such as the identification of priority areas to concentrate conservation easement acquisition efforts.

Because of the inherent flexibility in LESA model design, there is a broad array of factors that a given LESA model can utilize. Some LESA models require the measurement of as many as twenty different factors. Over the past 15 years, the body of knowledge concerning LESA model development and application has begun to indicate that LESA models utilizing only several basic factors can capture much of the variability associated with the determination of the relative value of agricultural lands. In fact, LESA models with many factors are increasingly viewed as having redundancies, with different factors essentially measuring the same features, or being highly correlated with one another. Additional information on the evolution and development of the LESA approach is provided in, A *Decade with LESA -The Evolution of Land Evaluation and Site Assessment* (8).

Development of the California Agricultural LESA Model

In 1990 the Department of Conservation commissioned a study to investigate land use decisions that affect the conversion of agricultural lands in California. The study, conducted by Jones and Stokes Associates, Inc., was prepared in response to concerns about agricultural land conversion identified in the *California Soil Conservation Plan* (1) (developed by the ad hoc Soil Conservation Advisory Committee serving the Department of Conservation in 1987). Among these concerns was the belief that there was inadequate information available concerning the socioeconomic and environmental implications of farmland conversions, and that the adequacy of current farmland conversion impact analysis under the California Environmental Quality Act (CEQA) was not fully known. The findings of this study are included in the publication, *The Impacts of Farmland Conversion in California* (2).

Currently, neither CEQA nor the State CEQA Guidelines contains procedures or specific guidance concerning how agencies should address farmland conversion impacts of projects. The only specific mention of agricultural issues is contained in Appendix G of the State CEQA Guidelines, which states that a project will normally have a significant effect on the environment if it will "convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land".

Among the conclusions contained in *The Impacts of Farmland Conversion in California* study was that the lack of guidance in how lead agencies should address the significance of farmland conversion impacts resulted in many instances of no impact analysis at all. A survey of environmental documents sent to the Governor's Office of Planning and Research (OPR) between 1986 and 1988 was performed. The survey

showed that among projects that affected at least 100 acres of land and for which agriculture was a project issue, nearly 30 percent received Negative Declarations, and therefore did not did not receive the environmental impact analysis that would be provided by an Environmental Impact Report (EIR).

Of those projects involving the conversion of agricultural lands and being the subject of an EIR, the study found a broad range of approaches and levels of detail in describing the environmental setting, performing an impact analysis, and providing alternative mitigation measures. The only agricultural impacts found to be significant in the EIRs were those involving the direct removal of prime agricultural lands from production by the project itself. The focus on prime farmland conversion in the projects surveyed was deemed to be related to the narrow direction provided in Appendix G of the State CEQA Guidelines.

The formulation of a California LESA Model is the result of Senate Bill 850 (Chapter 812 /1993), which charges the Resources Agency, in consultation with the Governor's Office of Planning and Research, to develop an amendment to Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095). This legislation authorizes the Department of Conservation to develop a California LESA Model, which can in turn be adopted as the required amendment to Appendix G of the CEQA Guidelines.

Presentation of the California LESA Model

The California LESA Model is presented in this Manual in the following sections:

Section I. provides a listing of the information and tools that will typically be needed to develop LESA scores for individual projects.

Section II. provides step-by-step instructions for scoring each of the six Land Evaluation and Site Assessment factors that are utilized in the Model, with an explanation of the rationale for the use of each factor.

Section III. defines the assignment of weights to each of the factors relative to one another, and the creation of a final LESA score for a given project.

Section IV. assigns scoring thresholds to final LESA scores for the purpose of determining the significance of a given project under CEQA where the conversion of agricultural lands is a project issue.

Additionally:

Appendix A. provides an abridged set of step-by-step LESA scoring instructions that can be used and reproduced for scoring individual projects.

Appendix B. demonstrates the application of the California LESA Model to the scoring of a hypothetical project.

The California Agricultural LESA Model

Section I. Required Resources and Information

The California Land Evaluation and Site Assessment (LESA) Model requires the use and interpretation of basic land resource information concerning a given project. A series of measurements and calculations is also necessary to obtain a LESA score. Listed below are the materials and tools that will generally be needed to make these determinations.

Land Evaluation and Site Assessment calculations will require:

1. A calculator or other means of tabulating numbers

2. An accurately scaled map of the project area, such as a parcel map

3. A means for making acreage determinations of irregularly shaped map units. Options include, from least to most technical:

    - A transparent grid-square or dot-planimeter method of aerial measurement

    - A hand operated electronic planimeter

    - The automatic planimetry capabilities of a Geographic Information System (GIS)

4. A modern soil survey, generally produced by the USDA Natural Resources Conservation Service, which delineates the soil-mapping units for a given project. [Note: If modern soil survey information is not available for a given area of study, it may be necessary to draw upon the services of a professional soil scientist to perform a specific project survey].

5. Maps that depict land uses for parcels including and surrounding the project site, such as the Department of Conservation's Important Farmland Map series, the Department of Water Resources Land Use map series, or other appropriate information.

6. Maps or information that indicate the location of parcels including and surrounding the project site that are within agricultural preserves, are under public ownership, have conservation easements, or have other forms of long term commitments that are considered compatible with the agricultural use of a given project site.

Section II. Defining and Scoring the California Land Evaluation and Site Assessment Model Factors

This section provides detailed step-by-step instructions for the measurement and scoring of each of the Land Evaluation and Site Assessment factors that are utilized in the California Agricultural LESA Model, and is intended to serve as an introduction to the process of utilizing the Model. Once users are familiar with the Model, a more streamlined set of instructions and scoring sheets is available in Appendix A. In addition, the scoring of a hypothetical project is presented using these scoring sheets in Appendix B.

Scoring of Land Evaluation Factors

The California LESA Model includes two Land Evaluation factors that are separately rated:

1. The Land Capability Classification Rating
2. The Storie Index Rating

The information needed to make these ratings is typically available from soil surveys that have been conducted by the federal Natural Resources Conservation Service (formerly known as the Soil Conservation Service). Consultation should be made with NRCS staff (field offices exist in most counties) to assure that valid and current soil resource information is available for the project site. Copies of soil surveys are available at local field offices of the NRCS, and may also be available through libraries, city and county planning departments, the Cooperative Extension, and other sources. In addition, a Certified Professional Soil Scientist (CPSS) may also be consulted to obtain appropriate soil resource information for the project site. A directory of CPSS registered soil consultants is available through the Professional Soil Scientists Association of California, P.O. Box 3213, Yuba City, CA 95992-3213; phone: (916) 671-4276.

1) The USDA Land Capability Classification (LCC) - The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops, and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receive the highest rating (Class I). Specific subclasses are also utilized to further characterize soils. An expanded explanation of the LCC is included in most soil surveys.

2) The Storie Index - The Storie Index provides a numeric rating (based upon a 100 point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are

considered in the index rating. The factors are: profile characteristics, texture of the surface layer, slope, and other factors (e.g., drainage, salinity).

In some situations, only the USDA Land Capability Classification information may be currently available from a given published soil survey. However, Storie Index ratings can readily be calculated from information contained in soil surveys by qualified soil scientists. Users are encouraged to seek assistance from NRCS staff or Certified Professional Soil Scientists to derive Storie Index information for the soils as well. If, however, limitations of time or resources restrict the derivation of Storie Index ratings for the soils within a region, it may be possible to adapt the Land Evaluation by relying solely upon the LCC rating. Under this scenario the LCC rating would account for 50 percent of the overall LESA factor weighting.

Identifying a Project's Soils

In order to rate the Land Capability Classification and Storie Index factors, the evaluator must identify the soils that exist on a given project site and determine their relative proportions. A **Land Evaluation Worksheet** (Table 1A.) is used to tabulate these figures, based upon the following:

Step 1.
Locate the project on the appropriate map sheet in the Soil Survey.

Step 2.
Photocopy the map sheet and clearly delineate the project boundaries on the map, paying close attention to the map scale.

Step 3.
Identify all of the soil mapping units existing in the project site (each mapping unit will have a different map unit symbol) and enter the each mapping unit symbol in **Column A** of the **Land Evaluation Worksheet** (Table 1A).

Step 4.
Calculate the acreage of each soil mapping unit present within the project site using any of the means identified in **Section 1, Required Resources and Information,** and enter this information in **Column B.**

Step 5.

Divide the acres of each soil mapping unit by the total project acreage to determine the proportion of each unit that comprises the project, and enter this information in Column C.

1. Land Evaluation - The Land Capability Classification Rating

Step 1.
In the Guide to Mapping Units typically found within soil surveys, identify the Land Capability Classification (LCC) designation (e.g., IV-e) for each mapping unit that has been identified in the project and enter these designations in **Column D** of the **Land Evaluation Worksheet** (Table 1A.).

Step 2.
From Table 2., **The Numeric Conversion of Land Capability Classification Units**, obtain a numeric score for each mapping unit, and enter these scores in **Column E**.

Step 3.
Multiply the proportion of each soil mapping unit (**Column C**) by the LCC points for each mapping unit (**Column E**) and enter the resulting scores in **Column F**.

Step 4.
Sum the LCC scores in **Column F** to obtain a single LCC Score for the project. Enter this LCC Score in **Line 1** of the **Final LESA Worksheet** (Table 8)

Table 2. Numeric Conversion of Land Capability Classification Units

Land Capability Classification	LCC Point Rating
I	100
IIe	90
IIs,w	80
IIIe	70
IIIs,w	60
IVe	50
IVs,w	40
V	30
VI	20
VII	10
VIII	0

Table 1A.
Land Evaluation Worksheet

Land Capability Classification (LCC) and Storie Index Scores

A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
Totals		(Must Sum to 1.0)		*LCC Total*		*Storie Index Total*	

Table 1B.
Site Assessment Worksheet 1.

Project Size Score

	I	J	K
	LCC Class I - II	LCC Class III	LCC Class IV - VIII
Total Acres			
Project Size Scores			

Highest Project Size Score

2. Land Evaluation - The Storie Index Rating Score

Step 1.
From the appropriate soil survey or other sources of information identified in Appendix C, determine the Storie Index Rating (the Storie Index Rating is already based upon a 100 point scale) for each mapping unit and enter these values in **Column G** of the **Land Evaluation Worksheet** (Table 1A.).

Step 2.
Multiply the proportion of each soil mapping unit found within the project (**Column C**) by the Storie Index Rating (**Column G**), and enter these scores in **Column H**.

Step 3.
Sum the Storie Index Rating scores in **Column H** to obtain a single Storie Index Rating score for the project. Enter this Storie Index Rating Score in **Line 2** of the **Final LESA Worksheet** (Table 8)

Scoring of Site Assessment Factors

The California LESA Model includes four Site Assessment factors that are separately rated:

1. **The Project Size Rating**
2. **The Water Resources Availability Rating**
3. **The Surrounding Agricultural Land Rating**
4. **The Surrounding Protected Resource Land Rating**

1. Site Assessment - The Project Size Rating

The Project Size Rating relies upon acreage figures that were tabulated under the Land Capability Classification Rating in Table 1A. The Project Size rating is based upon identifying acreage figures for three separate groupings of soil classes within the project site, and then determining which grouping generates the highest Project Size Score.

Step 1.
Using information tabulated in **Columns B** and **D** of the **Land Evaluation Worksheet** (Table 1A), enter acreage figures in **Site Assessment Worksheet 1. - Project Size** (Table 1B) using either **Column I, J,** or **K** for each of the soil mapping units in a given project.

Step 2.
Sum the entries in **Column I** to determine the total acreage of Class I and II soils on the project site.

Sum the entries in **Column J** to determine the total acreage of Class III soils on the project site.

Sum the entries in **Column K** to determine the total acreage of Class IV and lower rated soils on the project site.

Step 3.
For each of the three columns, apply the appropriate scoring plan provided in Table 3, **Project Size Scoring**, and enter the **Project Size Score** for each grouping in the **Site Assessment Worksheet 1. - Project Size** (Table 1B). Determine which column generates the highest score. The highest score becomes the overall **Project Size Score**. Enter this number in **Line 3** of the **Final LESA Scoresheet** (Table 8).

Table 3. Project Size Scoring

LCC Class I or II soils		LCC Class III soils		LCC Class IV or lower	
Acres	*Score*	*Acres*	*Score*	*Acres*	*Score*
80 or above	100	160 or above	100	320 or above	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
fewer than 10	0	20-39	30	fewer than 40	0
		10-19	10		
		fewer than 10	0		

Explanation of the Project Size Factor

The Project Size factor in the California Agricultural LESA Model was developed in cooperation with Nichols-Berman, a consulting firm under contract with the Department of Conservation. A thorough discussion of the development of this rating is presented by Nichols-Berman in a report to the Department entitled, *Statewide LESA Methodologies Report - Project Size and Water Resource Availability Factors* (3).

The inclusion of the measure of a project's size in the California Agricultural LESA Models is a recognition of the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions. Certain economies of scale for equipment and infrastructure can also be more favorable for larger operations. In addition, larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon support industries (e.g., fertilizers, farm equipment, and shipping) and food processing industries.

While the size of a given farming operation may in many cases serve as a direct indicator of the overall economic viability of the operation, The California Agricultural LESA Model does not specifically consider the issue of economic viability. The variables of economic viability for a specific farm include such factors as the financial management and farming skills of the operator, as well as the debt load and interest rates being paid by an individual operator, which are issues that cannot readily be included in a statewide LESA model.

In terms of agricultural productivity, the size of a farming operation can be considered not just from its total acreage, but the acreage of different quality lands that comprise the operation. Lands with higher quality soils lend themselves to greater management and cropping flexibility and have the potential to provide a greater economic return per unit acre. For a given project, instead of relying upon a single acreage figure in the Project Size rating, the project is divided into three acreage groupings based upon the Land Capability Classification ratings that were previously determined in the Land Evaluation analysis. Under the Project Size rating, relatively fewer acres of high quality soils are required to achieve a maximum Project Size score. Alternatively, a maximum score on lesser quality soils could also be derived, provided there is a sufficiently large acreage present. Acreage figures utilized in scoring are the synthesis of interviews that were conducted statewide for growers of a broad range of crops. In the interviews growers were queried as to what acreage they felt would be necessary in order for a given parcel to be considered attractive for them to farm.

The USDA LCC continues to be the most widely available source of information on land quality. Project Size under this definition is readily measurable, and utilizes much of the same information needed to score a given project under the Land Evaluation component of the methodology. This approach also complements the LE determination, which, while addressing soil quality, does not account for the total acreage of soils of given qualities within a project.

This approach allows for an accounting of the significance of high quality agricultural land as well as lesser quality agricultural lands, which by virtue of their large area can be considered significant agricultural resources. In this way, no single acreage figure for a specific class of soils (e.g., soils defined as "prime") is necessary.

2. Site Assessment - The Water Resources Availability Rating

The Water Resources Availability Rating is based upon identifying the various water sources that may supply a given property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. **Site Assessment Worksheet 2. - Water Resources Availability Worksheet** (Table 4) is used to tabulate the score.

Step 1.
Identify the different water resource types that are used to supply the proposed project site (for example, irrigation district water, ground water, and riparian water are considered to be three different types of water resources). Where there is only one water source identified for the proposed project, skip to Step 4.

Step 2.
Divide the proposed project site into portions, with the boundaries of each portion being defined by the irrigation water source(s) supplying it. A site that is fully served by a single source of water will have a single portion, encompassing the entire site. A site that is fully served by two or more sources that are consistently merged together to serve a crop's needs would also have a single portion. (e.g., a portion of the proposed project may receive both irrigation district and groundwater). If the project site includes land that has no irrigation supply, consider this acreage as a separate portion as well. Enter the water resource portions of the project in **Column B** of Table 4, **Site Assessment Worksheet 2. - Water Resources Availability**.

[As an example, a hypothetical project site is determined to have four separate water supply portions:

Portion 1 is served by irrigation district water only;
Portion 2 is served by ground water only;
Portion 3 is served by *both* irrigation district water and ground water;
Portion 4 is not irrigated at all.]

Step 3.
Calculate the proportion of the total project area that is represented by each water resource portion, and enter these figures in **Column C** of **Site Assessment Worksheet 2. - Water Resources Availability**, verifying that the sum of the proportions equals 1.0.

Table 4. Site Assessment Worksheet 2. - Water Resources Availability

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1				
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	***Total Water Resource Score***	

Step 4.
For each water resource supply portion of the project site, determine whether irrigated and dryland agriculture is *feasible*, and if any *physical* or *economic restrictions* exist, during both *drought* and *non-drought* years. These italicized terms are defined below:

- A *physical restriction* is an occasional or regular interruption or reduction in a water supply, or a shortened irrigation season, that forces a change in agricultural practices -- such as planting a crop that uses less water, or leaving land fallow. (This could be from cutbacks in supply by irrigation and water districts, or by ground or surface water becoming depleted or unusable. Poor water quality can also result in a physical restriction -- for example by requiring the planting of salt-tolerant plants, or by effectively reducing the amount of available water.)

- An *economic restriction* is a rise in the cost of water to a level that forces a reduction in consumption. (This could be from surcharge increases from water suppliers as they pass along the cost of finding new water supplies, the extra cost of pumping more ground water to make up for losses in surface water supplies, or the extra energy costs of pumping the same amount of ground water from deeper within an aquifer.)

- Irrigated agricultural production is *feasible* when:

  1) There is an existing irrigation system on the project site that can serve the portion of the project identified in Step 2;

  2) *Physical* and/or *economic restrictions* are not severe enough to halt production; and

  3) It is possible to achieve a viable economic return on crops though irrigated production.

(A major question that should be considered is, if there is an irrigated crop that can be grown within the region, can it actually be grown on the project site? Depending upon the jurisdiction, some typical crops that have a large water demand may not be feasible to grow on the project site, while others that require less water are feasible. Information to aid in making this determination can be obtained from county agricultural commissioners, the UC Cooperative Extension, irrigation districts, and other sources.)

- *Dryland production* is *feasible* when rainfall is adequate to allow an economically viable return on a nonirrigated crop.

- A *drought year* is a year that lies within a defined drought period, as defined by the Department of Water Resources or by a local water agency. Many regions of the state are by their arid nature dependent upon imports of water to support irrigated agriculture. These regions shall not be considered under periods of drought unless a condition of drought is declared for the regions that typically would be providing water exports.

Step 5.
Each of the project's water resource supply portions identified in **Step 2** is scored separately. Water Resources Availability scoring is performed by identifying the appropriate condition that applies to each portion of the project, as identified in Table 5., **Water Resource Availability Scoring**. Using Table 5, identify the option that best describes the water resource availability for that portion and its corresponding water resource score. Option 1 defines the condition of no restrictions on water resource availability and is followed progressively with increasing restrictions to Option 14, the most severe condition, where neither irrigated nor dryland production is considered feasible. Enter each score into **Column D** of Table 4.

Step 6.
For each portion of the project site, determine the section's weighted score by multiplying the portion's score (**Column D**), by its proportion of the project area (**Column C**), and enter these scores in **Column E**, the weighted Water Availability Score. Sum the **Column E** scores to obtain the total Water Resource Availability Score, and enter this figure in **Line 4** of the **Final LESA Score Sheet** (Table 8).

Table 5. Water Resource Availability Scoring

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	--	--	50
9	YES	NO	YES	NO	--	--	45
10	YES	YES	NO	NO	--	--	35
11	YES	YES	YES	NO	--	--	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

Explanation of the Water Resource Availability Rating

The Water Resource Availability factor in the California Agricultural LESA Model was developed in cooperation with Nichols-Berman, a consulting firm under contract with the Department of Conservation. A thorough discussion of the development of this rating is presented by Nichols-Berman in a report to the Department entitled, *Statewide LESA Methodologies Report - Project Size and Water Resource Availability Factors* (3). During the development of this factor it became apparent that certain conditions unique to California would need to be represented in this system.

First, it was decided to classify water reliability based upon the *effects* on agricultural production (such as being forced to change to lower-value crops, putting in groundwater pumps, or cutting back on the acreage farmed) rather than the actual *type* of limitation (such as a limitation on the quantity, frequency, or duration of water delivery). LESA systems have traditionally focused on the latter. However, it was found that the many types of limitations are too varied in California to adequately represent in the LESA system. In the Statewide LESA system, these effects are referred to as *restrictions*.

Second, the factor had to include an interrelation with cost. The historical shortages and unreliability of California water use has led to the establishment of various interconnected and dual systems. Probably more than any other state, reliability is related with cost -- a more reliable water supply can sometimes be obtained, but at a greater cost. Therefore, *restrictions* were classified into two major categories -- *physical* and *economic*. These are separated because, generally, a physical restriction is more severe than an economic restriction and this should be reflected in the LESA system.

Third, the factor had to include the effects of the drought cycle in California. During the drought of 1987 to 1992, many agricultural areas of the state experienced water shortages. The impact of these shortages resulted in a number of different actions. Some areas were able to avoid the worst effects of the drought simply by implementing water conservation measures. Other areas were able to obtain additional water supplies, such as by securing water transfers or simply pumping more groundwater, but at an increase in the overall price of water. Other options included shifting crops, replanting to higher value crops to offset the increase in water prices, or leaving land fallow. A project site that experiences restrictions during a drought year should not be scored as high as a similar project site that does not.

The easiest way to make determinations of irrigation feasibility and the potential restrictions of water sources is to investigate the cropping history of the project site. For instance, was the water supply to the project site reduced by the local irrigation district during the last drought? If the site has a ground water supply, do area ground water levels sometimes drop to levels that force markedly higher energy costs to pump the water?

If the history of the project site is unavailable (including when the site has recently installed an irrigation system), look at the history of the general area. However, remember that the project site may have different conditions than the rest of the region. For instance, the project site could have an older water right than others in the region. Although certain areas of the state had severe restrictions on water deliveries during the last drought, some parcels within these areas had very secure deliveries due to more senior water rights. If this was the case in the region of the project site, check the date of water right and compare it with parcels that received their total allotment during the last drought. The local irrigation district should have information on water deliveries.

The scoring of water resource availability for a project site should not just reflect the adequacies of water supply in the past -- it should be a *prediction* of how the water system will perform in the future. For instance, a local jurisdiction might find that the allocation of flows to stream and river systems has been recently increased for environmental reasons, which will decrease the future available surface water supply. In this case, the past history of the site is not an adequate representation of future water supply and water system performance.

3. Site Assessment - The Surrounding Agricultural Land Rating

Determination of the surrounding agricultural land use rating is based upon the identification of a project's "Zone of Influence" (ZOI), which is defined as that land near a given project, both directly adjoining and within a defined distance away, that is likely to influence, and be influenced by, the agricultural land use of the subject project site. The determination of the ZOI is described below, and is illustrated with an example in Figure 1.

Defining a Project's "Zone of Influence"

Step 1.
Locate the proposed project on an appropriate map and outline the area and dimensions of the proposed project site.

Step 2.
Determine the smallest rectangle that will completely contain the project site (Rectangle A).

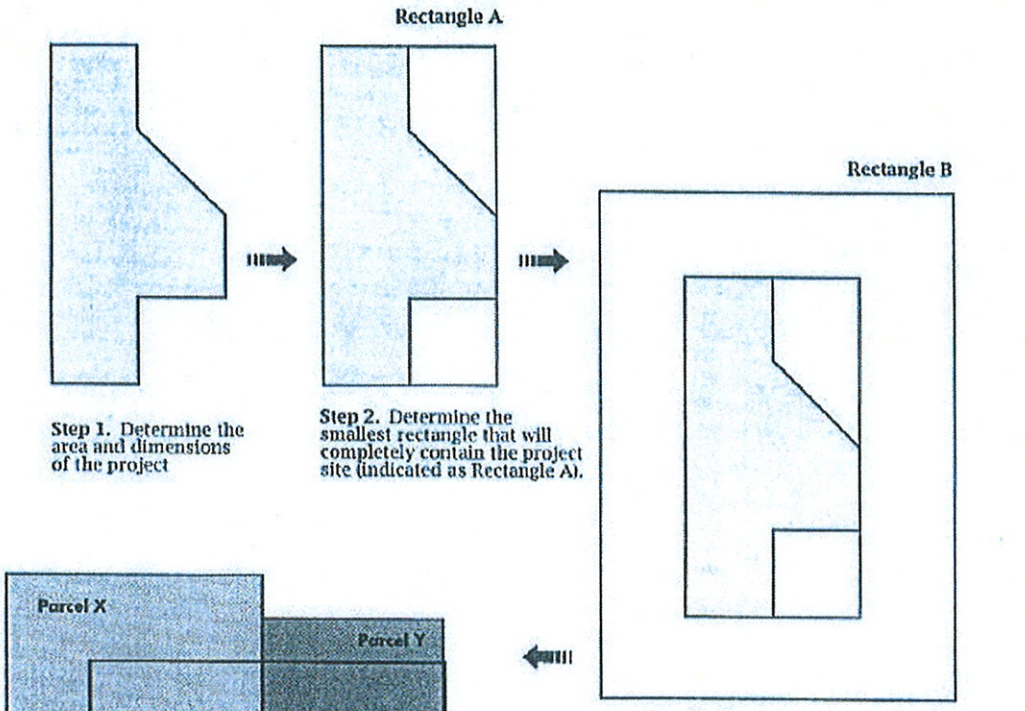
Step 3.
Create a second rectangle (Rectangle B) that extends 0.25 mile (1320 feet) beyond Rectangle A on all sides.

Step 4.
Identify all parcels that are within or are intersected by Rectangle B.

Step 5.
Define the project site's "zone of influence" as the entire area of all parcels identified in Step 4, less the area of the proposed project from Step 1.

[In the illustration provided in Figure 1, Parcels W, X, and Y extend beyond Rectangle B and are therefore included in their entirety in defining the project site's Zone of Influence.]

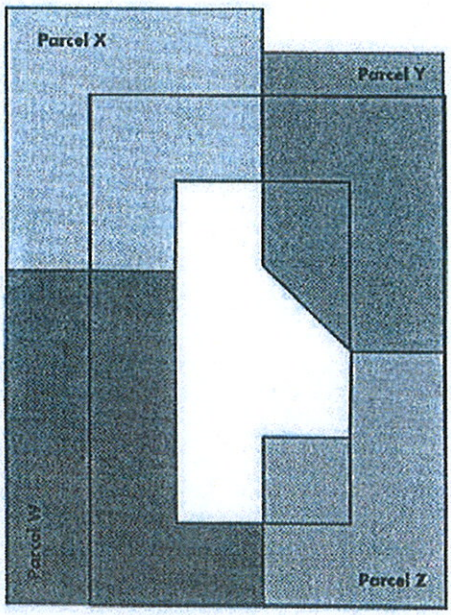
Figure 1: Defining a Project's Zone of Influence



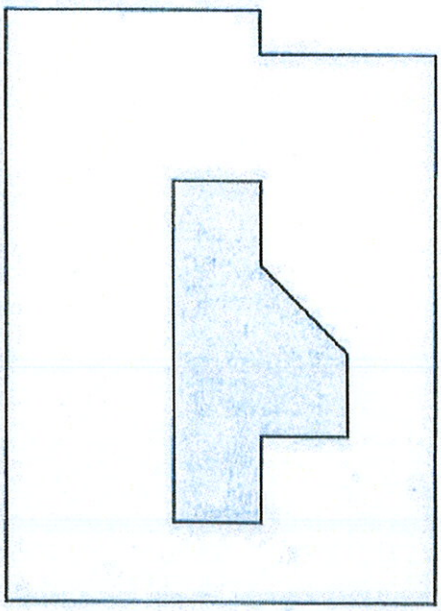
Step 1. Determine the area and dimensions of the project

Step 2. Determine the smallest rectangle that will completely contain the project site (indicated as Rectangle A).

Step 3. Create a second rectangle (Rectangle B) that extends 0.25 mile (1320 feet) beyond Rectangle A on all sides.



Step 4. Identify all parcels that are within or are intersected by Rectangle B.



Step 5. Define the project's "zone of influence" as the entire area of all parcels identified in Step 4, less the area of the proposed project from Step 1.

In this example, parcels W, X, and Y extend beyond Rectangle B and are therefore included in the their entirety in defining the project's zone of influence.

Measuring Surrounding Agricultural Land

Step 1.
Calculate the percentage of the project's Zone of Influence that is currently producing agricultural crops. [This figure can be determined using information from the Department of Conservation's Important Farmland Map Series, the Department of Water Resources' Land Use Map Series, locally derived maps, or direct site inspection. For agricultural land that is currently fallowed, a determination must be made concerning whether the land has been fallowed as part of a rotational sequence during normal agricultural operations, or because the land has become formally "committed" to a nonagricultural use. Land that has become formally committed, whether fallow or not, should not generally be included in determining the proportion of the Zone of Influence that is agricultural land. For further information on the definition of Committed Land, refer to the following Explanation of the Surrounding Agricultural Land Rating.]

Step 2.
Based on the percentage of agricultural land in the ZOI determined in Step 1, assign a Surrounding Agricultural Land score to the project according to Table 6, and enter this score in **Line 5** of the **Final LESA Scoresheet** (Table 8).

Table 6. Surrounding Agricultural Land Rating

Percent of Project's Zone of Influence in Agricultural Use	Surrounding Agricultural Land Score
90 - 100%	100 Points
80 - 89	90
75 - 79	80
70 - 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
40 <	0

Explanation of the Surrounding Agricultural Land Rating

The Surrounding Agricultural Land Rating is designed to provide a measurement of the level of agricultural land use for lands in close proximity to a subject project. The California Agricultural LESA Model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has a relatively small percentage of surrounding land in agricultural production. The definition of a "Zone of Influence" that accounts for surrounding lands up to a minimum of one quarter mile from the project boundary is the result of several iterations during model development for assessing an area that will generally be a representative sample of surrounding land use. In a simple example, a single one quarter mile square project (160 acres) would have a Zone of Influence that is a minimum of eight times greater (1280 acres) that the parcel itself.

Land within a Zone of Influence that is observed to be fallow will require a case by case determination of whether this land should be considered agricultural land. The Department of Conservation's Important Farmland Maps may be of assistance in making this determination. In addition, land currently in agricultural production may be designated as being "committed" to future nonagricultural development. The Department of Conservation's Farmland Mapping and Monitoring Program has a land use designation of Land Committed to Nonagricultural Use, and is defined as "land that is permanently committed by local elected officials to nonagricultural development by virtue of decisions which cannot be reversed simply by a majority vote of a city council or county board of supervisors. The "committed" land must be so designated in an adopted local general plan, and must also meet the requirements of either (a) or (b) below:

(a). It must have received one of the following final discretionary approvals:

1. Tentative subdivision map (approved per the Subdivision Map Act);
2. Tentative or final parcel map (approved per the Subdivision Map Act);
3. Recorded development agreement (per Government Code §65864);
4. Other decisions by a local government which are analogous to items #1-3 above and which exhibit an element of permanence. Zoning by itself does not qualify as a permanent commitment.

Or

(b) It must be the subject of one of the final fiscal commitments to finance the capital improvements specifically required for future development of the land in question as shown below:

1. Recorded Resolution of Intent to form a district and levy an assessment;
2. Payment of assessment;
3. Sale of bonds;
4. Binding contract, secured by bonds, guaranteeing installation of infrastructure;
5. Other fiscal commitments which are analogous to items #1-4 above and exhibit an element of permanence."

Lead agencies are encouraged to identify Land Committed to Nonagricultural Use within a project's ZOI and make the determination whether this land, while still in agricultural production, be considered nonagricultural land for the purposes of the calculation performed here.

4. Site Assessment - The Surrounding Protected Resource Land Rating

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating, and is scored in a similar manner. Protected resource lands are those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

- Williamson Act contracted lands
- Publicly owned lands maintained as park, forest, or watershed resources
- Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

Instructions for the Surrounding Protected Resource Land Rating

Step 1.
Utilizing the same "Zone of Influence" (ZOI) area calculated for a project under the Surrounding Agricultural Land Rating, calculate the percentage of the ZOI that is Protected Resource Land, as defined above.

Step 2.
Assign a Surrounding Protected Resource Land score to the project according to Table 7, and enter this score on **Line 6** of the **Final LESA Scoresheet** (Table 8).

Table 7. Surrounding Protected Resource Land Rating

Percent of Project's Zone of Influence Defined as Protected	Surrounding Protected Resource Land Score
90 - 100%	100 Points
80 - 89	90
75 - 79	80
70 - 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
40 <	0

Section III. Weighting of Factors and Final LESA Scoring

The California LESA Model is weighted so that 50 percent of the total LESA score of a given project is derived from the Land Evaluation factors, and 50 percent from the Site Assessment factors. Individual factor weights are listed below, with the sum of the factor weights required to equal 100 percent.

Land Evaluation Factors

Land Capability Classification	25%
Storie Index Rating	25%
Land Evaluation Subtotal	**50%**

Site Assessment Factors

Project Size	15%
Water Resource Availability	15%
Surrounding Agricultural Lands	15%
Surrounding Protected Resource Lands	5%
Site Assessment Subtotal	**50%**
Total LESA Factor Weighting	**100%**

Each factor is measured separately (each on 100 point scale) and entered in the appropriate line in **Column B** of the **Final LESA Scoresheet** (Table 8). Each factor's score is then multiplied by its respective factor weight, resulting in a weighted factor score in **Column D** as indicated in Table 8. The weighted factor scores are summed, yielding a Total LESA Score (100 points maximum) for a given project, which is entered in **Line 7** of **Column D**.

Table 8. Final LESA Scoresheet

A	B		C		D
Factor Name	Factor Rating (0-100 points)	X	Factor Weighting (Total = 1.00)	=	Weighted Factor Rating
Land Evaluation					
1. Land Capability Classification	<Line 1>_____	X	0.25	=	_____
2. Storie Index Rating	<Line 2>_____	X	0.25	=	_____
Site Assessment					
1. Project Size	<Line 3>_____	X	0.15	=	_____
2. Water Resource Availability	<Line 4>_____	X	0.15	=	_____
3. Surrounding Agricultural Lands	<Line 5>_____	X	0.15	=	_____
4. Protected Resource Lands	<Line 6>_____	X	0.05	=	_____
			Total LESA Score (sum of weighted factor ratings)		<Line 7>_____

Section IV. California Agricultural LESA Scoring Thresholds - Making Determinations of Significance Under CEQA

A single LESA score is generated for a given project after all of the individual Land Evaluation and Site Assessment factors have been scored and weighted as detailed in Sections 2 and 3. Just as with the scoring of individual factors that comprise the California Agricultural LESA Model, final project scoring is based on a scale of 100 points, with a given project being capable of deriving a maximum of 50 points from the Land Evaluation factors and 50 points from the Site Assessment factors.

The California Agricultural LESA Model is designed to make determinations of the potential significance of a project's conversion of agricultural lands during the Initial Study phase of the CEQA review process. Scoring thresholds are based upon both the total LESA score as well as the component LE and SA subscores. In this manner the scoring thresholds are dependent upon the attainment of a minimum score for the LE and SA subscores so that a single threshold is not the result of heavily skewed subscores (i.e., a site with a very high LE score, but a very low SA score, or vice versa). Table 9 presents the California Agricultural LESA scoring thresholds.

Table 9. California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to 59 Points	Considered Significant only if LE and SA subscores are each greater than or equal to 20 points
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points
80 to 100 Points	Considered Significant

Farmland Conversion Study Addendum

For:

Approximately 314.31 Acres
Northeast Corner of Houghton Road and State Route 99

Portion of Section 7
Township 31 South, Range 28 East, M. D. B. & M.
County of Kern, State of California

Prepared For:

Mitchell Property Management
99/Houghton Industrial Project

Prepared By:

McIntosh & Associates
McIntosh & Associates Engineering, Inc. © 2017

2001 Wheelan Court
Bakersfield, California 93309
(661) 834-4814

Project No. 06-012.01

March 2017

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1.0 Introduction

1.1 Purpose of Study

This Farmland Conversion Study is intended as an addendum to the previously prepared Farmland Conversion Study dated May 2009. All material from the previous 2009 study is still applicable to the project's potential impact to agricultural lands. Since the previous study was prepared, the subject property has continued to be farmed. This addendum will report new information that has become available since 2009.

1.2 Project Description

The proposed light-to-medium industrial park, with associated neighborhood commercial and highway commercial uses, consists of 314.31 acres identified by Assessor's Parcel Number 185-140-08. Changes in the development of the project site are listed in Table 1.

According to the MBGP, the current land use designation for the subject property is R-IA (Resource-Intensive Agriculture) and HC (Highway Commercial). According to the County of Kern Zoning Ordinance, the entire subject property is currently zoned A (Exclusive Agriculture). The property owner is proposing to amend the MBGP and change the land use zoning designations as follows:

Table 1 Proposed Land Use and Zoning

Proposed Land Use and Zoning					
General Plan Amendment			**Zone Change**		
From	***To***	***Acres***	***From***	***To***	***Acres***
R-IA Resource Intensive Agriculture	**LI** Light Industrial	±107.72	**A** Exclusive Agriculture	**M-1 PD** Light Industrial, Precise Development Combining	±107.72
	SI Service Industrial	±159.58		**M-2 PD** Medium Industrial, Precise Development Combining	±159.58
	HC Highway Commercial	±9.01		**CH PD** Highway Commercial, Precise Development Combining	±25.00
	GC General Commercial	22.00		**C-2 PD** General Commercial, Precise Development Combining	±22.00
TOTAL		298.31*			314.30

*Does not include 15.99 acres of existing HC land use designation

2.0 Farmland Conversion Supplemental Data

The following data includes new information that has been compiled based on new reports, studies, and/or responses to questionnaires.

2.1 California Land Conservation Act (Williamson Act)

The total acres of prime and nonprime farmland reported to the State Department of Conservation with the Kern County annual Subvention Report for 2014-2015 were 1,468,900.00 acres of prime and non-prime land under a California land Conservation (Williamson Act) contract. Of that total 144,339.68 acres (approximately 10 percent) were enrolled in Farmland Security Zone (FSZ) contracts. Non-renewals initiated for the year totaled 99.31 acres of prime and non-prime property.

2.2 Trends of Farmland Conversion in the County

The most recent 2014 California Land Conservation (Williamson) Act Status Report, which is prepared by the Department of Conservation, provides a breakdown of contracted lands in Kern County receiving benefit of decreased property taxation for 2013-2014 (See Table 2).

Table 2 2013-2014 California Land Conservation (Williamson) Act

California Land Conservation (Williamson) Act 2013-2014		
Williamson Act Contract	Prime	632,177 acres
	Non-Prime	911,620 acres
Land Conservation Act Nonrenewal (2011)	Prime	48,158 acres
	Non-Prime	31,628 acres
Farmland Security Zone Contract - Urban	Prime	25,316 acres
	Non-Prime	0 acres
Farmland Security Zone Contract – Non-Urban	Prime	133,751 acres
	Non-Prime	0 acres
Farmland Security Zone – Non-contracted*	Prime	13,172 acres
	Non-Prime	0 acres

* These lands have requested non-renewal of their contract and are in the process of "backing out" of the 9-year contract.

3.0 Environmental Setting

3.1 State of California Agricultural Production

According to the most recent 2013-2014 California Agricultural Statistics Review prepared by the California Department of Food & Agriculture, California had 80,500 farming operations

for the year 2012. This number represents less than 4 percent of the nation's total farming operations; however, these farms account for 12.8 percent of the national gross cash receipts from farming.

California farmland totaled 25.4 million acres for the year 2010, down less than 0.5 percent from the 2010 acreage, and the number of farms decreased by 0.4 percent from the year 2005. The average size farm in California is 312 acres compared with the U.S. average of 312 acres. California now produces more than 400 commodities, and produced nearly half of U.S. grown fruits, nuts, and vegetables.

3.2 Kern County Agricultural Production 2015

The most recent 2015 Agricultural Crop Report (September 12, 2016) prepared by the Kern County Agricultural Commissioner's Office states that Kern County contains 839,079 acres of harvested land. Within that acreage, 73,550 acres were harvested for vegetable crops, 442,146 acres were harvested for fruit crops, and 339,746 acres for field crops. The 2015 total value of agricultural commodities produced in Kern County was $6,878,823,690.00, a decrease of approximately 9.0 percent over the 2014 crop value. The total harvested acreage decreased approximately 4.5 percent. The 2015 top five commodities were grapes, almonds, citrus, milk, and cattle.

3.3 Agricultural Production - Subject Property 2009 to 2015

Doug Kaiser Farms (DKF), Permit No. 1500666 is the grower from 2007 to 2009. Mitchell Property Management L.P., Permit No. 1502896, was the grower for the years 2003 through 2006 and 2009 to present. Agricultural crops grown on the subject property from 2009 to 2014 are listed in Table 3.

Table 3 Crops Grown on Subject Property for the years 2009-2014

Agricultural Crops - 2009-2016 Portion of Section 7, Township 31S., Range 28E., M.D.M.					
Year	Permit and Permitee	Crop	Acres	Yield Per Acre (Ton)	Total Yield (Ton)
2009	Mitchell Property Management, LP Permit No. 1502896	Corn/Fod	119.2	5.04	600.8
		Oat/Fod	63.3	2.5	158.25
		Alfalfa	91.6	7.34	672.3
		Sudan Grass	18.4	4.5	82.8
2010	Mitchell Property Management, LP Permit No. 1502896	Alfalfa	180.5	7.62	1,375.4
		Oat	89.7	2.5	224.25
		Fallow	19.5	--	--
2011	Mitchell Property Management, LP Permit No. 1502896	Alfalfa	199.5	8.18	1,631.9
		Corn/Fod	89	--	--
2012	Mitchell Property Management, LP Permit No. 1502896	Alfalfa	288.5	8.05	2,322..4
2013	Mitchell Property Management, LP Permit No. 1502896	Alfalfa	251.7	9.03	2,272.9
		Corn/Fod	36.8	--	--
2014	Mitchell Property Management, LP Permit No. 1502896	Alflafa	125.8	8.2	1,038.6
		Corn/Fod	162.7	26.35	4,287.1
2015	Mitchell Property Management, LP Permit No. 1502896	Alfalfa	189.8	8.51	1,615.2
		Wheat	40	13.3	532
		Fallow	59	--	--

3.4 Pesticide Usage - Subject Property

The project site has continued to be used for agricultural purposes since the previous study was prepared. Alfalfa and corn/fodder have been grown on the subject property since 2011, therefore it is assumed that the pesticide usage from 2011-2014 is similar. Information pertaining to pesticide use within the subject property has been provided by the Kern County GIS Mapping System, Kern County Department of Agriculture records, and the property owner, Mitchell Property Management, LLC..

According to the Kern County Agricultural Commissioner's pesticide permit records, the following pesticides, herbicides, fertilizers, and general soil amendments have been licensed and were applied to the project site in 2014. (See Table XX)

Table 4 Chemicals / Pesticides Permitted for Use on the Project Site

Chemicals / Pesticides Permitted for Use on Project Site		
Name	**Type**	**Year Applied**
Round-up		2014/2015
Yukon		2014
Lomite		2014
Fusilade DX	Herbicide	2014
Lorox DX (CA)	Herbicide	2014
Oroboost	Enhancer	2014

3.4 Agricultural Production - Adjacent Property

The crops grown on adjacent properties for the years 2008-2014 is shown in Table XX below.

Table 5 Crops Grown on Adjacent Properties 2008-2014

Crops Grown on Adjacent Properties 2008-2014		
Year	**Location**	**Crops**
2008	North	Alfalfa, Wheat, Sorghum Milo
	East	Alfalfa, Wheat, Sorghum Milo
	South	Oat/Fod
	West	Wheat
2009	North	Alfalfa
	East	Alfalfa
	South	Oat/Fod
	West	Wheat
2010	North	Alfalfa
	East	Alfalfa, Cotton, Garlic
	South	Alfalfa
	West	N/A
2011	North	Alfalfa
	East	Wheat, Corn/Fod, Garlic
	South	Alfalfa
	West	N/A
2012	North	Corn/Fod, Wheat
	East	Alfalfa
	South	Alfalfa
	West	Wheat, Corn/Fod
2013	North	Alfalfa
	East	Alfalfa
	South	Alfalfa

Crops Grown on Adjacent Properties 2008-2014		
Year	**Location**	**Crops**
	West	Carrot, Alfalfa Grass
2014	North	Alfalfa
	East	Alfalfa
	South	N/A
	West	Carrot

Source: Kern County GIS - 01/2015

3.5 Aerial Photographs 2009-2014

Aerial photographs from 2009 to 2014 were reviewed to help establish the recent use of the subject property. The majority of the site continues to be used as agricultural land. The following aerial photographs are provided as listed below (Refer to Appendix "G"):

2009 - Agricultural land

Conditions on the project site and other adjacent properties appear unchanged since the 2006 aerial photograph in the previous Study. Agricultural operations appear to continue on the majority of the subject site.

2011 - Agricultural land

Conditions on the project site and other adjacent properties appear unchanged since the 2009 aerial photograph. Agricultural operations appear to continue on the majority of the subject site.

2014 - Agricultural land

Conditions on the project site and other adjacent properties appear unchanged since the 2011 aerial photograph. Agricultural operations appear to continue on the majority of the subject site.

3.6 Agricultural Crops and Yields for the Year 2008 - 2015

According to the farmer, the agricultural crops grown on the subject property for the years 2008 through 2015 consisted of wheat, alfalfa, corn, and grain crops. The yield per acre, cost to produce, and net value of each year's crop is listed in the table below.

Table 6 Agricultural Crops and Yields for the Year 2008 - 2015

Agricultural Crops - 2008-2015 Portion of Section 7, Township 31S., Range 28E., M.D.M.								
Year	**Crop**	**Acres**	**Yield Per Acre (Ton)**	**Total Yield (Ton)**	**Unit Value Per Ton**	**Cost to Produce[b]**	**Net Crop Value**	**Net Value Per unit**
2008	Wheat	65	2.92	190	$263.00	*$765.00	$245.00	$1.29
	Alfalfa	150	8.65	1,350	$211.00	*$760.00	$170,850	$126.66
	Corn /Fod	20	--[c]	--	--[c]		--	--
	Fallow	60	--	--	--	300.00[d]	0	($18,000)
2009	Corn/Fod	119.2	5.04 (d)	600.8	--[c]			
	Oat/Fod	63.3	*2.50	158.25	*375.00	$393.00	$34,467.75	$544.51
	Alfalfa	91.6	7.34	672.3	$100.00	$1,575.00	($77,040.00	($841.04)
	Sudan Grass	18.4	4.50	82.80	*$80.00	$1,021.00	($12,162.40)	($661.00)
2010	Alfafla	180.5	7.62	1,375.4	$115.00	$1,420.00	($98.139.00)	($543.71)
	Oat	89.7	*2.50	224.25	*$375.00	$393.00	$48,841.65	$544.50
	Fallow	19.5	--[c]		--[c]	$350.00[d]	0	($17.95)
2011	Alfalfa	199.5	8.18	1,631.9	$241.00	$1,925.00	$9,249.00	$46.36
	Corn/Fod	89	--[c]		--[c]			
2012	Alfalfa	288.5	8.05	2,322.4	$207.00	$1,425.00	$69,724.00	$241.00
2013	Alfalfa	251.7	9.03	2,272.9	$208.00	*$1,281.00	$150,335.50	$66.14
	Corn/Fod	36.8	--[c]		--[c]	*$1,297.00		
2014	Alfalfa	125.8	8.2	1,038.6	$247.00	$1,425.00	$77,269.00	$74.39
	Corn/Fod	162.7	26.35	4,287.1	$49.80	$1,380.00	($11,029.00)	($67.78)
2015	Alfalfa	189.8	8.51	1,615.2	$169.00	$1,420.00	$44,462.40	$45.86
	Wheat	40	13.3	532	$135.00	$1,106.00	($26,532.00)	($113.97)
	Fallow	59	--	--	--	$350.00[d]	0	($20,650.00)
*	Based upon University of California Cooperative Extension, Cost and Return Studies							

a) Bale
b) Per acre
c) No unit value provided by Kern County Department of Agriculture
d) Cost for fallow land maintenance

2015 Crop Information

Alfalfa – Alfalfa was ranked number nine of the top twenty crops grown in Kern County for the year 2015. The typical yield of alfalfa is 7.16 tons per acre and the cost to produce alfalfa is estimated at $995.00 per acre according to the Kern County 2015 Crop Report. Mitchell Property Management reported that the cost to produce (primarily due to higher water coasts) was $1,420.00 per acre. The alfalfa crop value is estimated at $185.00 per ton Therefore, the net crop value is approximately $45.86 per ton, or $44,462.40 for the 189.8 acres of alfalfa crop.

Wheat –Wheat was not among the top twenty crops grown in Kern County for the year 2015. The typical yield of wheat is 3.19 tons per acre according to the Kern County 2015 Crop Report. Mitchell Property Management reported the net cost to produce the wheat is $1,106.00 per acre.The wheat crop value is estimated at $135.00 per ton. Therefore, the net crop value is approximately ($113.97) per ton, or ($26,532.00) for the 40 acres of wheat crop.

3.9 Water

Data provided by the California Department of Water Resources indicates the groundwater level in a nearby well was approximately 96.7 feet bgs (below ground surface) in 2011. The well is located approximately 0.5 miles northeast of the project site along McCormick Avenue.

4.0 Impacts of Farmland Conversion

4.1 Methodology

This study utilizes a combination of the analysis of factors provided in the MBGP and the California Agricultural Land Evaluation and Site Assessment Model (LESA, California Department of Conservation – Office of Land Conservation, 1997) to identify the proposed project's potential impact to agricultural lands.

4.2 Metropolitan Bakersfield General Plan, and Kern County General Plan Factors

The MBGP recommends that certain factors be evaluated when determining the appropriateness of proposed agricultural conversions (MBGP, page V-13). These factors include:

- Soil quality
- Availability of irrigation water
- Proximity to non-agricultural uses
- Proximity to intensive parcelization
- Effect of properties subject to Williamson Act land use contracts
- Ability to be provided with urban services such as sewer, water, roads, etc.
- Ability to affect the application of agricultural chemicals on nearby agricultural properties
- Ability to create a precedent-setting situation that leads to the premature conversion of prime agricultural lands
- Demonstrated project need
- Necessity of buffers such as lower densities, setbacks, etc.

According to the KCGP, when evaluating General Plan Amendment proposals to change a Map Code 8.1 (Intensive Agriculture) designation to industrial development, the County shall consider the following factors:

- Locations for new industrial activities shall be provided with adequate infrastructure (water, sewage disposal systems, roads, drainage, etc.) to minimize effects on County services.
- Provide for the clustering of new industrial development adjacent to existing industrial uses and along major transportation corridors.
- Require that industrial uses provide design features such as screen walls, landscaping, increased height and/or setbacks, and lighting restrictions between the boundaries of adjacent residential land use designations so as to reduce impacts on residences due to light, noise, sound, and vibration.

- Requests for new Map Code 7.2 (Service Industrial) and Map Code 7.3 (Heavy Industrial) designations should be discouraged on sites contiguous to or located within ¼ mile of residentially designated property.
- All industrial development equal to or greater than 40 acres in a rural area will require the adoption of a Specific Plan prior to development approval.
- Where feasible, locate future industrial activities in close proximity to railroad facilities and inter- and intra-State transportation corridors to minimize extensive travel through urban areas and to promote alternative transportation of goods.

This section includes a general discussion of the above-mentioned factors. This study's findings regarding these factors are included in Section 6.0 Conclusions.

In California, the nation's leading farm state, the issue is complicated by widely varying numbers about the extent of conversion and by contrasting opinions about the causes and consequences of farmland loss. The Metropolitan Bakersfield General Plan area has been experiencing intense urbanization for the last two decades, and is actively annexing properties by providing the infrastructure needed to serve more densely populated communities. Urbanization in farming areas typically begins with conversion of one or a few parcels adjacent to the city limit line. The encroachment of urban uses on existing agricultural areas is prevalent adjacent to the City, where both farmers and urban neighbors operate with both negative and positive consequences. The challenge is to minimize the negative interactions and create the conditions for a long-term and mutually beneficial coexistence between farmers and urban residents. The negative interactions can be divided into the impacts that farmers can have on urban neighbors and the impacts that urban neighbors can have on farmers.

Farming operations can affect urban neighbors by creating inconveniences or discomforts such as equipment noise, odors from manure and other chemicals, and dust or smoke. Farming operations may also result in impacts such as traffic of farm machinery on the streets. The introduction of adjacent residential uses creates a greater number of land use conflicts than non-residential urban uses such as commercial and industrial uses.

The introduction of urban uses in existing agricultural areas can affect farming operations. Urban uses can create adverse impacts such as the introduction of pests, disease and weeds, increased flooding and siltation, and increased traffic, vandalism, and trespassing. In Kern County, a farmer must receive a "Restricted Materials Permit" to apply chemicals to the crops, and the Kern County Department of Agriculture monitors the application by permits, to ensure that it is applied within regulations. For example, there are restrictions on the application of cotton harvest aides (DEF, Folex, Paraquat) during the cotton defoliation season. DEF, Folex and Paraquat shall not be applied within 1/8 mile of any school. Paraquat should not be applied within 1/8 mile of any residential zoned or inhabited area, or within 1/4 mile if applied by air. DEF or Folex shall not be applied within 1/2 mile of any area zoned as residential or any school in session or due to be in session within 24 hours. Restrictions to chemical and pesticides application are an additional impact on farming operations resulting from residential developments near existing agricultural areas.

The proposed project may have an impact on local growers. Farmers near the proposed project will inevitably be affected by the planned development. Substantial planned urban development on properties near the proposed project site indicates that this site is in the logical path of development. In addition, Highway 99 would provide a buffer between

uses within the project site and agricultural activities west of it. The future South Beltway would provide a buffer on the south side, Di Giorgio Road on the north side, and Highway 204 (South Union Avenue) on the east side.

The conversion of this property from agricultural use to industrial use is not expected to create cumulative or growth-inducing impacts to other nearby farmlands. Existing land use designation of properties to the northwest, northeast, west, and southeast, as well as, proposed and pending land use designation amendments and planned future development of properties to the east and south (shown in Appendix "B") demonstrate that the project is along the logical path of urban development and the proposed project in itself will not induce further growth.

The impact of the proposed industrial development on local growers is considered minimal because of the restrictions and limitations that are already in place as a result of rural residential development near the project site.

Existing and planned urban development on properties directly adjacent to, and near the proposed project site indicates that this site is in the logical path of development. The following factors indicate that the proposed project area and adjacent properties will be affected by future urban development:

- The Proposed South Beltway Alignment is located along the southern project boundary.
- General Plan Amendment and Zone change is proposed for 28.67 acres west of the project site to allow for Light Industrial uses.
- General Plan Amendments located northwest of the site to allow for Service Industrial uses.
- General Plan Amendment located at the northeast corner of Hosking Road and Highway 99 to allow for retail commercial center with approximately 1 million square feet of leasable commercial space and a 300-room hotel (140,000 square feet) on 109 acres
- General Plan Amendment located at Taft Highway and Chevalier to allow for General Commercial, Office Commercial and High Density residential.
- Zone Change located South of Taft Highway and Chevalier to allow for Commercial and Residential development.

Planned future development (shown in Appendix "B", Proposed Projects near the Subject Property) and planned roadway system expansion near the proposed project site demonstrate that the project is along the logical path of urban development.

4.3 California Department of Conservation - Factors

In this section, prime farmland is defined and discussed, and the prime farmland soils in the project site are listed in Table 10. As defined by the USDA, are soils that are best suited to producing food, seed, forage, fiber, and oilseed crops. In addition, prime farmland produces the highest yields with minimal units of energy and economic resources, and farming theses soils results in the least damage to the environment.

Prime farmland soils commonly get an adequate and dependable supply of moisture from precipitation or irrigation. Temperature and growing season are favorable, and the level of

acidity or alkalinity is acceptable. The soils have few rocks and are permeable to water and air, not excessively erodible or saturated with water for long periods and are not flooded during the growing season. The project site (314.31 acres) would meet the requirements for prime farmland if undeveloped and water for irrigation is available.

4.3.1 Seven Categories of Important Farmland

The California Department of Conservation has determined seven categories of Important Farmland:

Prime Farmland - This has the best combination of physical and chemical characteristics for crop production. It has the soil quality, growing seasons and moisture supply needed to produce sustained high yield crops when treated and managed, including water management, according to current farming methods. Implementation of the proposed project will result in a loss of approximately 314.31 acres of soil considered prime farmland soil by the Kern County Soil Survey, Southwest Kern if water for irrigation is available.

Farmland of Statewide Importance - This is land other than prime farmland that has a good combination of physical and chemical characteristics for the production of crops, and has been used for the production of irrigated crops within the last three years. None of the project site is in this category.

Unique Farmland – This is land that does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, and land that is currently used for the production of specific high economic value crops. It has the special combination of soil quality, location, growing season and moisture supply needed to produce sustained high quality or high yields of specific crops (i.e. oranges, olives, avocados, cut flowers) when treated and managed according to current farming methods. This category excludes abandoned orchards or vineyards. None of the project site is in this category.

Farmland of Local Importance – This land produces crops or has the capability of production, or is used for the production of confined livestock. It is other than Prime, Statewide Importance or Unique Farmland. It may be important to the local economy due to its productivity. A local advisory committee set up by the SCS in each county initially identified farmland of Local Importance. The Kern County Board of Supervisors has determined that there will be no Farmland of Local Importance in Kern County. None of the project site is in this category.

Grazing Land – This is land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock. It is identified in minimum mapping units of 40 acres and does not include land previously identified above. None of the project site is in this category.

Urban and Built-up Land – This land is used for residential, industrial, commercial, construction, institutional, public administrative purposes, etc. None of the project site is in this category.

Other Land – This is land not included in any of the other mapping categories and generally includes rural development with a density of less than one structure per 1.5 acres, marginal agricultural lands, brush, timber, roads and other rural land uses.

4.4 Buffer Zones

Buffer zones are well-defined strips of land located between farmland and urban development used to minimize possible conflicts between these uses. Buffers essentially create a separation between agricultural and urban uses, which minimize negative impacts on both sides of an edge boundary, especially the effects of chemical drift from farming activity. Agricultural buffers come in different forms—natural barriers created by landscape features such as waterways, roads, landscaping, walls, residential setbacks, open space greenbelts, and combinations of various types. Key issues in their design and creation are their permanence, maintenance, and which of the landowners—developer/homeowner or farmer will provide the land or barrier.

If developments adjacent to agricultural fields do not include buffer zones in their design, the burden falls upon the grower to provide a buffer between these uses. This often means the grower must allocate a portion of their land to the creation of a buffer zone. As an example, growers might be required to refrain from spraying or harvesting the outside rows of their crops. In those cases, buffer zones represent a loss to the farmer of both crop production and income. However, with commercial development, a buffer zone may include a parking lot or landscape area. Farmers can utilize their entire site for crop production if the adjacent development is commercial or industrial in nature, as these types of uses are not considered to be sensitive receptors.

The MBGP policy implementation for the Land Use Plan states that "Suitable land use buffers, such as transitional lot sizes, shall be planned so as to intervene between existing agricultural uses and planned urban uses."

The roadway rights-of-way will serve as buffers for the proposed development along some of the subject site's boundaries, such as adjacent to Houghton Road and South Union Avenue. In addition, State Route 99 on the west boundary provides a buffer between the project site and adjacent agricultural land.

4.5 Water Supply

Water is an important input in crop production. It has been the most important factor responsible for yield increases in the past 20 years. Some water districts have limits on the amount of water they can deliver to agricultural crops. Water demands change somewhat when croplands are converted to urban uses. Net irrigation requirements give the average amount of water required by specific crops at given locations in addition to the amount of water normally received there in the form of precipitation. Urban water consumption depends on the land use established. Some industrial users, such as food processors, require very large volumes of water. Commercial uses require less water than industrial uses, but more water than residential uses.

Vegetable irrigation in a drought year with potential periods of power outages and the announcements of reduced water supply can severely reduce vegetable yields. Growers

have seen increases in water supply costs for their crops, which are attributed to the higher costs on energy to run the pump.

The agricultural water wells on the project site will be abandoned when the agricultural production ceases in anticipation of the pending residential development.

4.6 Water Quality

The amount and type of water contamination generated in urban areas differ from those generated in farmlands. Urbanization usually results in increased surface water concentrations of fecal coliforms, oil, grease, and heavy metals. Most farmers systematically apply a variety of pesticides and fertilizers to their crops. Some of these chemicals reach the soil and eventually leach into the groundwater. Soil and groundwater contamination also occur where chemicals are mixed or stored, where wells are constructed or abandoned, and through rainwater infiltration. Agricultural application of pesticides accounts for approximately 92 percent of all pesticide use in California (including chlorine).

Conversion of farmlands to urban use decreases the area whereon which vegetation is treated with chemicals decreases due to the addition of impervious surfaces associated with non-agricultural uses.

4.7 Competition for Water

California is experiencing severe drought conditions. Currently water delivery allocation through the California Aqueduct and State Water Project have been reduced to 0% throughout the southern San Joaquin Valley.

The DWR urban water usage (including residential, commercial, and industrial purposes) is equivalent to about 3.2 af/year whereas the typical agricultural applied water usage is about 3.5 af/year. Based on an eight year average of DWR data (1998-2005), the commercial/industrial sector comprised approximately 20% of the total urban water usage in California.

Future domestic water usage, which will need to be supplied by an on-site water company, depends on the function and intensity of activities within the project site. Considering the proposed zoning and land use designation will support urban uses, a comparison of daily water consumption for urban uses is compared to selected crops in Table 7 below.

Table 7 Water Requirements – Urban and Agricultural

Water Requirements Urban and Agricultural	
Type of Use	**Applied Water Use (af/acre)**
Urban	**3.2**
Agricultural	**3.35**
Examples of Crop Irrigation Requirements	
Barley	1.3
Grapes	2.9
Cotton	3.2
Deciduous orchard	3.5
Pasture (improved)	4.5
Alfalfa	4.7
Source: California Water Plan Update 2013	

Table 8 Statewide Urban Water Uses

Statewide Urban Water Uses	
Type of Use	**Water Use (MAF)**
Large Landscape	0.8
Commercial/Institutional	1.1
Industrial	0.5
Residential Interior	2.7
Residential Exterior	3.0
Other	0.6
Total	**8.8**
Source: California Water Plan Update 2013	

4.9 California Agricultural Land Evaluation and Site Assessment Model – LESA

4.9.1 Land Evaluation Factors

4.9.3 Final LESA Scoring

Individual factor weights are listed in Table 12. For the subject property, the final LESA score is determined to be 82 points. (See Table 16)

For the subject property, the final LESA score was determined to be as follows:

Table 4 Land Evaluation and Site Assessment Final Score

Land Evaluation and Site Assessment			
Factor Name	**Factor Rating (0-100 Points)**	**Factor Weighting (Total=1.0)**	**Weighted Factor Rating**
Land Evaluation			
Land Capability Classification	62.55	0.5	31.28
Storie Index Rating	--	-	-
Site Assessment			
Project Size	100	0.15	15
Water Resource Availability	100	0.15	15
Surrounding Agricultural Lands	93	0.15	13.95
Protected Resource Lands	0	0.05	0
	Total LESA Score		**75.23**

The Kern County California Soil Survey for the Southwestern region does not include the Storie Index for each soil unit, therefore the LE portion of the analysis accounts for 50 percent of the LESA Score.

4.9.4 Threshold of Significance

The California Agricultural LESA Model is designed to make determinations of the potential significance of a project's conversion of agricultural lands during the Initial Study phase of the CEQA process. Scoring thresholds are based upon both the total LESA score and the component LE and SA separate subscores. In this manner the scoring thresholds are dependent upon the attainment of a minimum score for the LE and SA subscores so that a single threshold is not the result of heavily skewed subscores (i.e., a site with a very high LE score but a very low SA score, or vice-versa). The California Agricultural LESA Model scoring thresholds are as follows:

Table 5 LESA Model Scoring Thresholds

LESA Model Scoring Thresholds	
Total LESA Score	**Scoring Decision**
0 to 39 points	Not considered significant
40 to 59 points	Considered significant only if LE and SA subscores are each greater than or equal to 20 points
60 to 79 points	Considered significant unless either LE or SA subscore is less than 20 points
80 to 100 points	Considered Significant

According to the California Agricultural LESA Model Threshold of Significance, the total score of 75.23 points for the subject property would be considered a significant environmental impact resulting from the conversion of agricultural properties to non-agricultural uses (LE and SA are both more than 20 points). This is due to the project size, water resource availability, soil quality, and surrounding agricultural lands.

5.0 Mitigation

There are no new adverse physical impacts associated with farmland conversion. No new mitigation measures are proposed.

6.0 Conclusions

As previously identified in the study from 2008, with implementation of mitigation measures found in Section 5.0 Mitigation, impacts would be less than significant.

While conflicts between urban and farming uses may exist, diminishing the edge relationships and exposures between the two, as well as adopting policies and regulations to mitigate their mutual impacts can minimize them. State and Federal Law restricts pesticide use in certain areas, and "right-to-farm" ordinances alone would not diminish the impact of the restrictions on pesticide use on farming operations. The project site will be adjacent to residential uses along its eastern boundary. The proposed project would be separated from adjacent properties by existing and planned roadways, which would contribute to minimize land use conflicts. Highway 99 would provide a buffer between uses within the project site and agricultural activities west of it. The future South Beltway would provide a buffer on the south side, DiGiorgio Road alignment on the north side, and South Union Avenue on the east side.

Implementation of the proposed project will result in a conversion of approximately 314.31 acres of farmland to urban uses. These 314.31 acres include approximately 170.22 acres of soil capability Class II irrigated prime agricultural land and approximately 144.09 acres of soil capability class III. The lost crop value for 2015 is theoretically estimated at $44,462.40 for 189.8 acres of alfalfa and ($26,532.00) for 40 acres of wheat-silage

According to the California Agricultural LESA Model Threshold of Significance, the total score of 75.23 points for the subject property would be considered a significant environmental impact resulting from the conversion of agricultural properties to non-agricultural uses (LE and SA are both more than 20 points). This is due to the project size, water resource availability, soil quality, and surrounding agricultural lands.

Implementation of the proposed project would result in a significant impact from the conversion of approximately 314.31 acres of land currently used for agricultural uses to urban uses. A statement of overriding considerations for this impact was adopted when the MBGP was certified. However, with implementation of mitigation measures found in Section 5.0 Mitigation, the project would be considered insignificant.

Detailed findings according to the MBGP requirements (Chapter V - Conservation/Soils and Agriculture Element, Policy 14) are presented below.

Soil quality

Finding: The proposed project site is comprised of KsA-Bakersfield sandy loam (170.22 acres) and CaA-Cajon sandy loam (144.09 acres) which, as classified by the United States Department of Agriculture Soil Conservation Service, are Class IIs and IIIs soils respectively. This soil unit is also classified as a prime farmland soil by the Kern County Soil Survey, Southwest Kern. The entire site is considered prime per the California Land Conservation Act and the MBGP definition. Approval and implementation of the land use change will result in a loss of approximately 314.31 acres of prime agricultural land.

Implementation of the proposed project will result in a conversion of approximately 314.31 acres of farmland to urban uses. These 314.31 acres include approximately 170.22 acres of soil capability Class II irrigated prime agricultural land and approximately 144.09 acres of soil capability class III. The lost crop value is theoretically estimated at $44,462.40 for 120 acres of alfalfa, $6,074.40 for 40 acres of grain, and ($26,532.00) for 60 acres of corn-silage

The MBGP states that conversion of prime agricultural lands to urban uses will result in a reduction of the regional agricultural economy and is considered a significant adverse impact. However, statement of overriding considerations for this impact was adopted when the MBGP was certified Implementation of the proposed project would result in a significant impact from the conversion of approximately 314.31 acres of land currently used for agricultural uses to urban uses. However, with implementation of mitigation measures found in Section 5.0 Mitigation, the project would be considered an insignificant impact.

Availability of irrigation water

Finding: The property has two water wells located on the site used solely for crop irrigation. In addition, water is available from Kern Delta Water District (KDWD). If water is unavailable from the District, the main sources of water for irrigation are the water wells.

Water well locations are as follows:

- Site 1: one water well located near the northern corner of the site, 150 hp diesel
- Site 2: one water well located near the center of the site, 150 hp diesel

Water demands change somewhat when croplands are converted to urban uses. Urban water consumption is higher in most industrial uses, however commercial and residential consume less water. Irrigation in a drought year with potential periods of power outages and the announcements of reduced water supply can severely reduce vegetable yields. Growers have seen increases in water supply costs for their crops which are attributed to the higher costs on energy (electrical and diesel) to run the pump.

Agricultural wells will be abandoned when the agricultural production ceases in anticipation of the pending commercial and industrial development.

No Impact

Proximity to non-agricultural uses

Finding: Planned future development and planned roadway system expansion near and within the proposed project site demonstrate that the project is along the logical path of urban development.

- Future South Beltway alignment adjacent to the south boundary of the proposed project

The proposed project site is bounded by the Di Gorgio Road alignment to the north, South Union Avenue to the east, Houghton Road to the south, and State Highway 99 to west. The roadway right-of-way will serve as buffers for most of the project boundaries.

Planned future development (shown in Appendix "B", Proposed Projects near the Subject Property) and the above-mentioned considerations show that the subject property is along the logical path of urban development.

Proximity to intensive parcelization

Finding: The encroachment of urban uses on existing agricultural areas can result in negative interactions between farmers and urban neighbors. Farming operations can affect urban neighbors by creating inconveniences or discomforts such as equipment noise, odors from manure and other chemicals, and dust or smoke. Urban uses can create adverse impacts to farmers such as the introduction of pests, disease and weeds, increased complaints about noise, dust, smoke, odors, and spray drift from pesticide and fertilizer use, restrictions to the application of pesticides and chemicals, increased flooding and siltation, and increased traffic, vandalism, and trespassing.

The subject property will be significantly and unavoidably affected by the close proximity of urbanized areas. Farming practices will be more restricted as to the manner of application and type of herbicides and pesticides that can be utilized in the vicinity of these urbanized areas. The subject property, as well as others in the area, is the next logical step for urbanization in this area due to the planned urban development near the property and its significant impacts to the crop production.

Effects on properties subject to Williamson Act land use contracts

Finding: The project site is not subject to a Williamson Act land use contracts.

No Impact.

Ability to be provided with urban services

Finding: As part of the proposed project the developer will provide infrastructure services adequate for the project. Development standards and ordinances will require provisions of infrastructure and public service financing, water facility development, subdivision mapping, vesting of rights, and other matters.

No Impact

Ability to affect the application of agricultural chemicals on nearby agricultural properties

Finding: Urban encroachment impacts adjacent lands remaining in agricultural production as conflicts arise from the infringement of the new residential users, which include people and animals, into the area.

The level of significance of any impact on local growers resulting from development of the proposed project is considered minimal due to restrictions and limitations that are placed on the growers with the proximity of planned urban developments. In addition, existing and planned roadways will create buffers between the proposed project and adjacent farming operations.

No Impact

Ability to create a precedent-setting situation that leads to the premature conversion of prime agricultural lands

Finding: The conversion of this property from agricultural use to industrial and commercial use is not expected to create a precedent-setting situation that leads to the premature conversion of prime agricultural lands. Planned future development (shown in Appendix "B") demonstrates that the project is along the logical path of urban development.

No Impact

Demonstrated project need

Finding: The MBGP states that the Bakersfield Planning Department projects the population of the plan area to be 520,500 in the Year 2020. Population growth will result in the need for approximately 37,000 housing units (MBGP – Land Use Element, Page II-4). The proposed project intends to create commercial and industrial services for the rapidly growing Bakersfield community, and job opportunities in a manner consistent with the goals and policies of the MBGP. The proposed project will also ensure that the area develops in a comprehensive and coordinated fashion with adequate consideration of traffic and circulation, public safety, site and resource management and project financing.

It is assumed that future development in the MBGP Planning Area would continue to include "prime" agricultural soils that exist on the Valley floor. This loss has not limited itself to the City of Bakersfield and Kern County but has become an issue of statewide concern. The MBGP concludes that conversion of prime agricultural lands to urban uses will result in a reduction of the regional agricultural economy and is considered to be a significant adverse impact. A statement of overriding considerations for this impact was adopted when the MBGP was certified.

Planned urban development northwest of the site, and within close proximity near the proposed project site indicates that this project is on the logical path of development. The MBGP encourages the orderly outward expansion of new urban development that maintains continuity of existing development and allows incremental expansion of infrastructure and public services. The proposal complies with the MBGP's criteria.

No Impact

Necessity of buffers such as lower densities, setbacks, etc.

Finding: If urban developments do not include buffer zones in their design, growers must sometimes allocate a portion of their land to the creation of a buffer zone adjacent to agricultural fields. As an example, growers might be required to refrain from spraying or harvesting the outside rows of their crops. In those cases, buffer zones represent a loss to the farmer of both crop production and income.

Buffer zones can consist of a road, canal, walls, easements, setbacks, etc. The proposed project site is bound by the Di Giorgio Road alignment on the north, State Highway 99 on the west, South Union Avenue on the west, and Houghton Road to the south. The roads right-of-way will serve as buffers for most of the project boundaries.

The future development of the subject property is not proposing the creation of a buffer zone. However, compliance with the Kern County Zoning and Subdivision Ordinances, and with implementation of mitigation measures found in Section 5.0 Mitigation will guarantee that adequate buffers be provided to avoid conflict between agricultural and urban uses.

No Impact

7.0 Resources

- **Air Quality Resources Board**

  (Air Quality San Joaquin Valley -2004)

- **California Department of Conservation – Office of Land Conservation**

  (California Agricultural Land Evaluation and Site Assessment Model – Instruction Manual – 1997)

- **California Department of Food and Agriculture**

  (California Agricultural Resource Directory 2006 Crop Year Production Information)

- **California Farm Bureau Federation**

  (Facts and Stats about California Agriculture - 2003)

- **California Farm Water Coalition**

  (The Water Fact Book – California Agriculture and Its Use of Water)

- **City of Bakersfield**

  (Metropolitan Bakersfield General Plan Map - 2008)

  (Farmland Conversion in Metropolitan Bakersfield - Working Paper - 1991)

- **Farmland Mapping and Monitoring Program - Department Of Conservation**

  (Farmland Conversion Report 2000 to 2004)

  (Kern County – Interim Farmland Area 2002-2004 Land Use Conversion)

  (Kern County – Important Farmland Area 2002-2004 Land Use Conversion)

  (Important Farmland in California, 2002)

- **Greater Bakersfield Chamber Of Commerce**

  (Agriculture in Kern County – 2004)

- **Kern County Planning and Development Services Department**

  (Kern County Zoning Ordinance – 2007)

  (Williamson Act Land Use Contract 2006)

  (Hazardous Wastes and Substances Site List – 2008)

  (Guidelines for Agricultural Soils/Farmland Conversion Studies)

- **Kern County Department Of Agriculture and Measurement Standards**

  (Pesticide Use Report Data – 2003, 2004, 2005, 2006, 2007, 2008)

  (Kern County Agricultural Crop Reports – Summary, Top Twenty Crops, Field Crops, and Vegetable Crops - 2003, 2004, 2005, 2006, 2007)

- **State of California**

  (California Environmental Quality Act, Sacramento - January 1991)

  (California Health and Safety Code § 11501 thru 11503)

  (California Health and Safety Code § 26569.24 thru 26569.28)

  (A.B. 645, Ch. 1135: Organic Food Act - February 21, 1991)

  (Division of Oil, Gas & Geothermal Resources –1998)

- **United States Department of Agriculture, Natural Resources Conservation Services**

  (Southwest Kern Soil Survey Maps and Information, 2006)

- **United States Department of Agriculture - Soil Conservation Service**

  (USDA Soil Survey of Kern County, California, Southwestern Part)

- **University of California Cooperative Extension**

  (Sample Cost to Establish and Produce)

  (California Production in California)

- **University of California Davis**

  (Agriculture in Urbanizing Communities – July 21, 2000)

- **Kern County Engineering and Survey Services**

  (Aerial Photographs August 3, 1956; February 8, 1975; April 5, 1985; May 22, 1990; May 2000; May 2006

- **United States Geological Survey**

  (Topographic Quadrangle Map Connor and Gosford, CA)

- **Federal Emergency Management Agency**

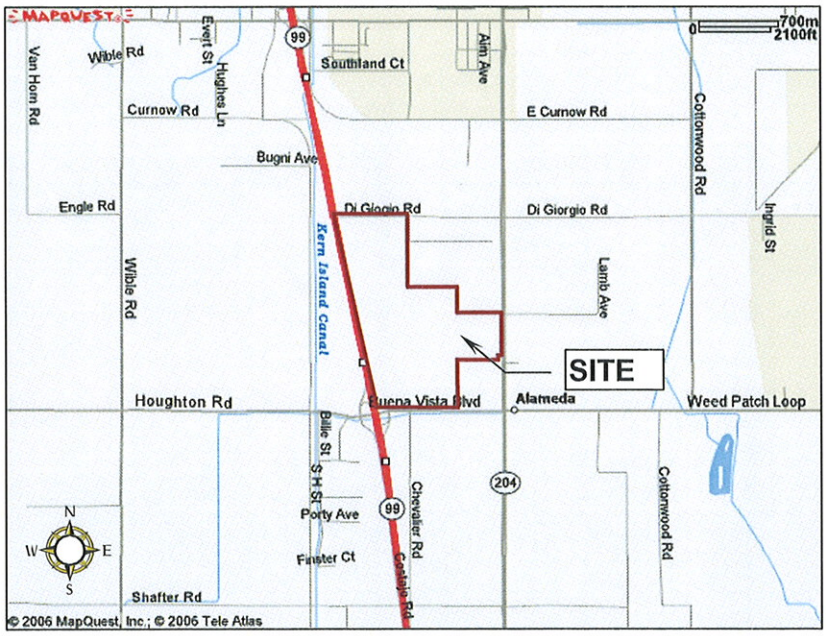
  (Flood Insurance Rate Map Community Panel 060075 1275 B)

- **Kern County Water Agency, Bakersfield, CA**

  (Water Supply Report – May 2005)

APPENDIX "A"

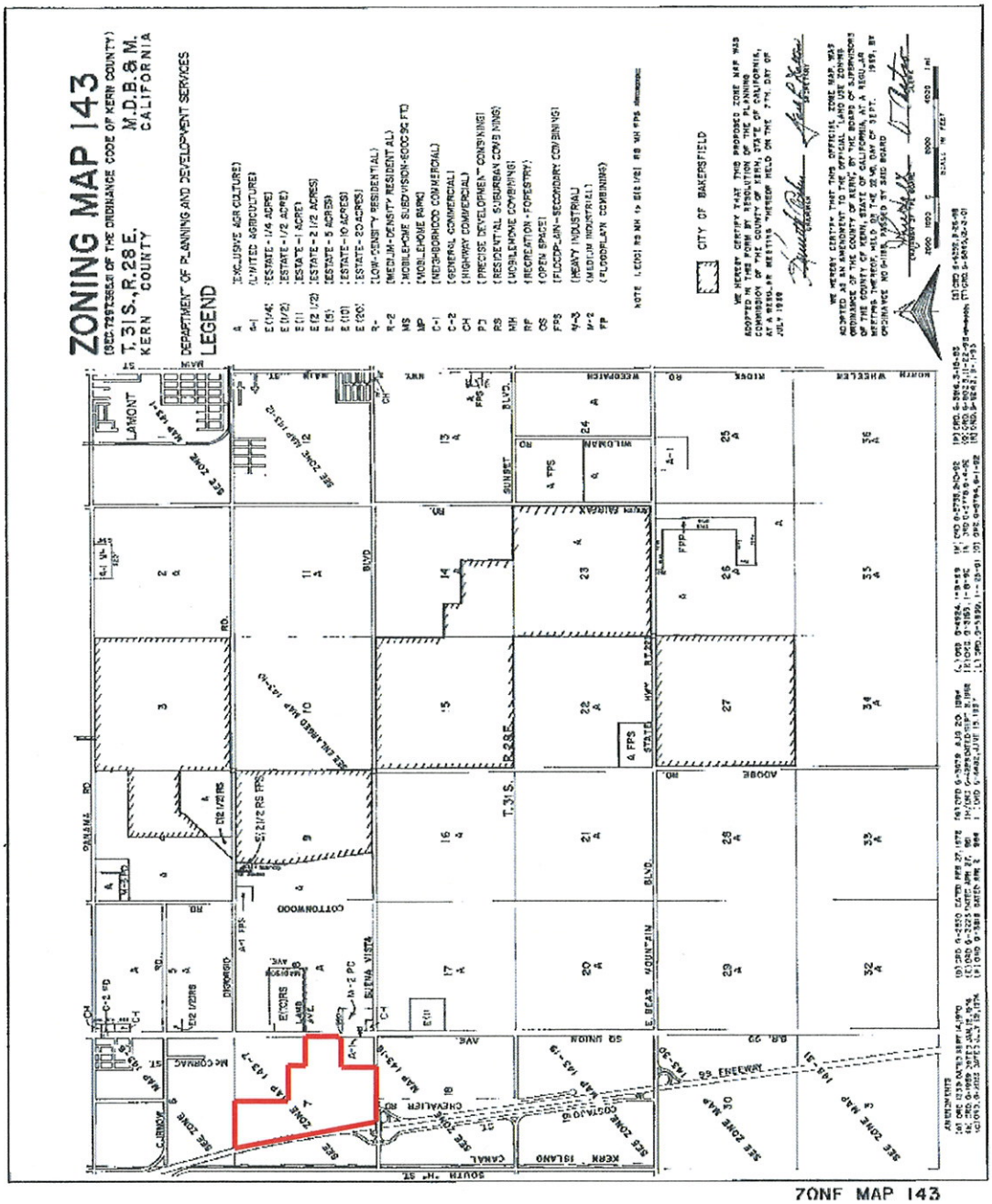




Section 7, T.31S, R.28E. M.D.M.

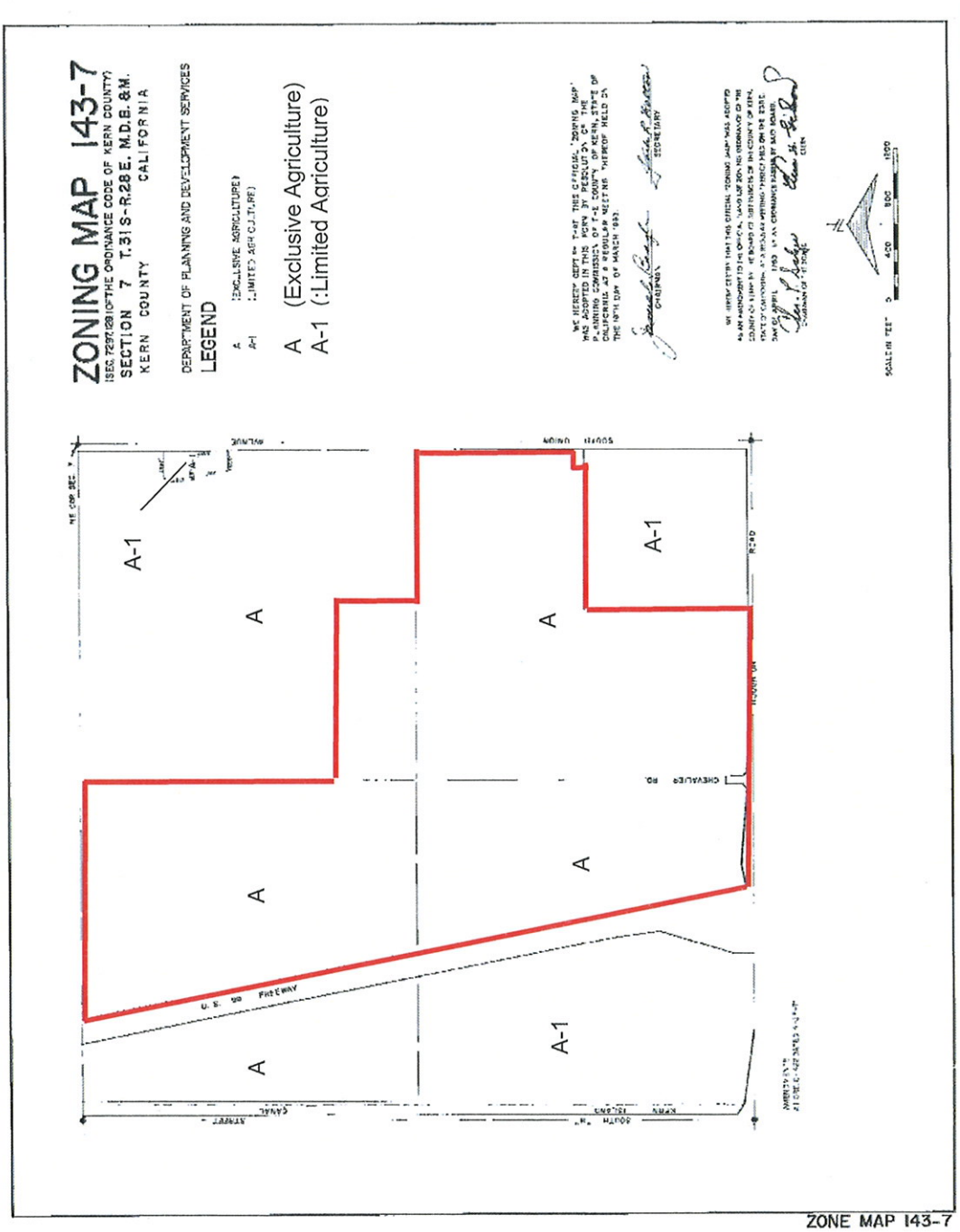
Vicinity Map

County of Kern, State of California

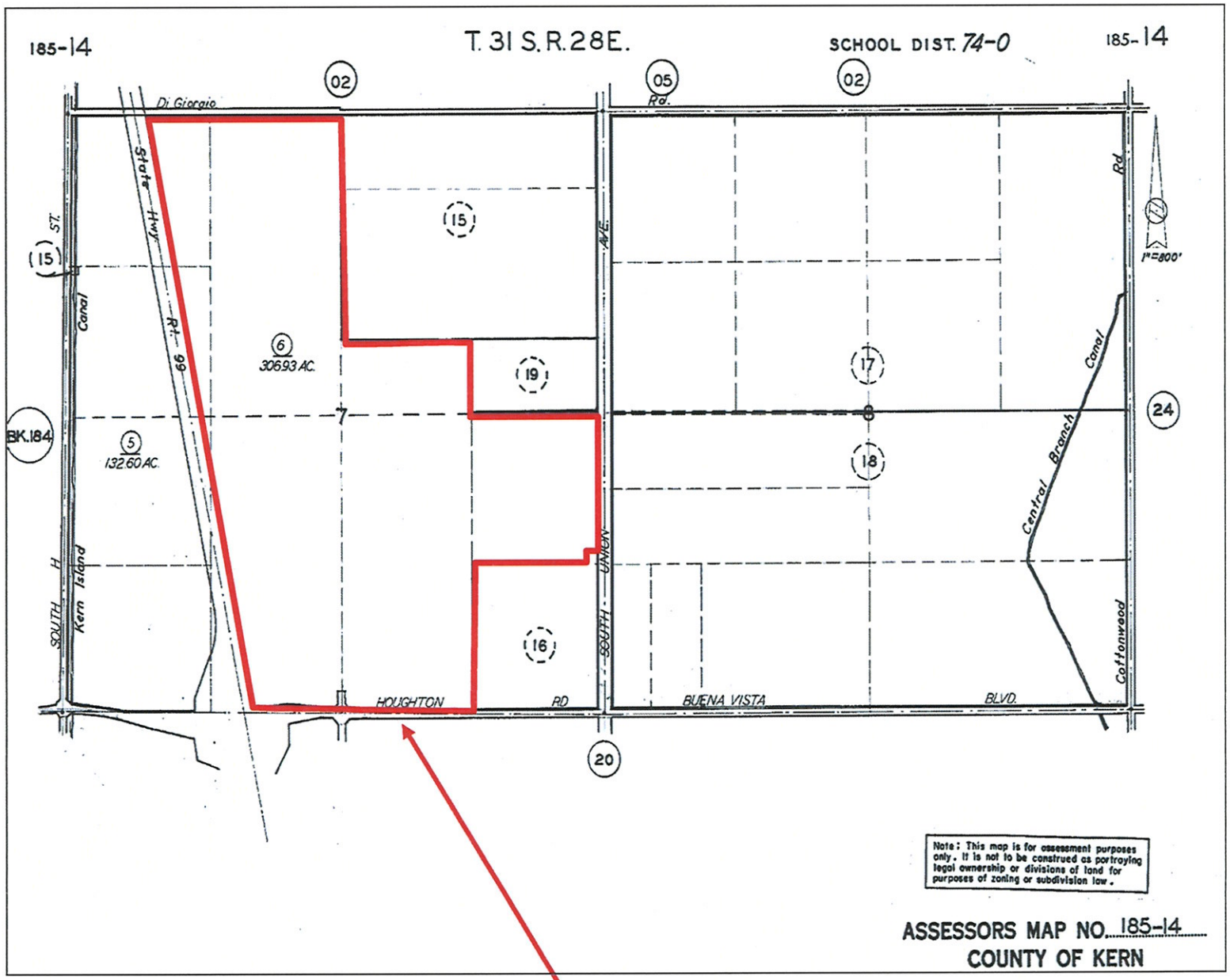


Zone Map 143

County of Kern, State of California



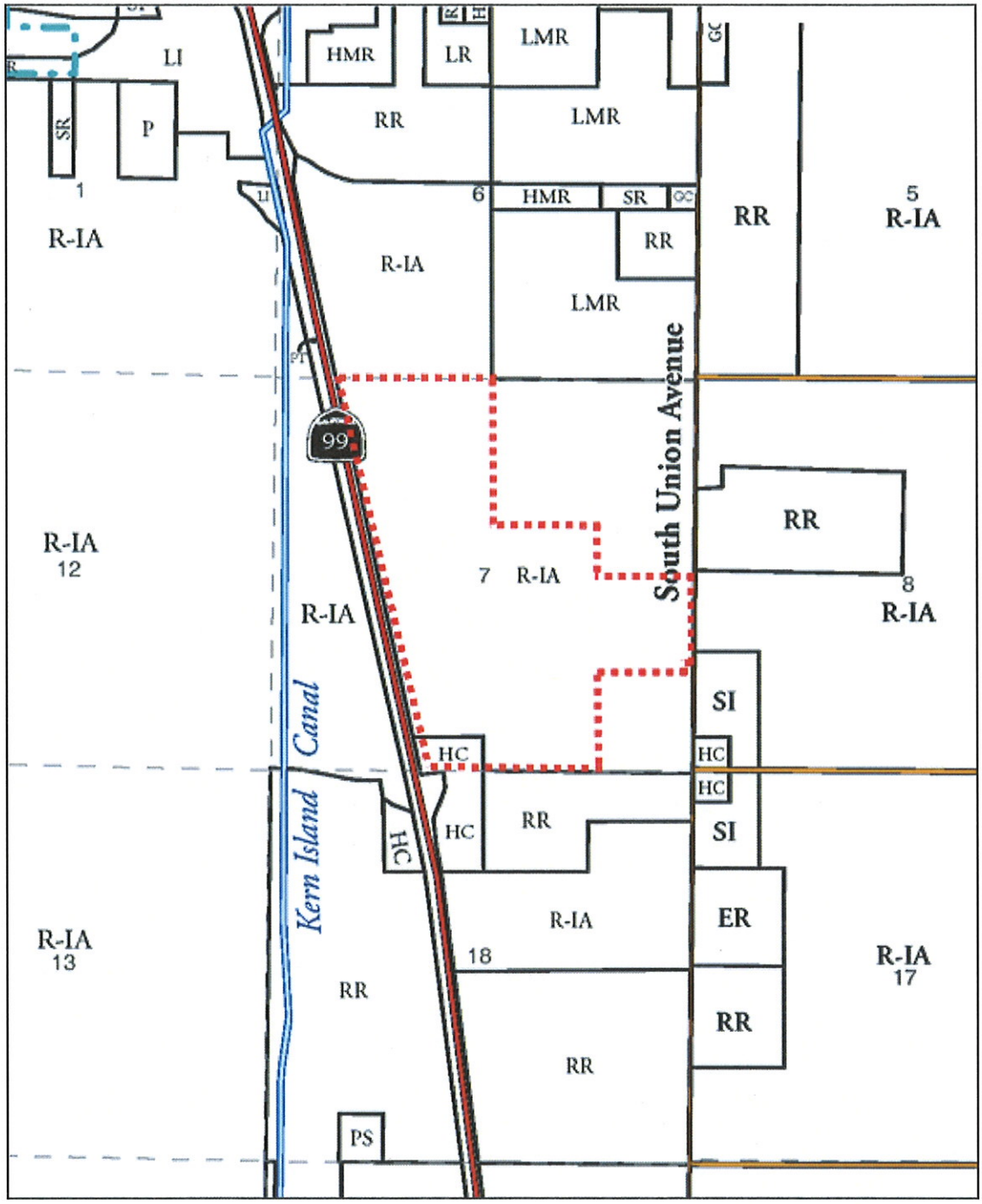
Zone Map 143-7
County of Kern, State of California



McINTOSH & ASSOCIATES

Assessor Parcel Map No. 185-14
County of Kern, State of California

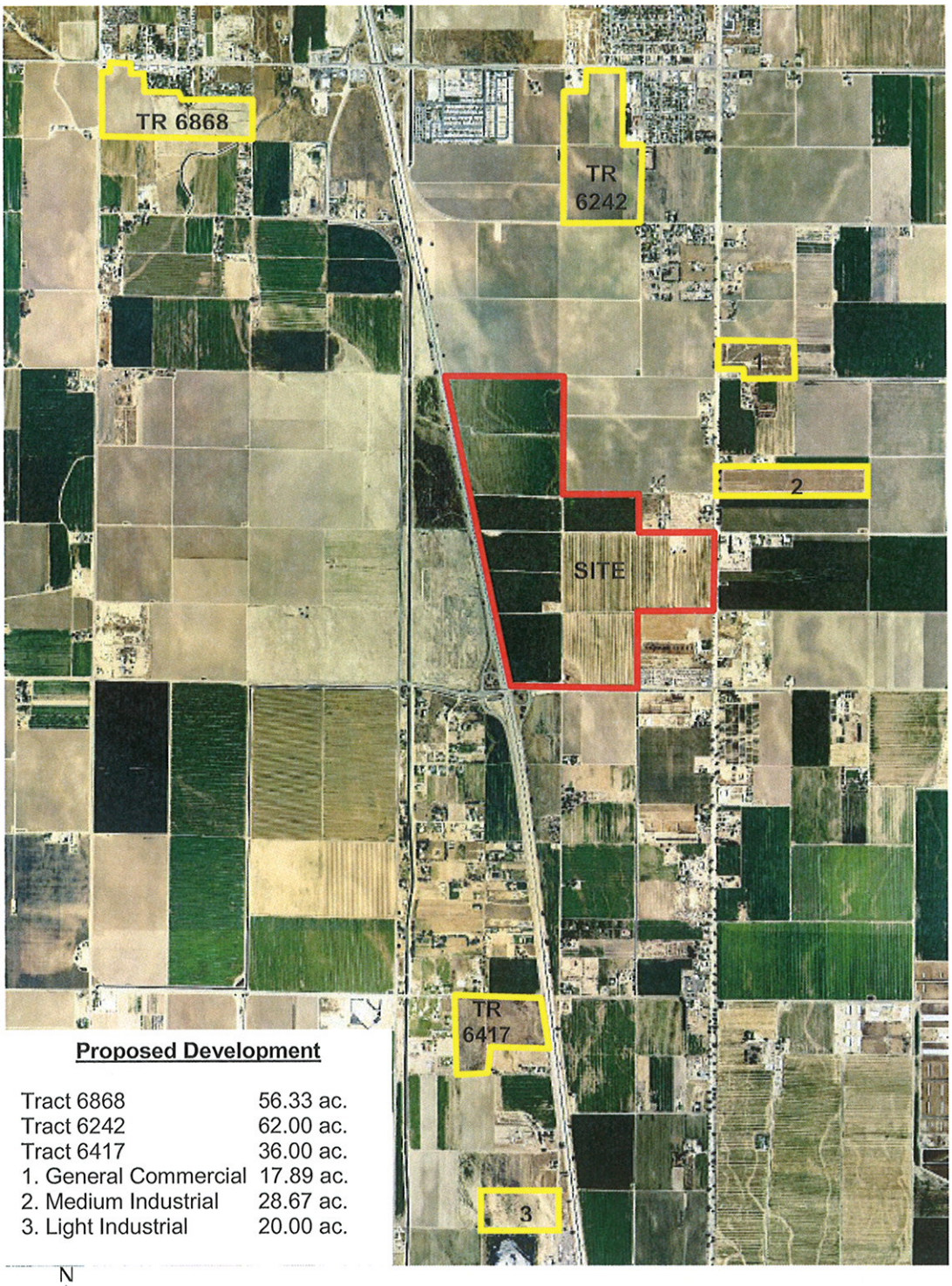
APPENDIX "B"



Metropolitan Bakersfield General Plan
(County Maintained)
Portion of Section 7, T.31S., R.28E.
County of Kern, State of California



Metropolitan Bakersfield General Plan
Circulation Element
Section 7, T.31S., R.28E., M.D.M.
County of Kern, State of California



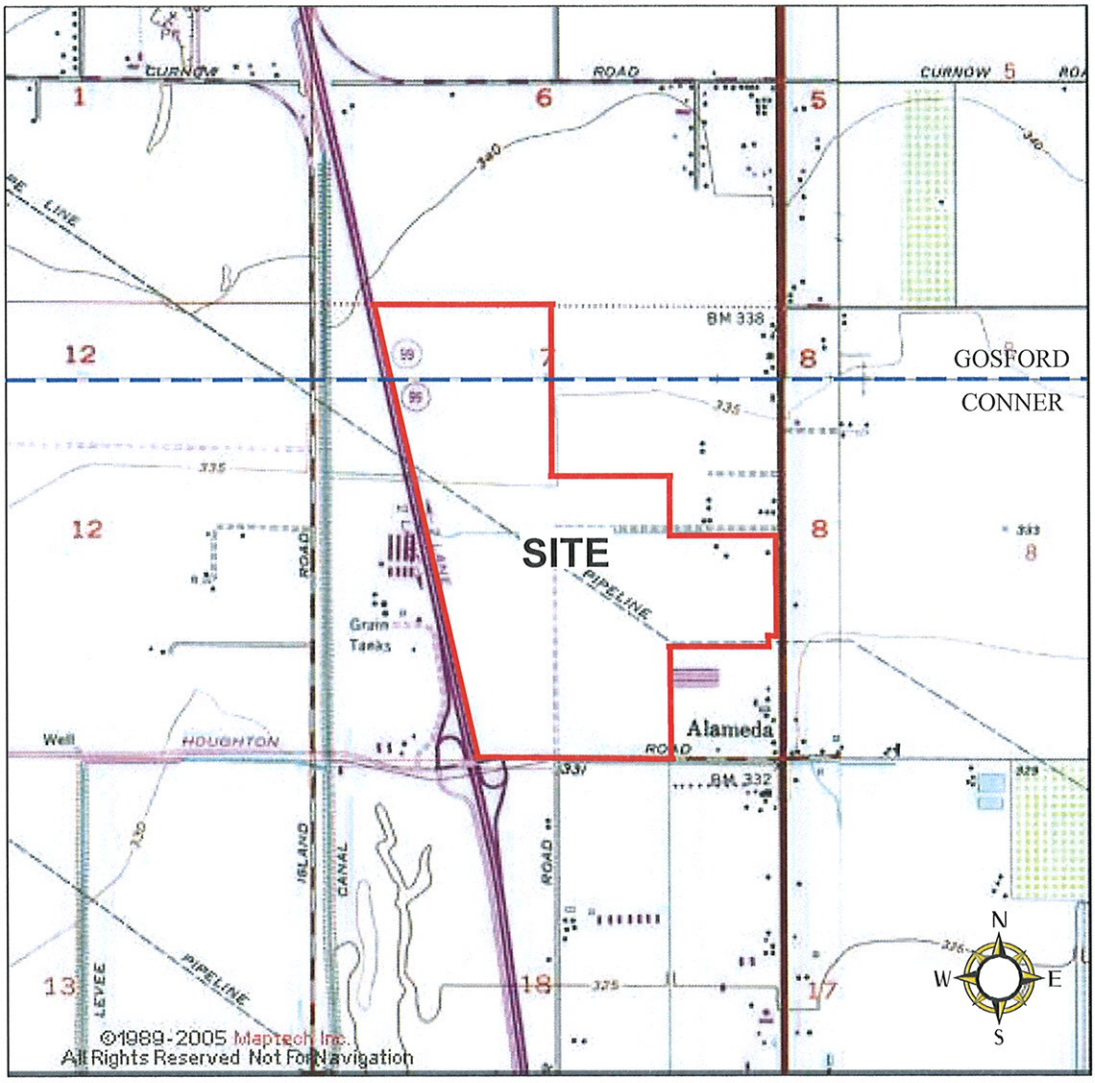
Proposed Development

Tract 6868	56.33 ac.
Tract 6242	62.00 ac.
Tract 6417	36.00 ac.
1. General Commercial	17.89 ac.
2. Medium Industrial	28.67 ac.
3. Light Industrial	20.00 ac.

N
W E
S

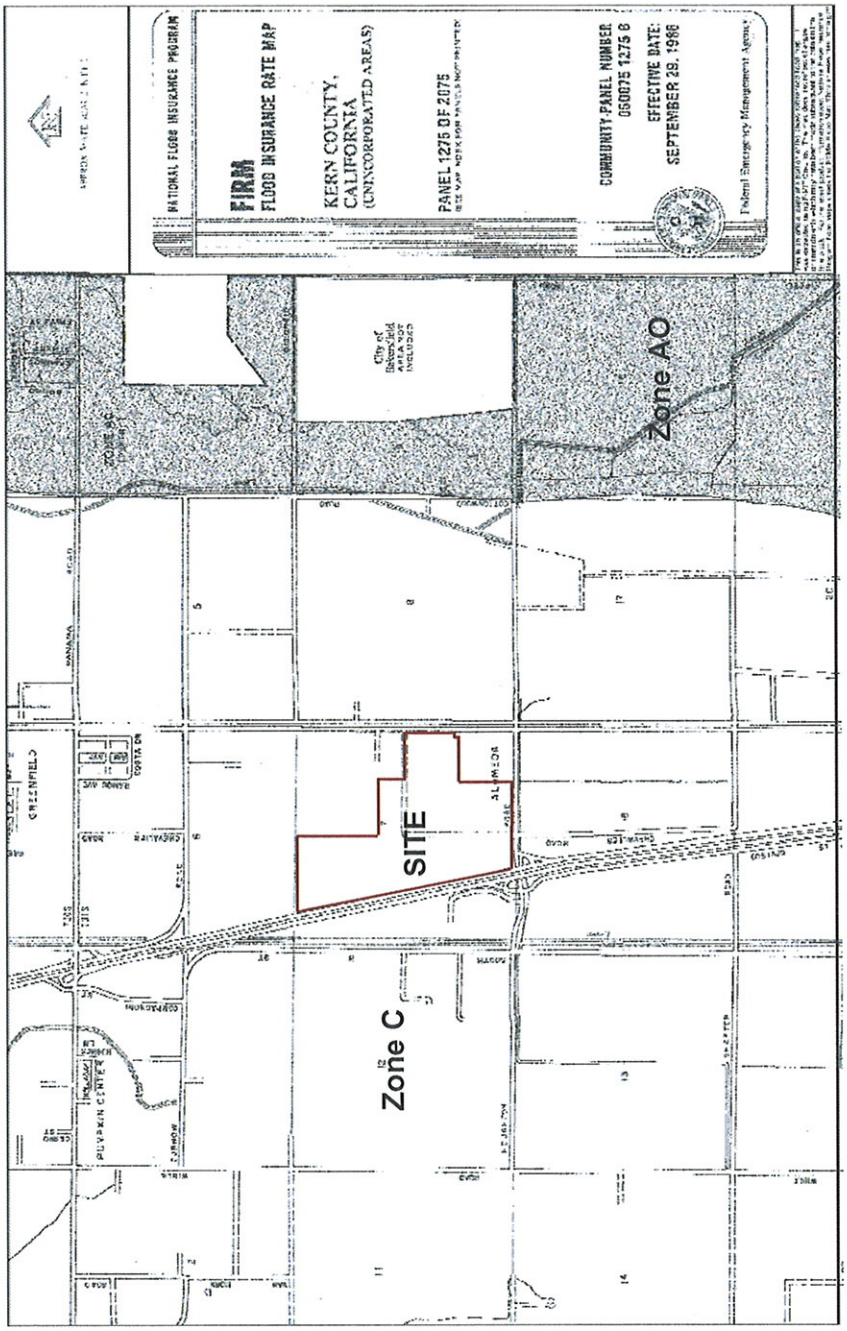
Proposed Development
County of Kern

APPENDIX "C"



Gosford & Conner Quadrangle Map
Section 7, T.31S., R.28E., M.D.M.

California, Kern County
7.5 Minute Series – 1954
Revised 1968 and 1973

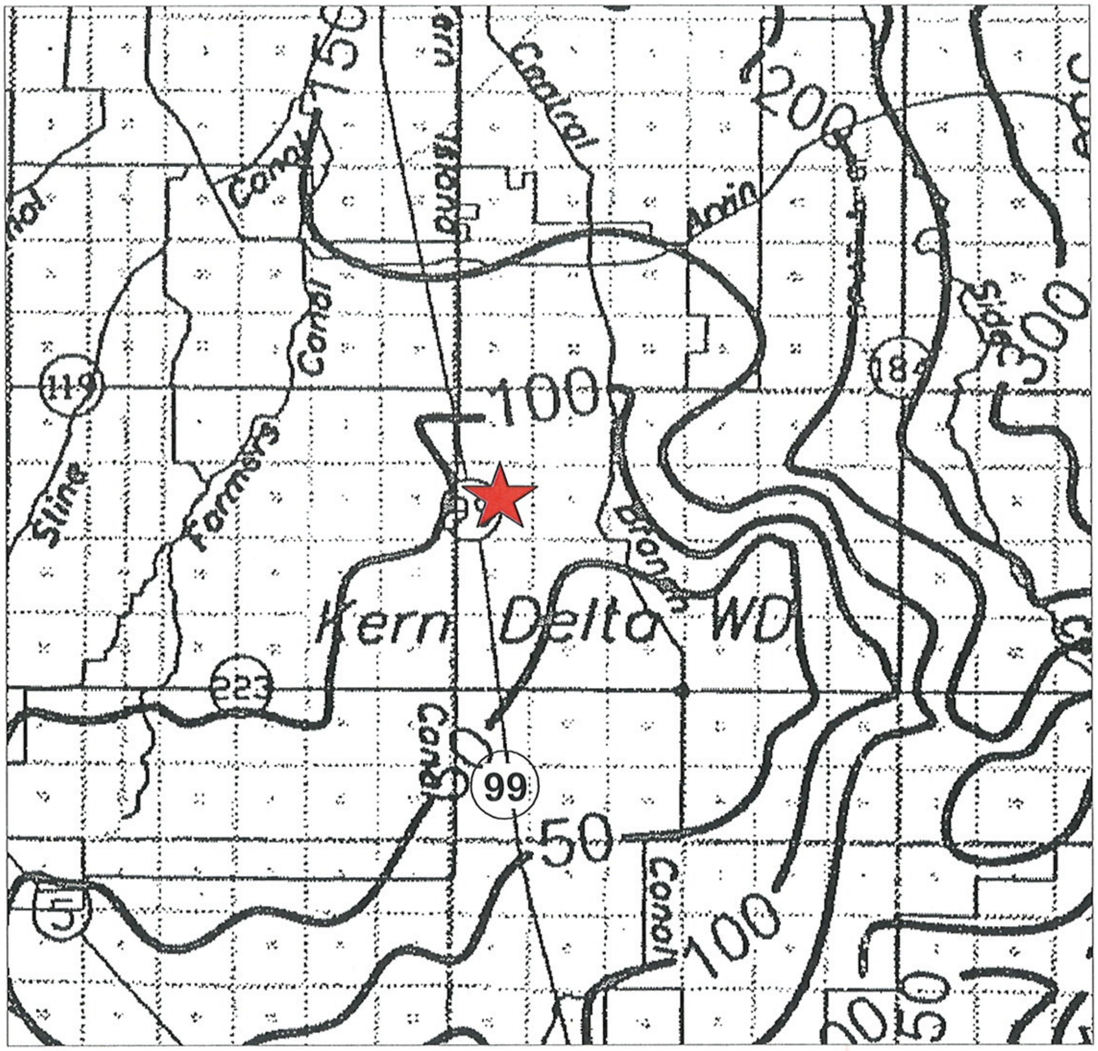


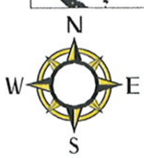
Explanation of Zone Designations

AO – Special Flood Hazard Areas inundated by types of 100-year shallow flooding where depths are between 1.0 and 3.0 feet; depths are shown, or areas of 100-yfear alluvial fan flooding, depths and velocities shown, but no flood hazard factors are determined.
C – Areas of Minimal flooding.

Firm Flood Insurance Rate Map

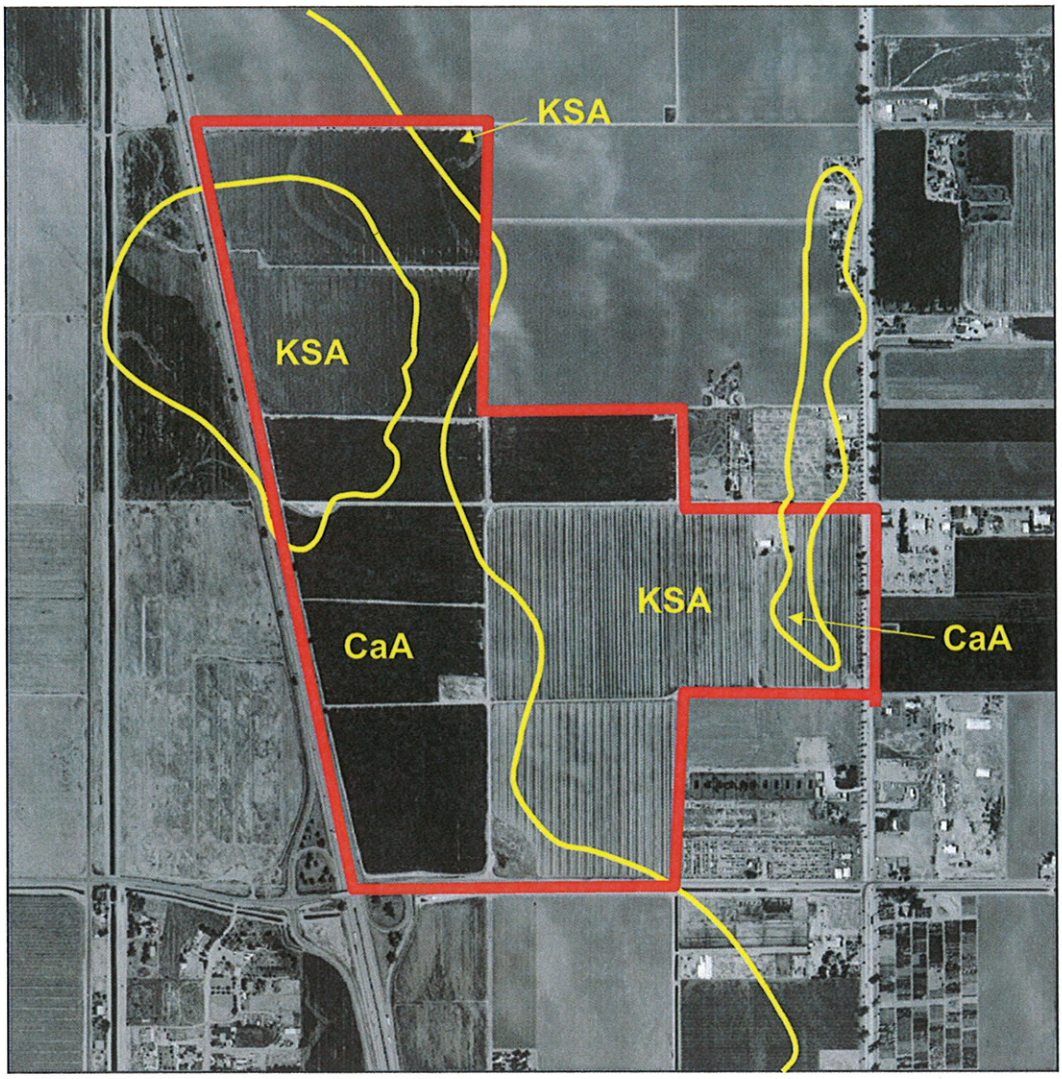
Community Panel – 060075 1275 B
Effective 09-29-1986





Section 7, T.31S, R.28E. M.D.M.

Depth to Groundwater
County of Kern, State of California



Section 7, T.31S, R.28E. M.D.M.

Soil Map
USDA Soil Survey
Kern County, Southwestern Part

APPENDIX "D"

TABLE A-10

KERN COUNTY

2010-2012 Land Use Conversion

CALIFORNIA DEPARTMENT OF CONSERVATION
Division of Land Resource Protection

Farmland Mapping and Monitoring Program

PART I
County Summary and Change by Land Use Category

LAND USE CATEGORY	TOTAL ACREAGE INVENTORIED		2010-12 ACREAGE CHANGES			
	2010	2012	ACRES LOST (-)	ACRES GAINED (+)	TOTAL ACREAGE CHANGED	NET ACREAGE CHANGED
Prime Farmland	608,790	597,771	13,168	2,149	15,317	-11,019
Farmland of Statewide Importance	213,463	212,867	3,135	2,539	5,674	-596
Unique Farmland	91,830	89,694	4,878	2,742	7,620	-2,136
Farmland of Local Importance	0	0	0	0	0	0
IMPORTANT FARMLAND SUBTOTAL	914,083	900,332	21,181	7,430	28,611	-13,751
Grazing Land	1,827,390	1,843,605	5,205	21,420	26,625	16,215
AGRICULTURAL LAND SUBTOTAL	2,741,473	2,743,937	26,386	28,850	55,236	2,464
Urban and Built-up Land	141,897	143,726	562	2,391	2,953	1,829
Other Land	2,330,998	2,326,719	8,712	4,433	13,145	-4,279
Water Area	9,890	9,876	14	0	14	-14
TOTAL AREA INVENTORIED	5,224,258	5,224,258	35,674	35,674	71,348	0

PART II
Land Committed to Nonagricultural Use

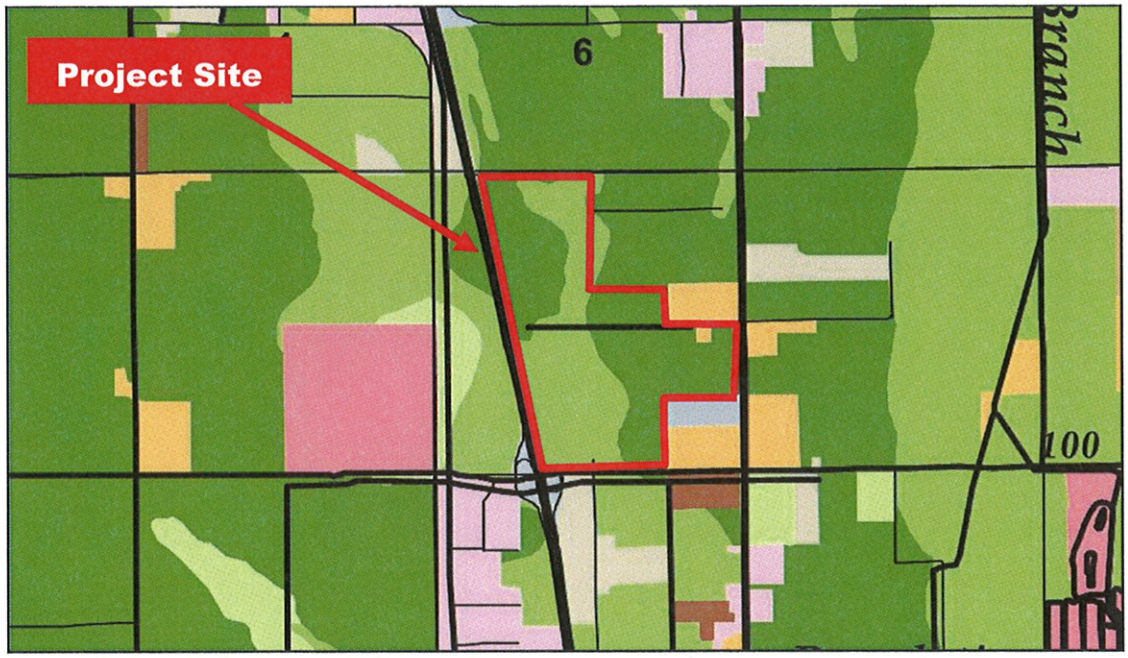
LAND USE CATEGORY	TOTAL ACREAGE 2012
Prime Farmland	DATA
Farmland of Statewide Importance	NOT
Unique Farmland	AVAILABLE
Farmland of Local Importance	0
IMPORTANT FARMLAND SUBTOTAL	0
Grazing Land	0
AGRICULTURAL LAND SUBTOTAL	0
Urban and Built-up Land	0
Other Land	0
Water Area	0
TOTAL ACREAGE REPORTED	0

PART III Land Use Conversion from 2010 to 2012

LAND USE CATEGORY		Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance	Subtotal Important Farmland	Grazing Land	Total Agricultural Land	Urban and Built-up Land	Other Land	Water Area	Total Converted To Another Use
Prime Farmland (1)(2)	to:	--	2	12	0	14	11,454	11,468	599	1,101	0	13,168
Farmland of Statewide Importance (1)	to:	3	--	1	0	4	2,687	2,691	24	420	0	3,135
Unique Farmland (1)	to:	7	1	--	0	8	4,151	4,159	67	652	0	4,878
Farmland of Local Importance	to:	0	0	0	--	0	0	0	0	0	0	0
IMPORTANT FARMLAND SUBTOTAL		10	3	13	0	26	18,292	18,318	690	2,173	0	21,181
Grazing Land (2)(4)	to:	1,439	511	880	0	2,830	--	2,830	552	1,823	0	5,205
AGRICULTURAL LAND SUBTOTAL		1,449	514	893	0	2,856	18,292	21,148	1,242	3,996	0	26,386
Urban and Built-up Land (3)	to:	32	6	0	0	38	101	139	--	423	0	562
Other Land (5)	to:	668	2,019	1,849	0	4,536	3,027	7,563	1,149	--	0	8,712
Water Area	to:	0	0	0	0	0	0	0	0	14	--	14
TOTAL ACREAGE CONVERTED	to:	2,149	2,539	2,742	0	7,430	21,420	28,850	2,391	4,433	0	35,674

(1) Conversion to Grazing Land due to land left idle or land used for dryland grain production for three or more update cycles.
(2) Conversion to Other Land primarily due to the identification of a wetland area and to land left idle for three or more update cycles that has been graded for development, primarily in the Bakersfield area.
(3) Conversion from Urban and Built-up Land primarily the result of the use of detailed digital imagery to delineate more distinct urban boundaries.
(4) Conversion to Prime Farmland is due to the addition of irrigated crops. These conversions were primarily located on the Allensworth and Hacienda quads.
(5) Conversion to irrigated agricultural categories and Grazing Land is due to new irrigated farmland and newly identified dryland grain areas, primarily in the San Joaquin Valley.

KERN COUNTY

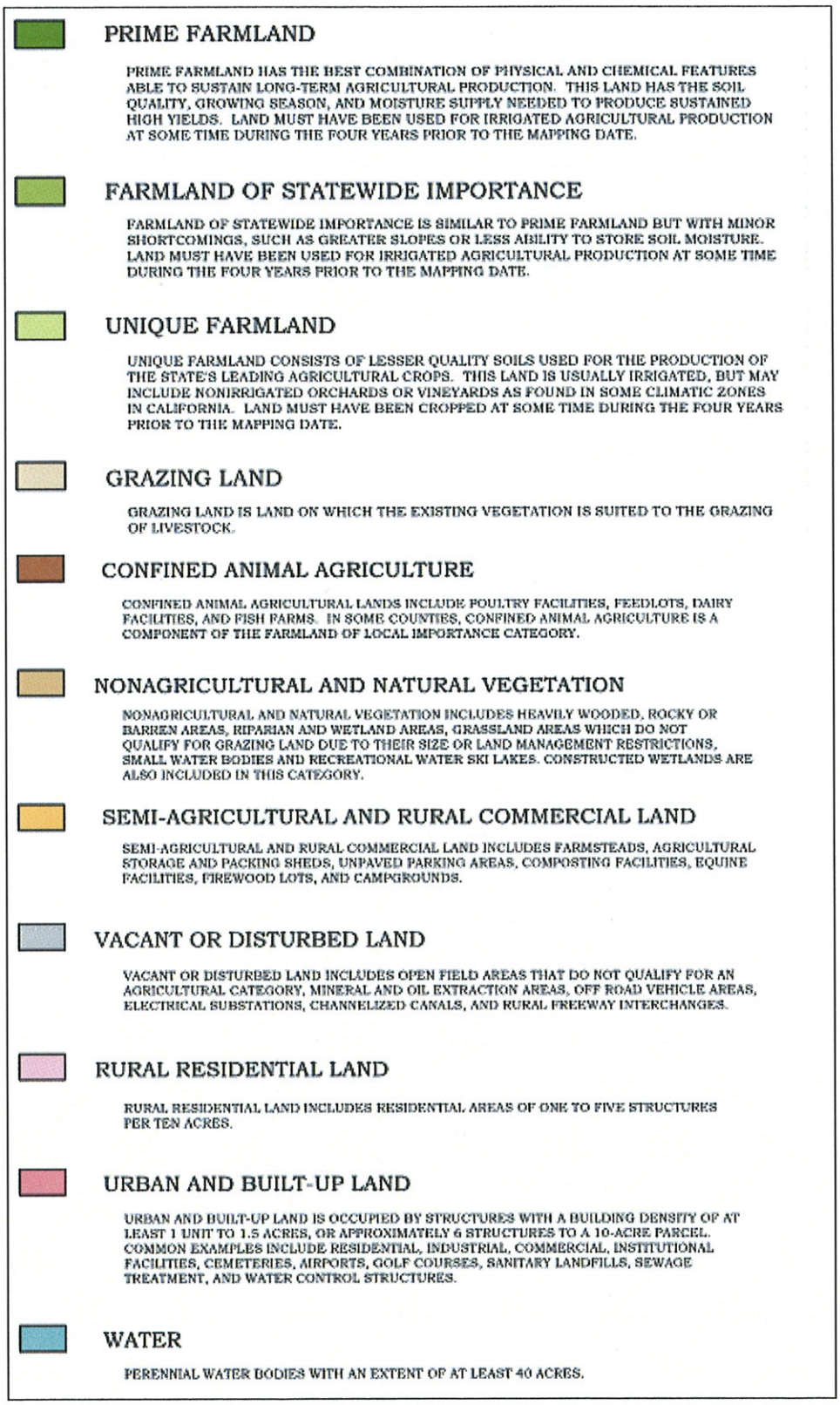


Source: California Department of Conservation

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Grazing Land
- Confined Animal Agriculture
- Nonagricultural and Natural Vegetation
- Semi-agricultural and Rural Commercial Land
- Vacant or Disturbed
- Rural Residential Land
- Urban and Built-Up Land
- Water

NORTH
Not to Scale

Important Farmland - 2012
County of Kern, State of California



Source: California Department of Conservation

Important Farmland Map Legend – 2012
County of Kern, State of California

APPENDIX "E"

KERN COUNTY 2009 CROP REPORT SUMMARY

Commodity	Year	Harvested Acres	Range	Total Value
Fruit & Nut Crops	2009	333,460	------	$ 1,952,661,000
	2008	326,546	------	$ 1,787,077,000
Field Crops & Rangeland	2009	414,273	1,498,000	276,645,000
	2008	450,922	1,483,000	562,302,000
Vegetable Crops	2009	83,005	------	601,397,000
	2008	94,786	------	649,674,000
Nursery Crops	2009	2,035	------	63,861,000
	2008	2,799	------	84,822,000
Industrial & Wood Crops	2009	------	------	11,125,000
	2008	------	------	11,208,000
Seed Crops	2009	3,425	------	7,305,000
	2008	3,484	------	4,621,000
Livestock & Poultry	2009	------	------	182,768,000
	2008	------	------	232,545,000
Livestock & Poultry Products	2009	------	------	469,313,000
	2008	------	------	651,132,000
Apiary Products	2009	------	------	41,423,000
	2008	------	------	49,931,000
Totals	2009	**836,198**	**1,498,000**	**$3,606,498,000**
	2008	**878,538**	**1,483,000**	**$4,033,312,000**
Total value without Timber	2009			$3,606,015,855
	2008			$4,032,829,655

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)



KERN COUNTY
2009 CROP REPORT
TOP 20 CROP

	COMMODITY	VALUE	2008 RANKING
1.	Grapes, All	$ 664,499,000	2
2.	Milk, Market & Manufacturing	437,610,000	1
3.	Almonds, Including By-Products	435,305,000	4
4.	Carrots, Fresh & Processing	343,128,000	5
5.	Citrus, All	332,926,000	3
6.	Pistachios	331,120,000	8
7.	Cattle & Calves	174,216,000	7
8.	Hay, Alfalfa	106,144,000	6
9.	Pomegranates, Fresh & Processing	99,018,000	12
10.	Potatoes, All	99,926,000	9
11.	Cotton, Including Processed Cottonseed	63,206,000	11
12.	Tomatoes, Fresh & Processing	59,045,000	13
13.	Silage & Forage	46,001,000	10
14.	Apiary Products	41,423,000	15
15.	Eggs	30,102,000	16
16.	Bell Peppers, Fresh & Processing	28,844,000	19
17.	Wheat	27,837,000	14
18.	Nursery Fruit and Nut Trees & Vines	27,457,000	17
19.	Roses	27,201,000	20
20.	Onions	26,437,000	24

(Information provided by the Kern County Agricultural Commissioner's Office)

Kern County 2009 Crop Report
Field Crops

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Barley	a/2009	1,750	2.12	3,710	Ton	$ 235.00	$ 871,000
	a/2008	2,100	2.32	4,870	Ton	$ 248.00	$ 1,209,000
Beans, Dry Edible	2009	3,276	1.53	5,010	Ton	719.00	3,604,000
	2008	1,896	1.50	2,840	Ton	901.00	2,560,000
Cotton Lint, Upland & Acala	2009	17,330	b/1,645	57,000	Bale	d/0.79	22,414,000
	2008	21,949	b/1,526	67,000	Bale	d/0.75	25,106,000
Cotton Lint, Pima	2009	22,260	b/1,438	c/64,000	Bale	d/1.23	39,062,000
	2008	30,289	b/1,420	c/86,000	Bale	d/1.09	46,692,000
Cottonseed, Processing	2009	—	—	13,600	Ton	127.00	1,730,000
	2008	—	—	24,700	Ton	625.00	15,436,000
Hay, Alfalfa	2009	145,000	7.34	1,065,000	Ton	100.00	106,144,000
	2008	155,000	8.65	1,341,000	Ton	211.00	283,074,000
Hay, Grain	2009	25,000	3.04	75,900	Ton	78.00	5,948,000
	2008	32,000	3.84	122,900	Ton	180.00	22,126,000
Hay, Other	2009	11,000	2.05	22,600	Ton	90.00	2,042,000
	2008	15,000	2.15	32,200	Ton	99.00	3,181,000
Pasture, Irrigated	2009	7,000	—	—	Acre	135.00	945,000
	2008	8,000	—	—	Acre	160.00	1,280,000
Pasture, Other	2009	—	—	—	Acre	—	2,871,000
	2008	—	—	—	Acre	—	4,674,000
Pasture, Range	2009	1,498,000	—	—	Acre	5.00	7,445,000
	2008	1,483,000	—	—	Acre	5.00	7,416,000
Safflower	2009	—	—	—	Ton	—	—
	2008	464	0.50	232	Ton	280.00	65,000
Silage and Forage	2009	100,000	15.33	1,533,000	Ton	30.00	46,001,000
	2008	108,000	22.50	2,430,000	Ton	37.70	91,579,000
Sugar Beets	2009	447	33.11	14,800	Ton	40.00	603,000
	2008	424	39.86	16,900	Ton	45.30	765,000
Wheat	2009	65,000	1.71	111,000	Ton	251.00	27,837,000
	2008	65,000	2.92	190,000	Ton	263.00	50,041,000
Miscellaneous	e/2009	16,210	—	47,900	Ton	—	9,128,000
	f/2008	10,800	—	71,600	Ton	—	7,098,000
Totals	**2009**	**g/414,273**	—	—	—	—	**$ 276,645,000**
	2008	**g/450,922**	—	—	—	—	**$ 562,302,000**

*Revised a/ May contain dryland. b/ Pounds Lint per Acre. c/ 500 Pound Net Weight Bale. d/ Price per Pound. e/ Includes: Field Corn (Grain), Tiffany Teff, Rye, Safflower, Sorghum and Straw f/ Includes: Field Corn (Grain), Tiffany Teff, Rye, Sorghum and Straw. g/ Does not include Range acreage.

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2010 CROP REPORT SUMMARY

Commodity	Year	Harvested Acres	Range	Total Value
Fruit & Nut Crops	2010	363,437	------	$ 2,699,492,000
	*2009	349,848	------	$ 2,012,491,000
Field Crops & Rangeland	2010	365,832	1,554,000	383,658,000
	*2009	410,316	1,520,000	285,671,000
Vegetable Crops	2010	70,197	------	694,036,000
	*2009	66,910	------	541,455,000
Nursery Crops	2010	1,985	------	67,404,700
	2009	2,036	------	63,861,000
Industrial & Wood Crops	2010	------	------	10,970,000
	2009	------	------	11,125,000
Seed Crops	2010	2,318	------	6,767,000
	2009	3,425	------	7,305,000
Livestock & Poultry	2010	------	------	284,603,000
	2009	------	------	182,769,000
Livestock & Poultry Products	2010	------	------	555,680,000
	*2009	------	------	469,313,000
Apiary Products	2010	------	------	54,650,000
	*2009	------	------	41,583,000
Totals	2010	**803,769**	**1,554,000**	**$4,757,260,700**
	*2009	**832,535**	**1,520,000**	**$3,615,573,000**
Total value without Timber	2010			$4,757,228,700
	*2009			$3,615,431,000

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)



KERN COUNTY 2010 CROP REPORT
TOP 20 CROP

	COMMODITY	VALUE	2009 RANKING
1.	Grapes, All	$ 703,961,000	1
2.	Almonds, Including By-Products	622,973,000	3
3.	Pistachios	533,847,000	6
4.	Milk, Market & Manufacturing	521,460,000	2
5.	Citrus, Fresh & Processing	487,419,000	5
6.	Carrots, Fresh & Processing	391,523,000	4
7.	Cattle & Calves	265,349,000	7
8.	Cotton, Including Processed Cottonseed	148,357,000	11
9.	Potatoes, Fresh & Processing	130,956,000	*9
10.	Pomegranates, Fresh & Processing	114,727,000	*10
11.	Hay, Alfalfa	105,162,000	8
12.	Cherries	96,826,000	21
13.	Tomatoes, Fresh & Processing	54,764,000	12
14.	Apiary Products	54,650,000	14
15.	Silage & Forage	51,009,000	13
16.	Bell Peppers, Fresh & Processing	43,429,000	16
17.	Fruit and Nut Trees & Vines	42,035,000	18
18.	Onions, Fresh & Processing	41,580,000	20
19.	Wheat	39,226,000	17
20.	Eggs & Egg Product Nursery	32,046,000	15

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)

Kern County 2010 Crop Report
Field Crops

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Barley	a/2010	1,670	1.41	2,350	Ton	$ 171.00	$ 403,000
	a/2009	1,750	2.12	3,710	Ton	$ 235.00	$ 871,000
Beans, Dry Edible	2010	2,842	1.55	4,410	Ton	759.00	3,348,000
	2009	3,276	1.53	5,010	Ton	719.00	3,604,000
Cotton Lint, Upland & Acala	2010	20,535	b/1,450	59,600	Bale	d/1.20	35,731,000
	*2009	17,330	b/1,636	56,700	Bale	d/0.79	22,414,000
Cotton Lint, Pima	2010	32,275	b/1,480	c/95,400	Bale	d/1.75	83,479,000
	*2009	22,260	b/1,426	c/63,500	Bale	d/1.23	39,062,000
Cottonseed, Processing	2010	---	---	59,800	Ton	487.00	29,147,000
	*2009	---	---	45,800	Ton	259.00	11,847,000
Hay, Alfalfa	2010	120,000	7.62	914,000	Ton	115.00	105,162,000
	2009	145,000	7.34	1,065,000	Ton	100.00	106,144,000
Hay, Grain	2010	20,000	5.28	106,000	Ton	89.70	9,506,000
	*2009	25,000	3.04	75,900	Ton	78.40	5,948,000
Hay, Other	2010	12,000	2.56	30,700	Ton	113.00	3,484,000
	*2009	11,000	3.05	33,600	Ton	128.00	4,302,000
Pasture, Irrigated	2010	7,000	---	---	Acre	135.00	945,000
	2009	7,000	---	---	Acre	135.00	945,000
Pasture, Other	2010	---	---	---	Acre	---	1,117,000
	2009	---	---	---	Acre	---	2,871,000
Pasture, Range	2010	1,554,000	---	---	Acre	10.00	15,539,000
	*2009	1,520,000	---	---	Acre	5.00	7,598,000
Safflower	2010	1,110	3.55	3,940	Ton	303.00	1,195,000
	2009	---	---	---	Ton	---	---
Silage and Forage	2010	75,000	22.04	1,653,000	Ton	30.90	51,009,000
	2009	100,000	15.33	1,533,000	Ton	30.00	46,001,000
Wheat	2010	62,500	3.36	210,000	Ton	187.00	39,226,000
	2009	65,000	1.71	111,000	Ton	251.00	27,837,000
Miscellaneous	e/2010	10,900	---	78,300	Ton	---	4,367,000
	*f/2009	12,700	---	45,100	Ton	---	6,227,000
Totals	**2010**	**g/365,832**	---	---	---	---	**$ 383,658,000**
	***2009**	**g/410,316**	---	---	---	---	**$ 285,671,000**

*revised a/ May contain dryland. b/ Pounds Lint per Acre. c/ 500 Pound Net Weight Bale. d/ Price per Pound.
e/ Includes: Field Corn (Grain), Sorghum and Straw. f/ Includes: Field Corn (Grain), Rye, Safflower, Sorghum, Sugar Beets and Straw. g/ Does not include Range acreage.

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2011 CROP REPORT SUMMARY

Commodity	Year	Harvested Acres	Range	Total Value
Fruit & Nut Crops	2011	385,319	------	$ 2,772,705,000
	2010	363,437	------	$ 2,699,492,000
Field Crops & Rangeland	2011	409,005	1,480,000	604,861,000
	2010	365,832	1,554,000	383,658,000
Vegetable Crops	2011	75,130	------	699,919,000
	*2010	70,197	------	694,192,000
Nursery Crops	2011	2,121	------	61,815,600
	2010	1,985	------	67,404,700
Industrial & Wood Crops	2011	------	------	14,470,000
	2010	------	------	10,970,000
Seed Crops	2011	2,984	------	12,729,000
	2010	2,318	------	6,767,000
Livestock & Poultry	2011	------	------	354,864,000
	2010	------	------	284,603,000
Livestock & Poultry Products	2011	------	------	787,746,000
	2010	------	------	555,680,000
Apiary Products	2011	------	------	55,429,000
	2010	------	------	56,650,000
Totals	2011	**874,559**	**1,480,000**	**$5,364,538,600**
	*2010	**803,769**	**1,554,000**	**$4,757,416,700**
Total value without Timber	2011			$5,364,362,600
	*2010			$4,757,384,700

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)



KERN COUNTY
2011 CROP REPORT
TOP 20 CROP

	COMMODITY	VALUE	2010 RANKING
1.	Milk, Market & Manufacturing	$ 745,466,000	4
2.	Almonds, Including By-Products	727,408,000	2
3.	Grapes, All	707,583,000	1
4.	Citrus, Fresh & Processing	540,035,000	5
5.	Carrots, Fresh & Processing	418,740,000	6
6.	Pistachios	389,527,000	3
7.	Cattle & Calves	338,540,000	7
8.	Hay, Alfalfa	246,601,000	11
9.	Cherries	227,121,000	12
10.	Cotton, Including Processed Cottonseed	174,233,000	8
11.	Potatoes, Fresh & Processing	100,423,000	9
12.	Silage & Forage	83,894,000	15
13.	Apiary Products	55,429,000	14
14.	Pomegranates, Fresh & Processing	55,070,000	10
15.	Tomatoes, Fresh & Processing	50,280,000	13
16.	Garlic, Fresh & Processing	42,089,000	21
17.	Bell Peppers, Fresh & Processing	42,049,000	16
18.	Eggs & Egg Product	39,789,000	20
19.	Wheat	36,354,000	19
20.	Nursery Fruit and Nut Trees & Vines	28,589,000	17

(Information provided by the Kern County Agricultural Commissioner's Office)

Kern County 2011 Crop Report
Field Crops

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Barley	a/2011	7,000	0.88	6,180	Ton	$ 209.00	$ 1,290,000
	a/2010	1,670	1.41	2,350	Ton	$ 171.00	$ 403,000
Beans, Dry Edible	2011	1,390	1.25	1,740	Ton	1,260.00	2,189,000
	2010	2,842	1.55	4,410	Ton	759.00	3,348,000
Cotton Lint, Upland & Acala	2011	21,860	b/1,430	62,600	Bale	d/0.95	29,748,000
	2010	20,535	b/1,450	59,600	Bale	d/1.20	35,731,000
Cotton Lint, Pima	2011	45,435	b/1,510	c/137,400	Bale	d/1.50	103,177,000
	2010	32,275	b/1,480	c/95,400	Bale	d/1.75	83,479,000
Cottonseed, Processing	2011	---	---	78,800	Ton	524.00	41,308,000
	2010	---	---	59,800	Ton	487.00	29,147,000
Hay, Alfalfa	2011	125,000	8.18	1,022,000	Ton	241.00	246,601,000
	2010	120,000	7.62	914,000	Ton	115.00	105,162,000
Hay, Grain	2011	24,000	3.09	74,100	Ton	205.00	15,216,000
	2010	20,000	5.28	106,000	Ton	89.70	9,506,000
Hay, Other	2011	14,000	3.60	50,400	Ton	150.00	7,560,000
	2010	12,000	2.56	30,700	Ton	113.00	3,484,000
Pasture, Irrigated	2011	7,000	---	---	Acre	160.00	1,120,000
	2010	7,000	---	---	Acre	135.00	945,000
Pasture, Other	2011	---	---	---	Acre	---	1,851,000
	2010	---	---	---	Acre	---	1,117,000
Pasture, Range	2011	1,480,000	---	---	Acre	15.00	22,199,000
	2010	1,554,000	---	---	Acre	10.00	15,539,000
Safflower	2011	1,660	1.26	2,090	Ton	423.00	884,000
	2010	1,110	3.55	3,940	Ton	303.00	1,195,000
Silage and Forage	2011	90,000	21.26	1,913,000	Ton	43.90	83,894,000
	2010	75,000	22.04	1,653,000	Ton	30.90	51,009,000
Wheat	2011	64,000	2.55	163,000	Ton	223.00	36,354,000
	2010	62,500	3.36	210,000	Ton	187.00	39,226,000
Miscellaneous	e/2011	7,660	---	51,000	Ton	---	11,470,000
	f/2010	10,900	---	78,300	Ton	---	4,367,000
Totals	**2011**	**g/409,005**	---	---	---	---	**$ 604,861,000**
	2010	**g/365,832**	---	---	---	---	**$ 383,658,000**

a/ May contain dryland. b/ Pounds Lint per Acre. c/ 500 Pound Net Weight Bale. d/ Price per Pound.
e/ Includes: Field Corn (Grain) and Sorghum. f/ Includes: Field Corn (Grain), Sorghum and Straw.
g/ Does not include Range acreage.

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2012 CROP REPORT SUMMARY

Commodity	Year	Harvested Acres	Range	Total Value
Fruit & Nut Crops	2012	411,749	------	$ 3,650,049,000
	*2011	410,478	------	$ 3,020,538,000
Field Crops & Rangeland	2012	381,856	1,479,000	539,370,000
	*2011	409,005	1,457,000	604,517,000
Vegetable Crops	2012	79,428	------	714,490,000
	*2011	72,870	------	684,867,000
Nursery Crops	2012	3,008	------	100,824,100
	2011	2,121	------	61,815,600
Industrial & Wood Crops	2012	------	------	15,717,000
	2011	------	------	14,470,000
Seed Crops	2012	2,590	------	7,742,000
	2011	2,984	------	12,729,000
Livestock & Poultry	2012	------	------	395,078,000
	2011	------	------	354,864,000
Livestock & Poultry Products	2012	------	------	732,385,000
	2011	------	------	787,746,000
Apiary Products	2012	------	------	56,707,000
	2011	------	------	55,429,000
Totals	2012	**878,631**	**1,479,000**	**$6,212,362,100**
	*2011	**897,458**	**1,457,000**	**$5,596,975,600**
Total value without Timber	2012			$6,211,987,100
	*2011			$5,596,799,600

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)



KERN COUNTY
2012 CROP REPORT
TOP 20 CROPS

	COMMODITY	VALUE	2011 RANKING
1.	Grapes, All	$ 1,498,987,000	1
2.	Almonds, Including By-Products	821,857,000	3
3.	Milk, Market & Manufacturing	690,062,000	2
4.	Citrus, Fresh & Processing	620,350,000	4
5.	Pistachios	486,213,000	6
6.	Cattle & Calves	382,913,000	7
7.	Carrots, Fresh & Processing	350,439,000	5
8.	Hay, Alfalfa	213,466,000	8
9.	Cotton, Including Processed Cottonseed	147,637,000	10
10.	Potatoes, Fresh & Processing	85,102,000	11
11.	Silage & Forage	75,149,000	12
12.	Pomegranates, Fresh & Processing	58,781,000	14
13.	Nursery Fruit and Nut Trees & Vines	57,555,000	19
14.	Apiary Products	56,707,000	13
15.	Tomatoes, Fresh & Processing	53,657,000	15
16.	Eggs & Egg Product	40,343,000	17
17.	Bell Peppers, Fresh & Processing	40,143,000	16
18.	Wheat	35,294,000	18
19.	Nursery, Roses	33,346,000	23
20.	Onions, Fresh & Dehydrator	28,350,000	22

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2012 CROP REPORT
FIELD CROPS

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Barley	a/2012	6,000	1.32	7,920	Ton	$ 250.00	$ 1,977,000
	a/2011	7,000	0.88	6,180	Ton	$ 209.00	$ 1,290,000
Beans, Dry Edible	2012	2,716	1.80	4,890	Ton	1,030.00	5,052,000
	2011	1,390	1.25	1,740	Ton	1,260.00	2,189,000
Cotton Lint, Upland & Acala	2012	22,515	b/1,670	75,000	Bale	d/1.01	37,907,000
	2011	21,860	b/1,430	62,600	Bale	d/0.95	29,748,000
Cotton Lint, Pima	2012	33,425	b/1,600	c/107,200	Bale	d/1.30	69,852,000
	2011	45,435	b/1,510	c/137,400	Bale	d/1.50	103,177,000
Cottonseed, Processing	2012	---	---	67,300	Ton	593.00	39,878,000
	2011	---	---	78,800	Ton	524.00	41,308,000
Hay, Alfalfa	2012	128,000	8.05	1,031,000	Ton	207.00	213,466,000
	2011	125,000	8.18	1,022,000	Ton	241.00	246,601,000
Hay, Grain	2012	20,000	3.51	70,100	Ton	178.00	12,506,000
	2011	24,000	3.09	74,100	Ton	205.00	15,216,000
Hay, Other	2012	9,200	6.86	63,100	Ton	155.00	9,773,000
	2011	14,000	3.60	50,400	Ton	150.00	7,560,000
Pasture, Irrigated	2012	7,000	---	---	Acre	140.00	980,000
	2011	7,000	---	---	Acre	160.00	1,120,000
Pasture, Other	2012	---	---	---	Acre	---	1,725,000
	2011	---	---	---	Acre	---	1,851,000
Pasture, Range	2012	1,479,000	---	---	Acre	15.00	22,187,000
	*2011	1,457,000	---	---	Acre	15.00	21,855,000
Safflower	2012	4,300	0.66	2,840	Ton	535.00	1,518,000
	2011	1,660	1.26	2,090	Ton	423.00	884,000
Silage and Forage	2012	88,000	20.28	1,785,000	Ton	42.10	75,149,000
	2011	90,000	21.26	1,913,000	Ton	43.90	83,894,000
Wheat	2012	47,500	2.80	133,000	Ton	265.00	35,294,000
	2011	64,000	2.55	163,000	Ton	223.00	36,354,000
Miscellaneous	e/2012	13,200	---	54,500	Ton	---	12,106,000
	f/2011	7,660	---	51,000	Ton	---	11,470,000
Totals	**2012**	**g/381,856**	---	---	---	---	**$ 539,370,000**
	***2011**	**g/409,005**	---	---	---	---	**$ 604,517,000**

a/ May contain dryland. b/ Pounds Lint per Acre. c/ 500 Pound Net Weight Bale. d/ Price per Pound.
e/ Includes: Field Corn (Grain), Rape, Sorghum-Milo, Straw and Triticale.
f/ Includes: Field Corn (Grain) and Sorghum.
g/ Does not include Range acreage.

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2013 CROP REPORT SUMMARY

Commodity	Year	Harvested Acres	Range	Total Value
Fruit & Nut Crops	2013	422,146	------	$ 4,133,389,000
	*2012	411,579	------	$ 3,790,085,000
Field Crops & Rangeland	2013	339,746	1,488,000	522,365,000
	*2012	381,856	1,479,000	539,374,000
Vegetable Crops	2013	73,550	------	686,789,000
	*2012	79,348	------	714,149,000
Nursery Crops	2013	2,087	------	111,270,590
	2012	3,008	------	100,824,100
Industrial & Wood Crops	2013	------	------	14,176,000
	2012	------	------	15,717,000
Seed Crops	2013	1,550	------	5,305,000
	2012	2,590	------	7,742,000
Livestock & Poultry	2013	------	------	418,926,000
	2012	------	------	395,078,000
Livestock & Poultry Products	2013	------	------	819,880,000
	2012	------	------	732,385,000
Apiary Products	2013	------	------	57,755,000
	2012	------	------	56,707,000
Totals	2013	**839,079**	**1,488,000**	$ 6,769,855,590
	*2012	**878,381**	**1,479,000**	$ 6,352,061,100
Total value without Timber	2013			$ 6,769,668,590
	*2012			$ 6,351,686,100

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)



KERN COUNTY
2013 CROP REPORT
TOP 20 CROPS

	COMMODITY	VALUE	2012 RANKING
1.	Grapes, All	$ 1,822,092,000	1
2.	Almonds, Including By-Products	970,808,000	2
3.	Milk, Market & Manufacturing	764,728,000	3
4.	Citrus, Fresh & Processing	641,691,000	*5
5.	Cattle & Calves	408,897,000	6
6.	Pistachios	388,189,000	*4
7.	Carrots, Fresh & Processing	335,088,000	7
8.	Hay, Alfalfa	217,964,000	8
9.	Cotton, Including Processed Cottonseed	146,537,000	9
10.	Potatoes, Fresh & Processing	109,222,000	10
11.	Pomegranates, Fresh & Processing	88,474,000	12
12.	Cherries	80,228,000	22
13.	Silage & Forage	68,521,000	11
14.	Bell Peppers, Fresh & Processing	59,659,000	17
15.	Apiary Products	57,755,000	14
16.	Nursery Fruit and Nut Trees & Vines	56,056,000	13
17.	Tomatoes, Fresh & Processing	55,115,000	15
18.	Eggs & Egg Product	52,055,000	16
19.	Nursery, Roses	45,353,000	19
20.	Onions, Fresh & Dehydrator	35,156,000	20

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2013 CROP REPORT
FIELD CROPS

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Barley	a/2013	4,450	1.80	8,010	Ton	$ 244.00	$ 1,954,000
	a/2012	6,000	1.32	7,920	Ton	$ 250.00	$ 1,977,000
Beans, Dry Edible	2013	1,841	1.67	3,070	Ton	1,000.00	3,074,000
	2012	2,716	1.80	4,890	Ton	1,030.00	5,052,000
Cotton Lint, Upland & Acala	2013	10,435	b/1,560	32,500	Bale	d/0.99	16,143,000
	2012	22,515	b/1,670	75,000	Bale	d/1.01	37,907,000
Cotton Lint, Pima	2013	35,920	b/1,630	c/117,000	Bale	d/1.68	98,360,000
	2012	33,425	b/1,600	c/107,200	Bale	d/1.30	69,852,000
Cottonseed, Processing	2013	---	---	57,500	Ton	557.00	32,034,000
	2012	---	---	67,300	Ton	593.00	39,878,000
Hay, Alfalfa	2013	116,000	9.03	1,048,000	Ton	208.00	217,964,000
	2012	128,000	8.05	1,031,000	Ton	207.00	213,466,000
Hay, Grain	2013	17,000	5.53	94,000	Ton	213.00	19,977,000
	2012	20,000	3.51	70,100	Ton	178.00	12,506,000
Hay, Other	2013	7,500	3.40	25,500	Ton	175.00	4,463,000
	2012	9,200	6.86	63,100	Ton	155.00	9,773,000
Pasture, Irrigated	2013	7,000	---	---	Acre	140.00	980,000
	2012	7,000	---	---	Acre	140.00	980,000
Pasture, Other	2013	---	---	---	Acre	---	1,640,000
	2012	---	---	---	Acre	---	1,725,000
Pasture, Range	2013	1,488,000	---	---	Acre	12.00	17,851,000
	*2012	1,479,000	---	---	Acre	15.00	22,191,000
Safflower	2013	---	---	---	Ton	---	---
	2012	4,300	0.66	2,840	Ton	535.00	1,518,000
Silage and Forage	2013	93,000	17.11	1,591,000	Ton	43.10	68,521,000
	2012	88,000	20.28	1,785,000	Ton	42.10	75,149,000
Wheat	2013	35,000	2.91	102,000	Ton	280.00	28,519,000
	2012	47,500	2.80	133,000	Ton	265.00	35,294,000
Miscellaneous	e/2013	11,600	---	45,700	Ton	---	10,885,000
	f/2012	13,200	---	54,500	Ton	---	12,106,000
Totals	**2013**	**g/339,746**	**---**	**---**	**---**	**---**	**$ 522,365,000**
	***2012**	**g/381,856**	**---**	**---**	**---**	**---**	**$ 539,374,000**

*Revised a/ May contain dryland. b/ Pounds Lint per Acre. c/ 500 Pound Net Weight Bale. d/ Price per Pound.
e/ Includes: Field Corn (Grain), Rape, Rye, Sorghum-Milo, Straw, Sugar Cane, and Triticale.
f/ Includes: Field Corn (Grain), Rape, Sorghum-Milo, Straw and Triticale.
g/ Does not include Range acreage.

*revised

(Information provided by the Kern County Agricultural Commissioner's Office)

KERN COUNTY 2008 CROP REPORT SUMMARY

CROP	YEAR	HARVESTED ACRES	RANGE	TOTAL VALUE
Fruit & Nut Crops	2008	326,546	------	$1,787,077,000
	2007	309,544	------	$1,871,861,000
Field Crops & Rangeland	2008	450,922	1,483,000	$562,302,000
	2007	513,529	1,798,000	$542,866,000
Vegetable Crops	2008	94,786	------	$649,674,000
	2007	92,874	------	$555,732,300
Nursery Crops	2008	2,799	------	$84,822,000
	2007	3,193	------	$105,317,380
Industrial & Wood Crops	2008	------	------	$11,208,000
	2007	------	------	$7,646,500
Seed Crops	2008	3,484	------	$4,624,000
	2007	3,882	------	$6,039,000
Livestock & Poultry	2008	------	------	$232,545,000
	2007	------	------	$230,431,000
Livestock & Poultry Products	2008	------	------	$651,132,000
	2007	------	------	$732,707,000
Apiary Products	2008	------	------	$49,931,000
	2007	------	------	$39,547,000
Totals	**2008**	**878,538**	**1,483,000**	**$1,033,312,000**
	2007	**923,022**	**1,798,000**	**$4,092,147,180**
Total value without Timber	2008			$4,032,829,655
	2007			$4,092,087,680

(Information provided by the Kern County Agricultural Commissioner's Office)



KERN COUNTY
2008 CROP REPORT

TOP 20 CROPS

	COMMODITY	VALUE	2007 RANKING
1.	Milk, Market & Manufacturing	$ 601,606,000	1
2.	Grapes, All	561,480,000	2
3.	Citrus, All	487,040,000	3
4.	Almonds, Including By-Products	386,605,000	4
5.	Carrots, Fresh & Processing	378,003,000	5
6.	Hay, Alfalfa	283,074,000	7
7.	Cattle & Calves	220,546,000	8
8.	Pistachios	191,969,000	6
9.	Potatoes, All	92,856,000	11
10.	Silage & Forage	91,579,000	10
11.	Cotton, Including Processed Cottonseed	87,234,000	9
12.	Pomegranates, Fresh & Processing	61,391,000	19
13.	Tomatoes, Fresh & Processing	56,723,000	14
14.	Wheat	50,041,000	13
15.	Apiary Products	49,931,000	16
16.	Eggs	48,117,000	17
17.	Nursery Fruit and Nut Trees & Vines	43,368,000	12
18.	Cherries	36,189,000	21
19.	Bell Peppers, Fresh & Processing	36,050,000	15
20.	Roses	27,441,000	18

(Information provided by the Kern County Agricultural Commissioner's Office)

Field Crops 2008

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Barley	a/2008	2,100	2.32	4,870	Ton	$248	$1,209,000
	a/2007	1,600	1.38	2,210	Ton	$157	$348,000
Beans, Dry Edible	2008	1,896	1.5	2,840	Ton	$901	$2,560,000
	2007	4,811	1.28	6,180	Ton	$729	$4,506,000
Cotton Lint, Upland & Acala	2008	21,949	b/1,526	c/67,000	Bale	d/0.75	$25,106,000
	2007	30,750	b/1,707	c/105,000	Bale	d/0.75	$39,401,000
Cotton Lint, Pima	2008	30,289	b/1,420	c/86,000	Bale	d/1.09	$46,692,000
	2007	44,625	b/1,546	c/138,000	Bale	d/1.05	$72,507,000
Cottonseed, Processing	2008	---	---	24,700	Ton	$625	$15,436,000
	2007	---	---	92,700	Ton	$537	$49,777,000
Hay, Alfalfa	2008	155,000	8.65	1,341,000	Ton	$211	$283,074,000
	2007	165,000	8.08	1,334,000	Ton	$169	$225,386,000
Hay, Grain	2008	32,000	3.84	122,900	Ton	$180	$22,126,000
	2007	32,000	2.83	90,400	Ton	$142	$12,797,000
Hay, Other	2008	15,000	2.15	32,200	Ton	$99	$3,181,000
	2007	15,000	2.49	37,300	Ton	$120	$4,469,000
Pasture, Irrigated	2008	8,000	---	---	Acre	$160	$1,280,000
	2007	8,000	---	---	Acre	$150	$1,200,000
Pasture, Other	2008	---	---	---	Acre	---	$4,674,000
	2007	---	---	---	Acre	---	$4,942,000
Pasture, Range	2008	1,483,000	---	---	Acre	$5	$7,416,000
	2007	1,798,000	---	---	Acre	$5	$8,988,000
Safflower	2008	464	0.5	232	Ton	$280	$65,000
	2007	696	0.49	344	Ton	$334	$115,000
	2008	108,000	22.5	2,430,000	Ton	$38	$91,579,000

Field Crops 2008

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Silage and Forage	2007	105,000	20.44	2,146,000	Ton	$29	$61,219,000
Sugar Beets	2008	424	39.86	16,900	Ton	$45	$765,000
	2007	447	33.11	14,800	Ton	$40	$584,000
Wheat	2008	65,000	2.92	190,000	Ton	$263	$50,041,000
	2007	90,000	3.11	280,000	Ton	$173	$48,423,000
Miscellaneous	e/2008	10,800	---	71,600	Ton	---	$7,098,000
	e/2007	15,600	---	60,600	Ton	---	$8,204,000
Totals	**2008**	**f/450,922**	**---**	**---**	**---**	**---**	**$562,302,000**
	2007	**f/513,529**	**---**	**---**	**---**	**---**	**$542,866,000**

*Revised
a/ May contain dryland.
b/ Pounds Lint per Acre.
c/ 500 Pound Net Weight Bale.
d/ Price per Pound.
e/ Includes: Field Corn (Grain), Tiffany Teff, Rye, Sorghum and Straw.
f/ Does not include Range acreage.

(Information provided by the Kern County Agricultural Commissioner's Office)

Vegetable Crops 2008

* Information provided by the Department of Agricultural and Measurements Standards

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Cantaloupe	2008	666	15.47	10,300	Ton	$329.00	$3,392,000
	2007	815	13.26	10,800	Ton	$254.00	$2,738,000
Garlic, Processed	2008	2,580	8.72	22,500	Ton	$534.00	$11,992,000
	2007	2,610	9.12	23,800	Ton	$512.00	$12,187,000
Garlic, Fresh	2008	372	9.94	3,700	Ton	$900.00	$3,365,000
	2007	410	6.35	2,600	Ton	$1,900.00	$4,949,000
Lettuce, Head	2008	1,230	16.50	20,300	Ton	------	$6,854,000
	2007	1,260	19.21	24,200	Ton	------	$6,175,000
Melons, Other	2008	469	16.07	7,530	Ton	$449.00	$3,383,000
	2007	469	16.41	7,700	Ton	$431.00	$3,317,000
Onions, Fresh	2008	1,260	22.46	28,300	Ton	$172.00	$4,867,000
	2007	2,760	25.69	70,900	Ton	$220.00	$15,608,000
Onions, Dehydrator	2008	3,110	17.11	53,200	Ton	$183.00	$9,717,000
	2007	2,500	20.28	50,700	Ton	$166.00	$8,417,000
Peppers, Bell	2008	1,840	15.71	28,900	Ton	$1,158.00	$33,465,000
	2007	2,670	18.01	48,100	Ton	$869.00	$41,790,000
Potatoes, All	2008	15,990	24.70	395,010	Ton	---	$92,856,000
	2007	16,470	15.97	263,090	Ton	---	$59,559,300
Spring Total	2008	12,640	27.72	350,400	Ton	---	$73,453,000
	2007	13,950	16.65	232,200	Ton	---	$46,524,000
Fresh Market	2008	---	---	210,000	Ton	$292.00	$61,371,000
	2007	---	---	120,000	Ton	$283.00	$33,987,000
Processing	2008	---	---	87,900	Ton	$131.00	$11,557,000
	2007	---	---	82,200	Ton	$150.00	$12,327,000
Culls	2008	---	---	52,500	Ton	$10.00	$525,000
	2007	---	---	30,000	Ton	$7.00	$210,000
Winter Total	2008	3,350	13.32	44,610	Ton	---	$19,403,000
	2007	2,520	12.26	30,890	Ton	---	$13,035,300
Fresh Market	2008	---	---	35,700	Ton	$541.00	$19,314,000
	2007	---	---	24,700	Ton	$526.00	$12,992,000
Culls	2008	---	---	8,910	Ton	$10.00	$89,100
	2007	---	---	6,190	Ton	$7.00	$43,300
Tomatoes, Fresh	2008	---	---	---	Ton	---	---
	2007	---	---	---	Ton	---	---
Tomatoes, Processing	2008	---	---	---	Ton	---	---
	2007	---	---	---	Ton	---	---
Watermelons, Seeded	2008	720	19.86	14,300	Ton	$252.00	$3,608,000
	2007	1,000	31.10	31,100	Ton	$136.00	$4,239,000

Vegetable Crops 2008

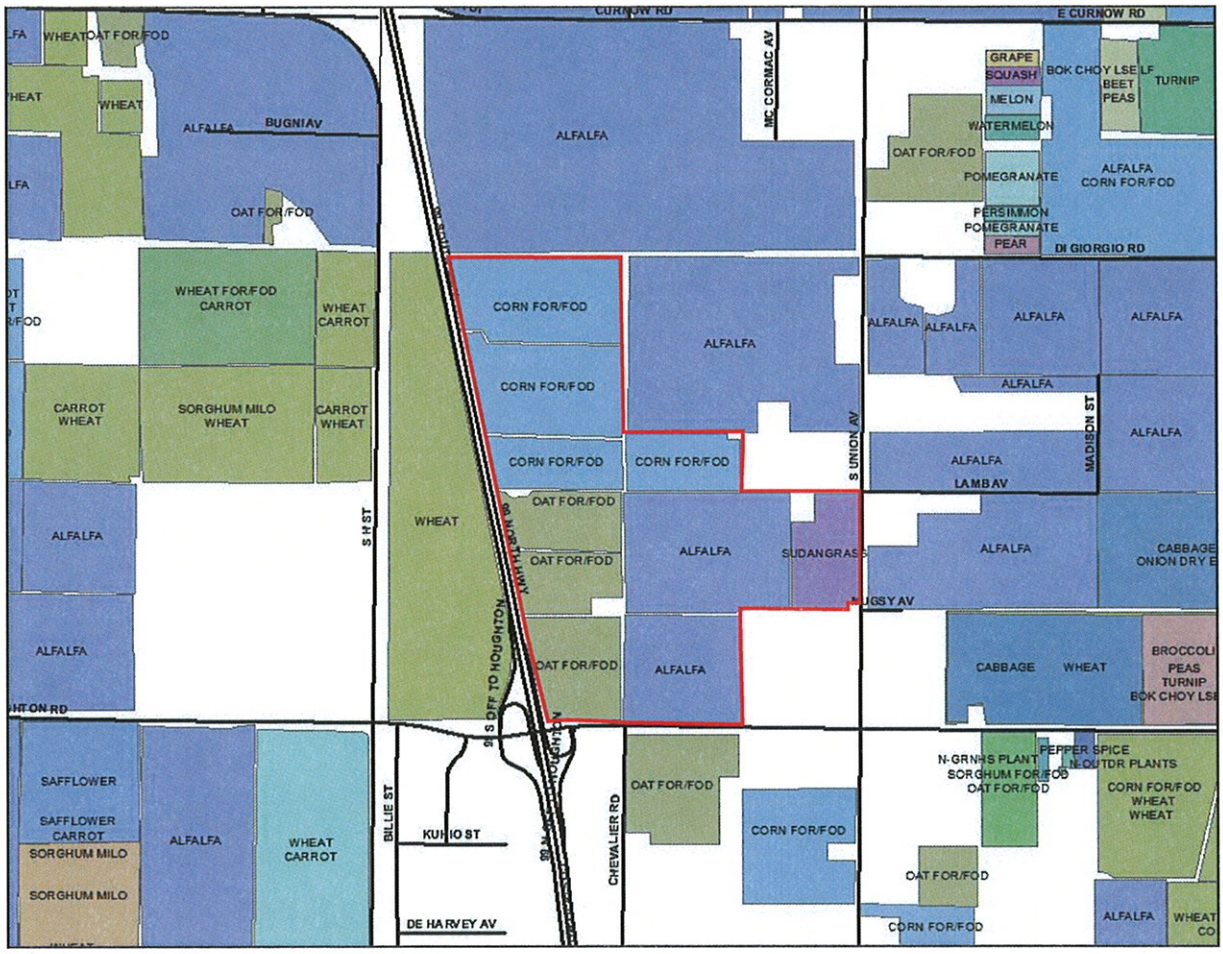
* Information provided by the Department of Agricultural and Measurements Standards

CROP	YEAR	HARVESTED ACRES	PRODUCTION PER ACRE	TOTAL PRODUCTION	UNIT	UNIT VALUE	TOTAL VALUE
Watermelons, Seedless	2008	1,450	12.76	18,500	Ton	$252.00	$4,663,000
	2007	2,010	25.12	50,500	Ton	$222.00	$11,228,000
Miscellaneous	a/2008	65,100	---	2,187,000	Ton	---	$471,512,000
	b/2007	59,900	---	2,028,000	Ton	---	$385,525,000
Totals	**2008**	**94,786**	**---**	**2,789,540**	**Ton**	**---**	**$649,674,000**
	2007	**92,874**	**---**	**2,611,490**	**Ton**	**---**	**$555,732,300**

a/ Includes: Arugula, Asparagus, Bok Choy, Broccoli (Fresh & Processed), Butter Lettuce, Cabbage (Fresh & Processed), Carrots, Cauliflower, Celery, Chard, Chinese Greens, Cilantro, Collard, Corn (Sweet), Cucumber (Fresh & Processed), Daikon, Dandelion, Dill, Eggplant, Endive, Escarole, Fennel, Kale, Kohlrabi, Leaf Lettuce, Leek, Mustard, Parsley (Fresh & Processed), Parsnip, Peppers (Chili & Processed), Pumpkins, Radishes, Red Beets, Romaine Lettuce, Rutabaga, Spinach (Fresh & Processed), Squash, Sweet Potatoes, Tomatoes (Fresh & Processed) and Turnips.

b/ Includes: Arugula, Asparagus, Bok Choy, Broccoli (Fresh & Processed), Butter Lettuce, Cabbage (Fresh & Processed), Carrots, Cauliflower, Celery, Chard, Chinese Greens, Cilantro, Collard, Corn (Sweet), Daikon, Dandelion, Dill, Eggplant, Fennel, Gai Choy, Kale, Kohlrabi, Leaf Lettuce, Leek, Mustard, Onions (Green), Parsley (Fresh & Processed), Parsnip, Peppers (Chili & Processed), Pumpkins, Radishes, Red Beets, Romaine Lettuce, Rutabaga, Spinach, Squash, Sweet Potatoes, Tomatoes (Fresh & Processed), and Turnips.

APPENDIX "F"

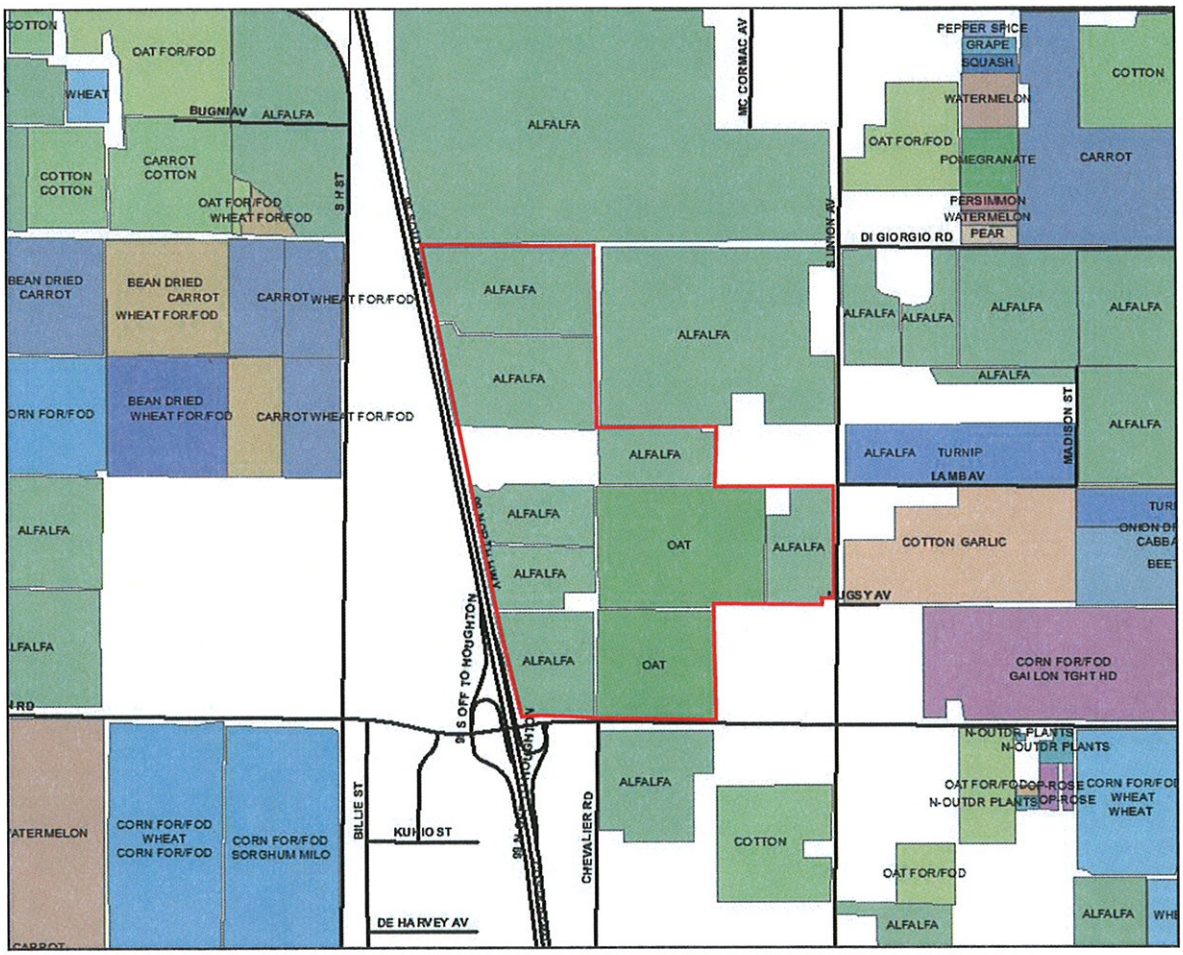


Source: Kern County GIS Reported Crops

Project Site

NORTH
Not to Scale

2009 Adjacent Crops
County of Kern, State of California

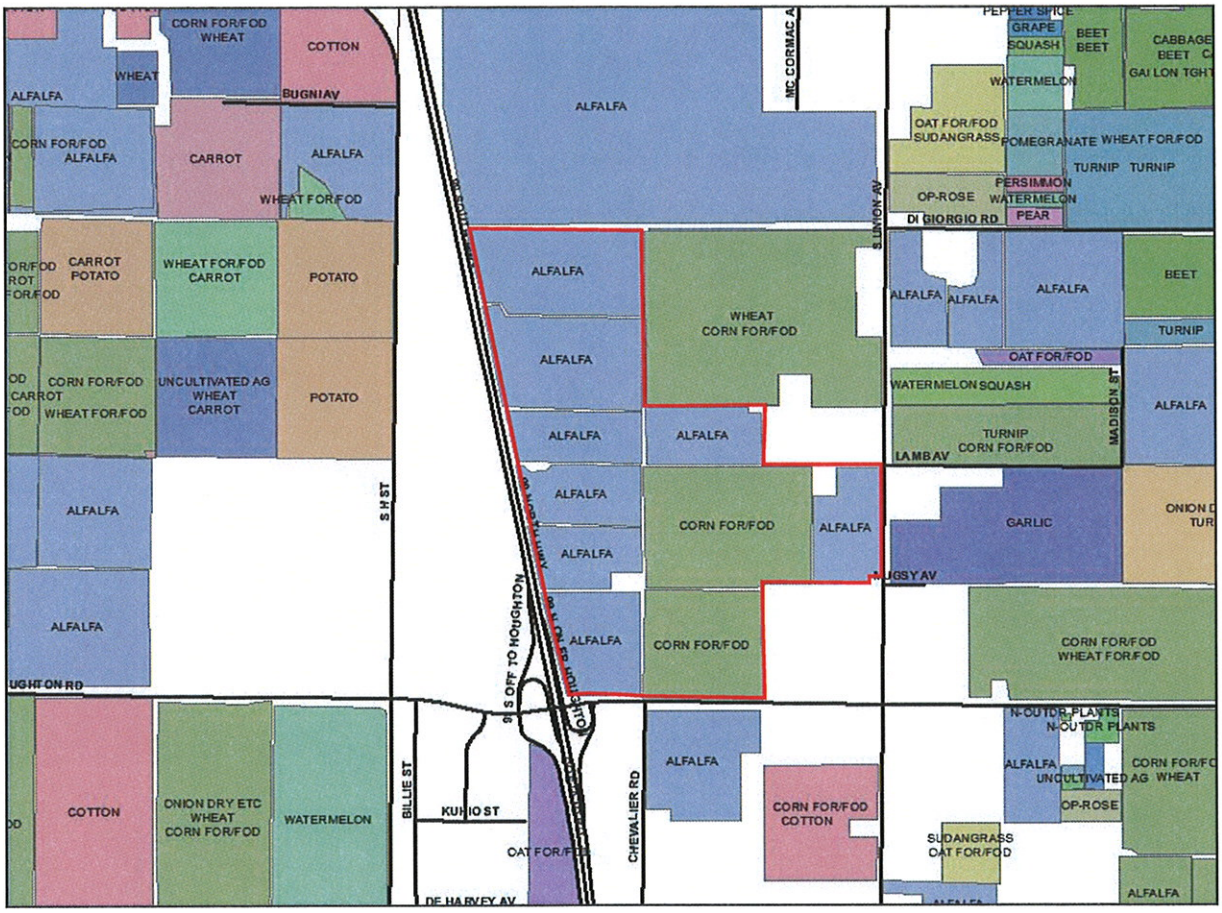


Source: Kern County GIS Reported Crops

Project Site

NORTH
Not to Scale

2010 Adjacent Crops
County of Kern, State of California

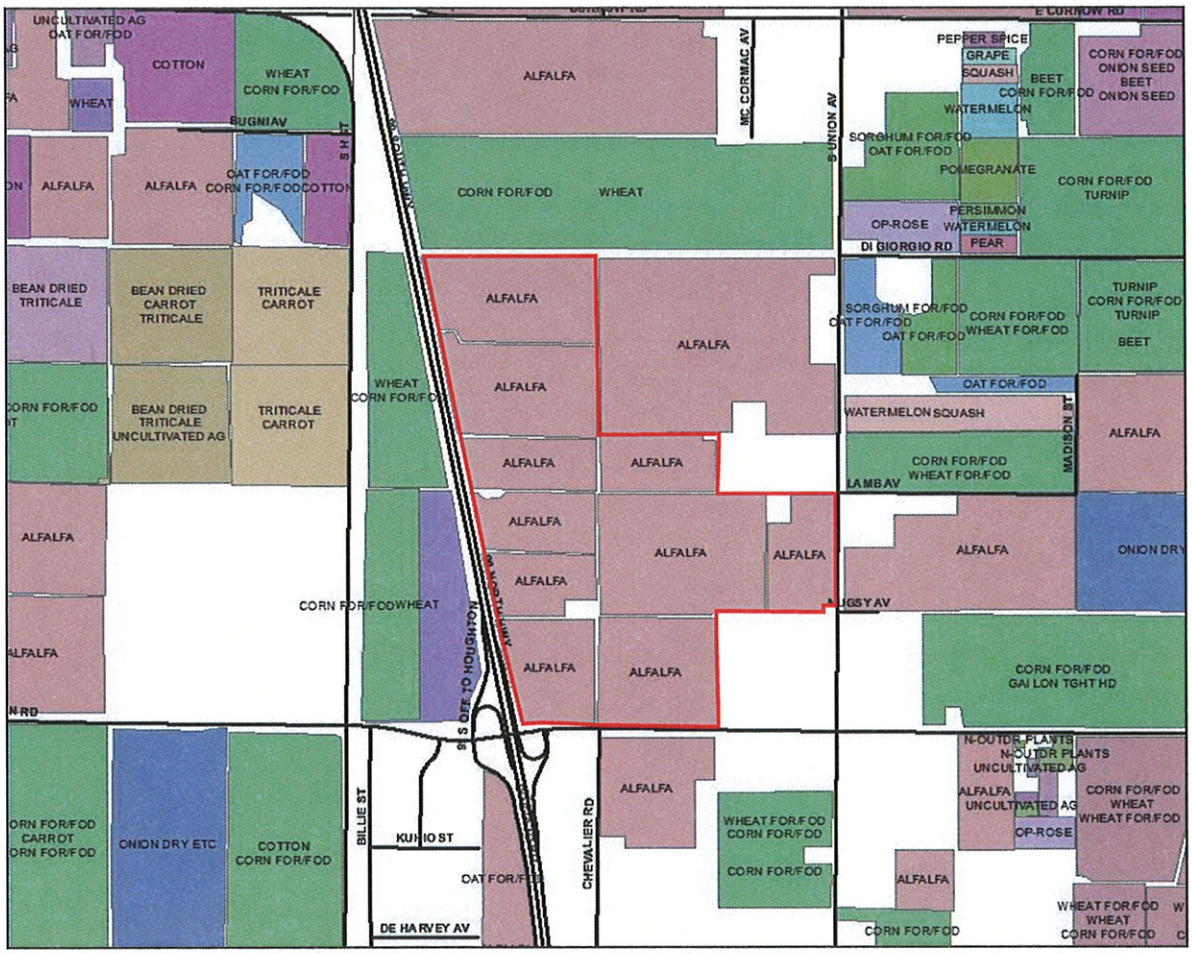


Source: Kern County GIS Reported Crops

Project Site

NORTH
Not to Scale

2011 Adjacent Crops
County of Kern, State of California

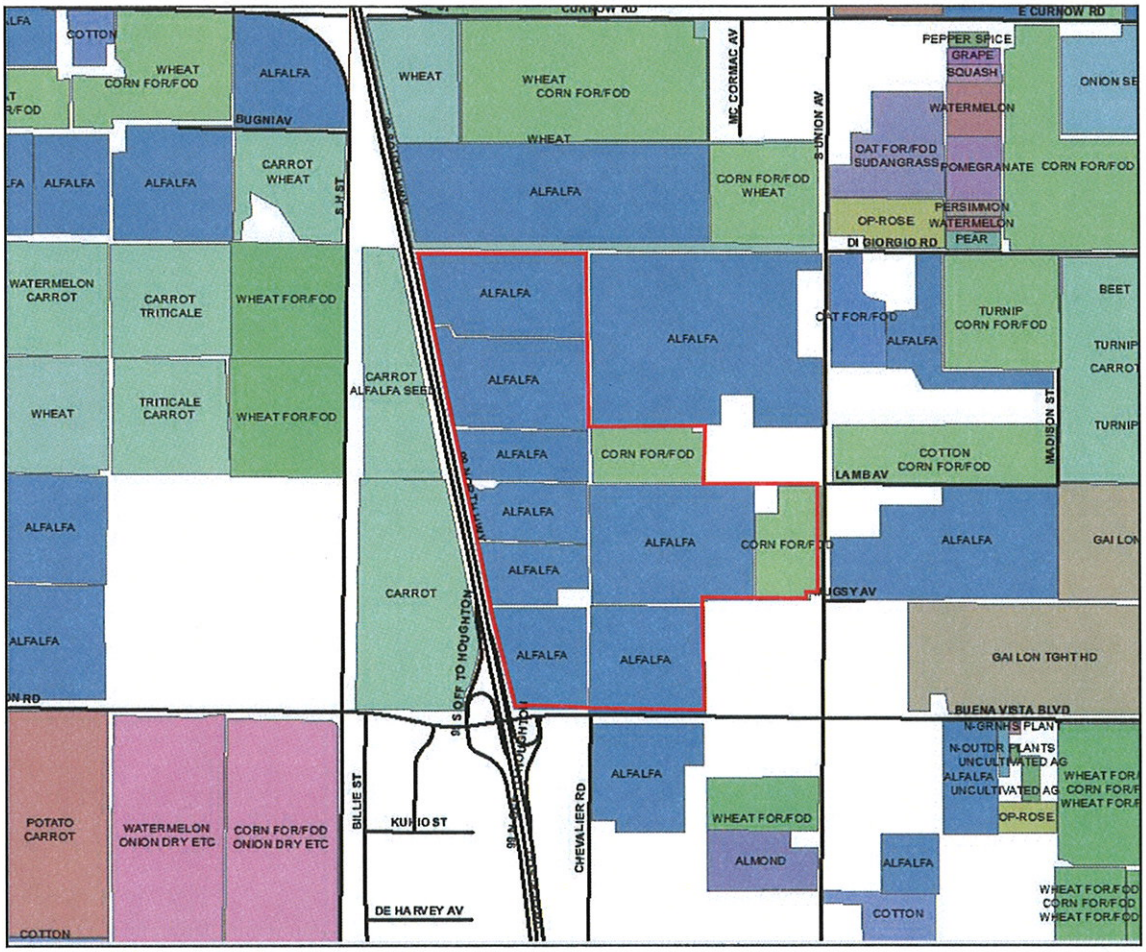


Source: Kern County GIS Reported Crops

Project Site

NORTH
Not to Scale

2012 Adjacent Crops
County of Kern, State of California

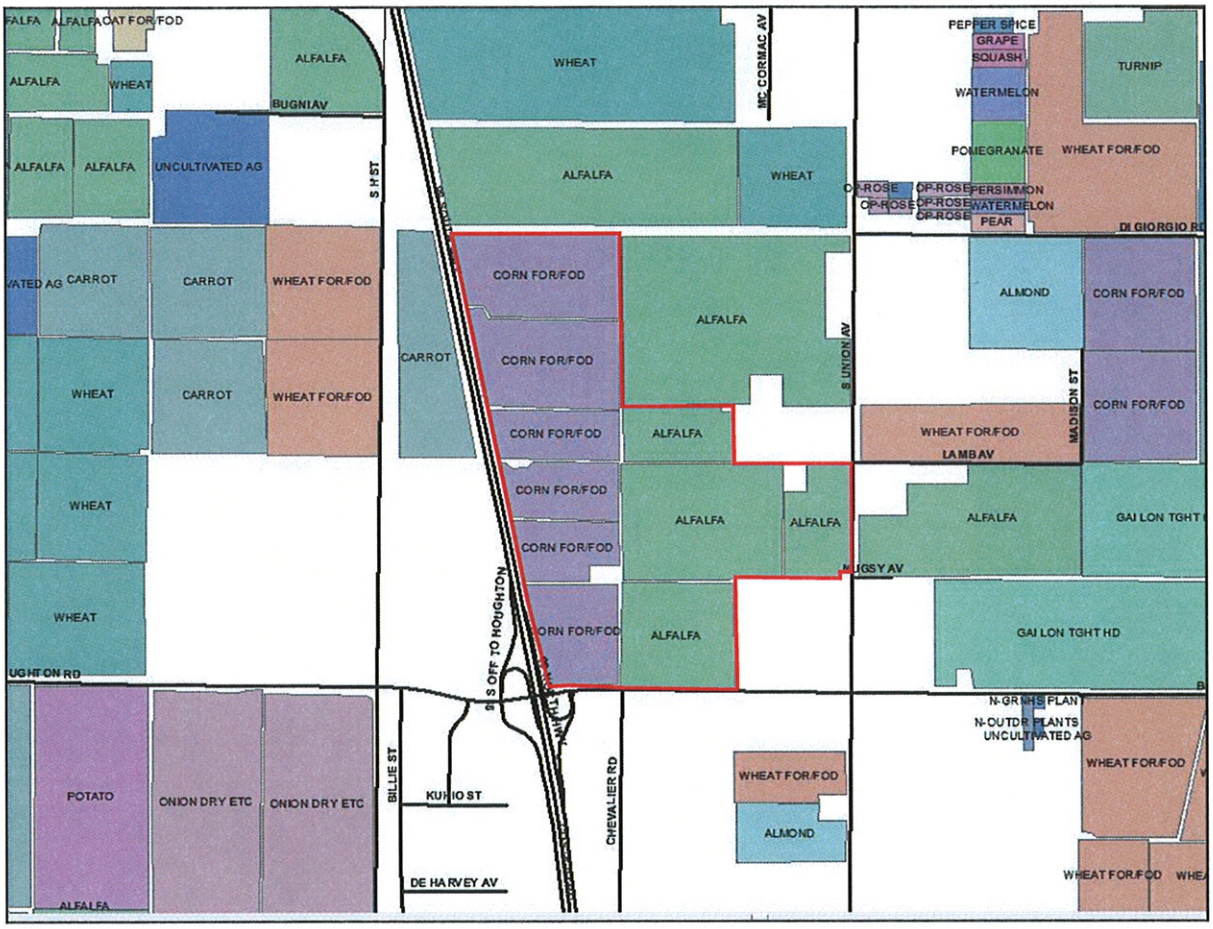


Source: Kern County GIS Reported Crops

Project Site

NORTH
Not to Scale

2013 Adjacent Crops
County of Kern, State of California

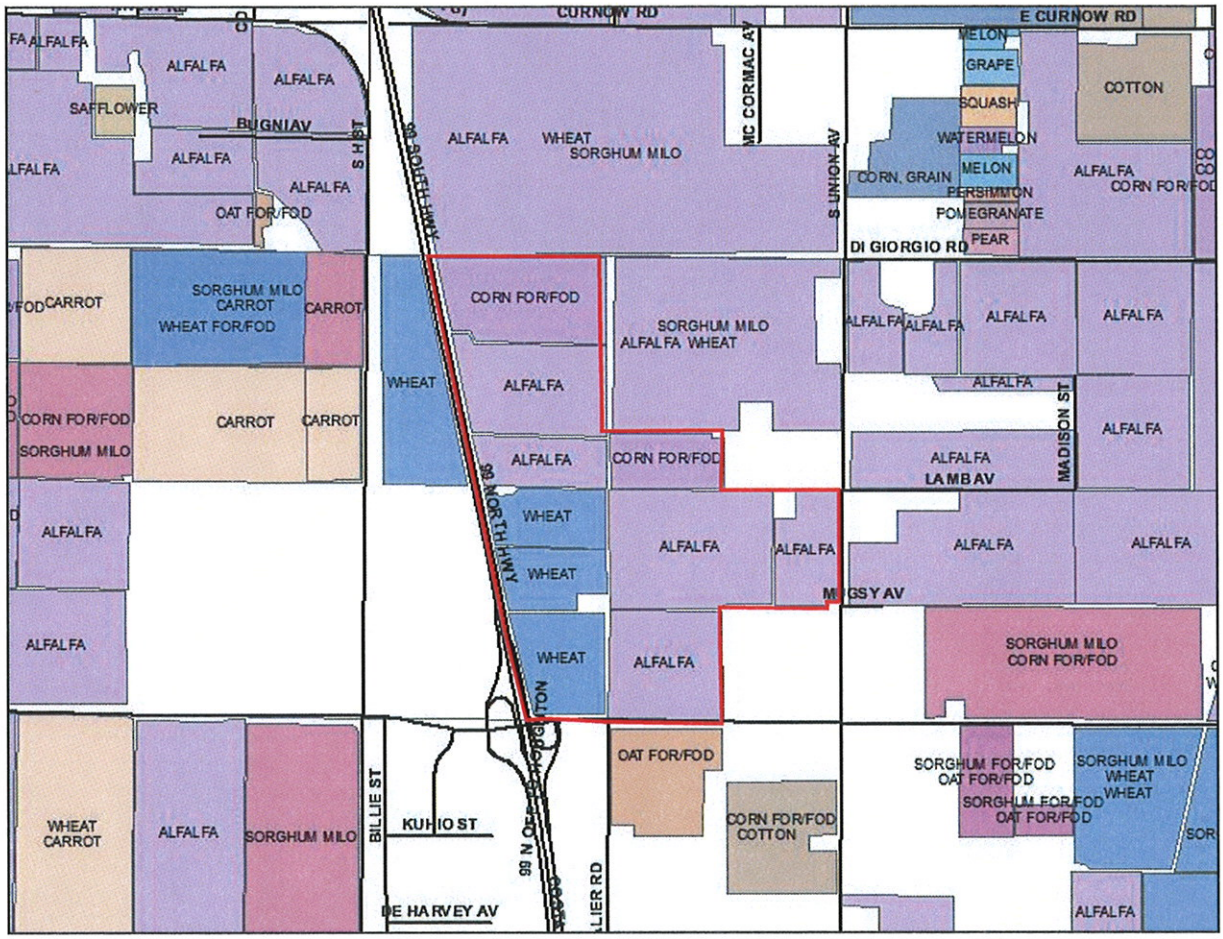


Source: Kern County GIS Reported Crops

Project Site

NORTH
Not to Scale

2014 Adjacent Crops
County of Kern, State of California



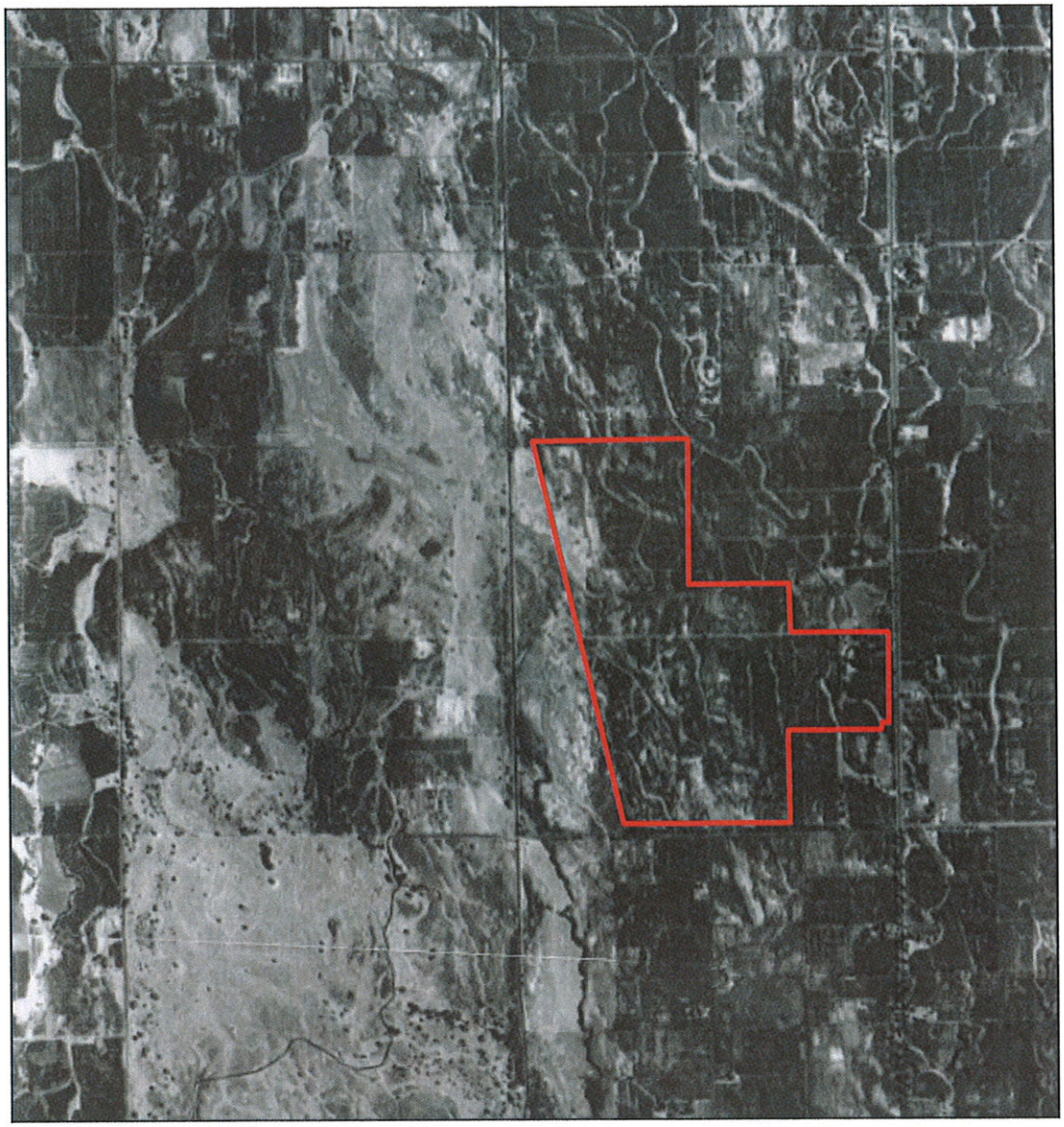
Source: Kern County GIS Reported Crops

Project Site

NORTH
Not to Scale

2008 Adjacent Crops
County of Kern, State of California

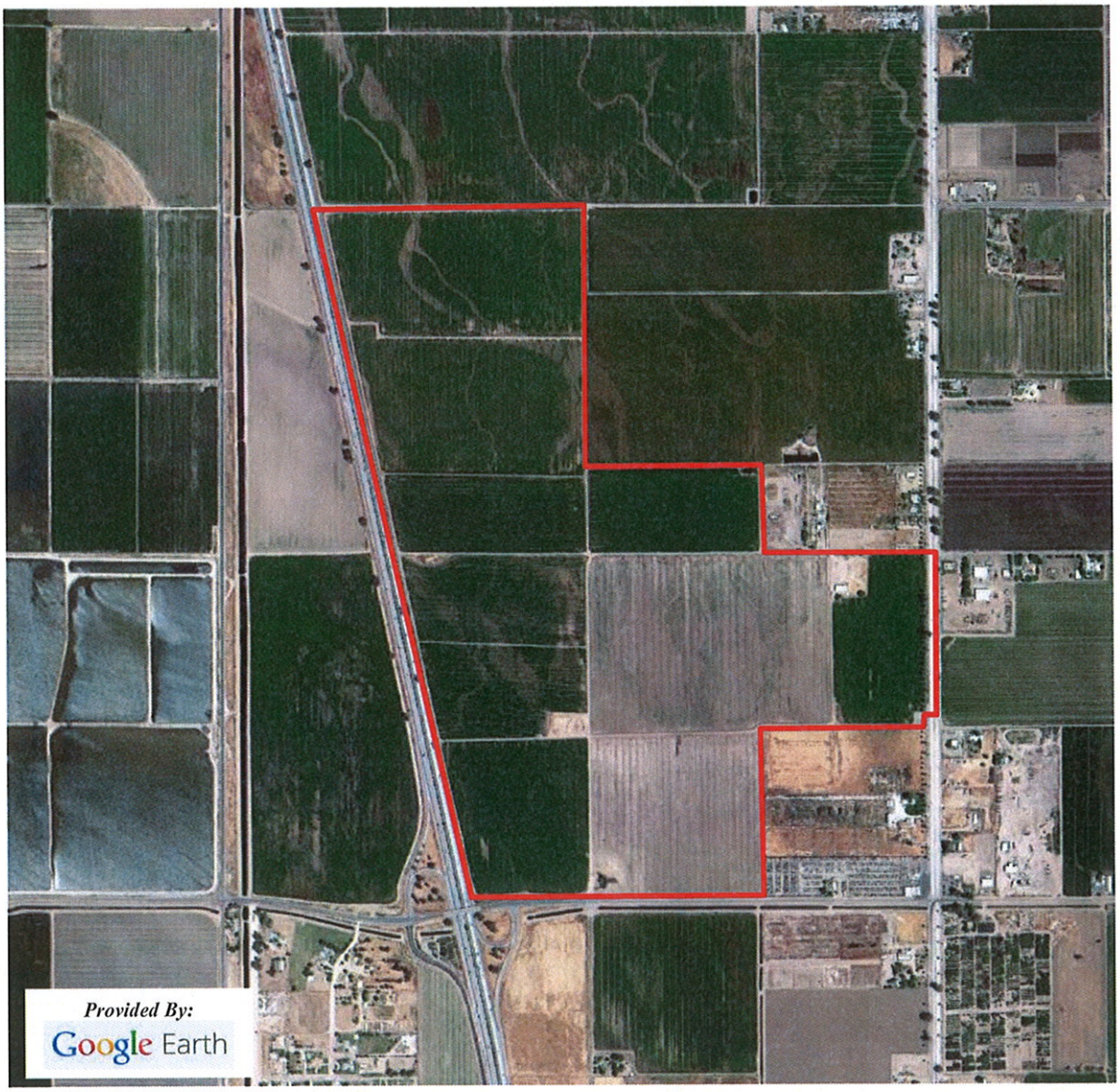
APPENDIX "G"



N
W E
S

NOT TO SCALE

1937 Aerial Photograph
99–Houghton, LLC Property
Portion of Section 7, T.31S., R.28E., M.D.B.& M.
Source: Kern County Department of Engineering and Survey Services



Portion of Section 7,T.31S., R.28E., M.D.B.& M.

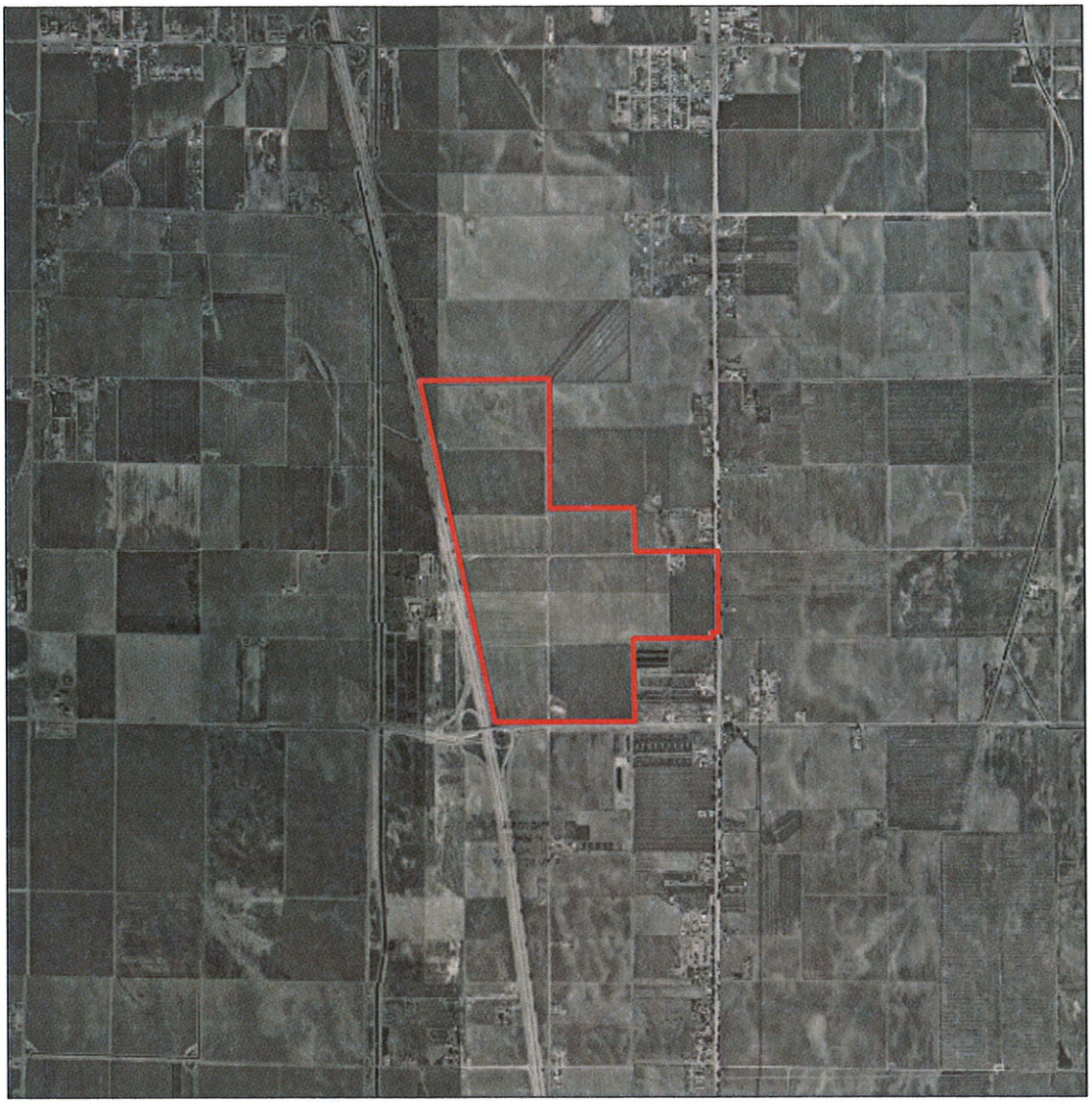
NORTH
Not to Scale

2011 Aerial Photograph
County of Kern, State of California





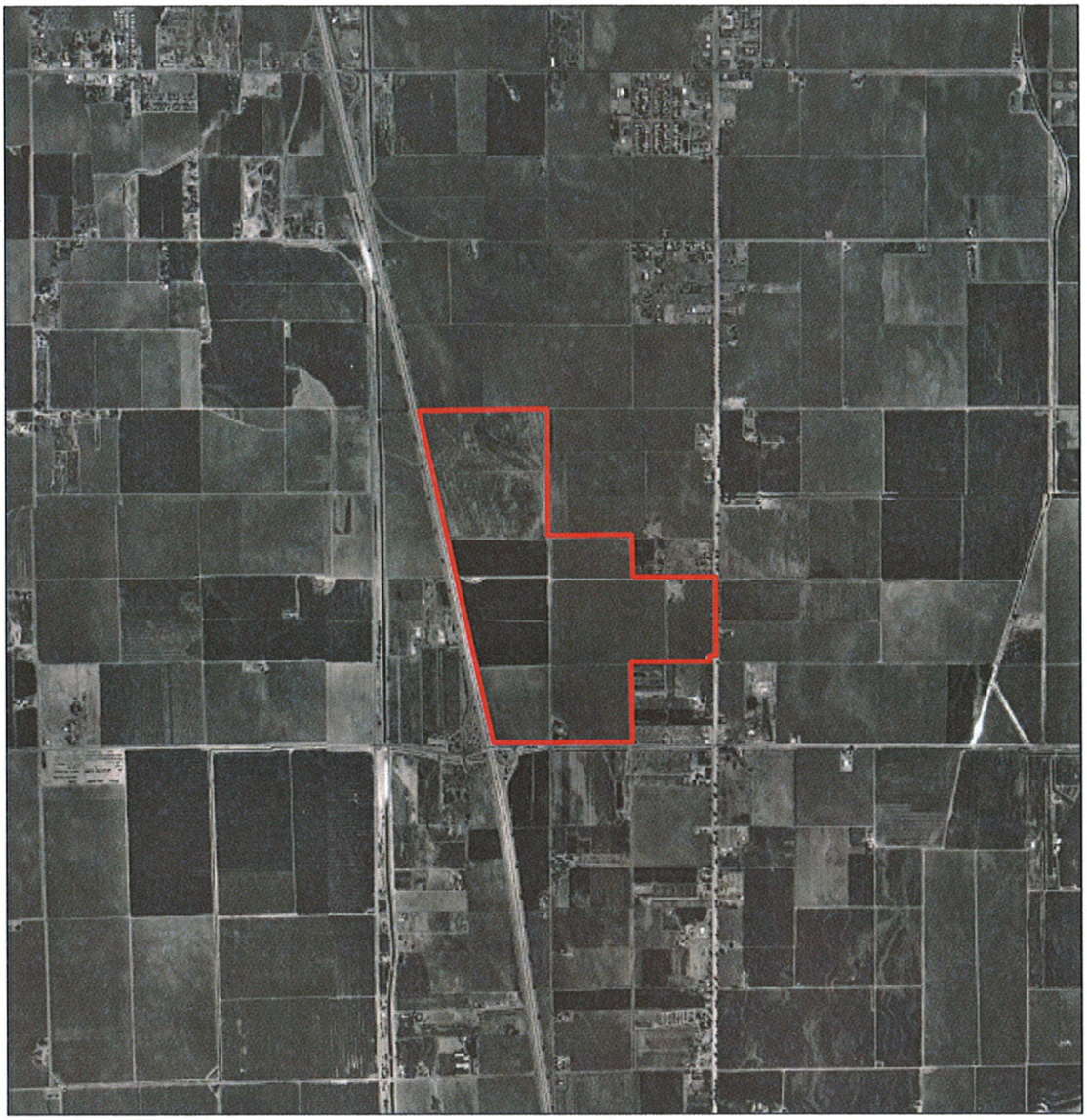
1963 Aerial Photograph
99–Houghton, LLC Property
Portion of Section 7, T.31S., R.28E., M.D.B.& M.
Source: Western Photogrammetrics



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NOT TO SCALE

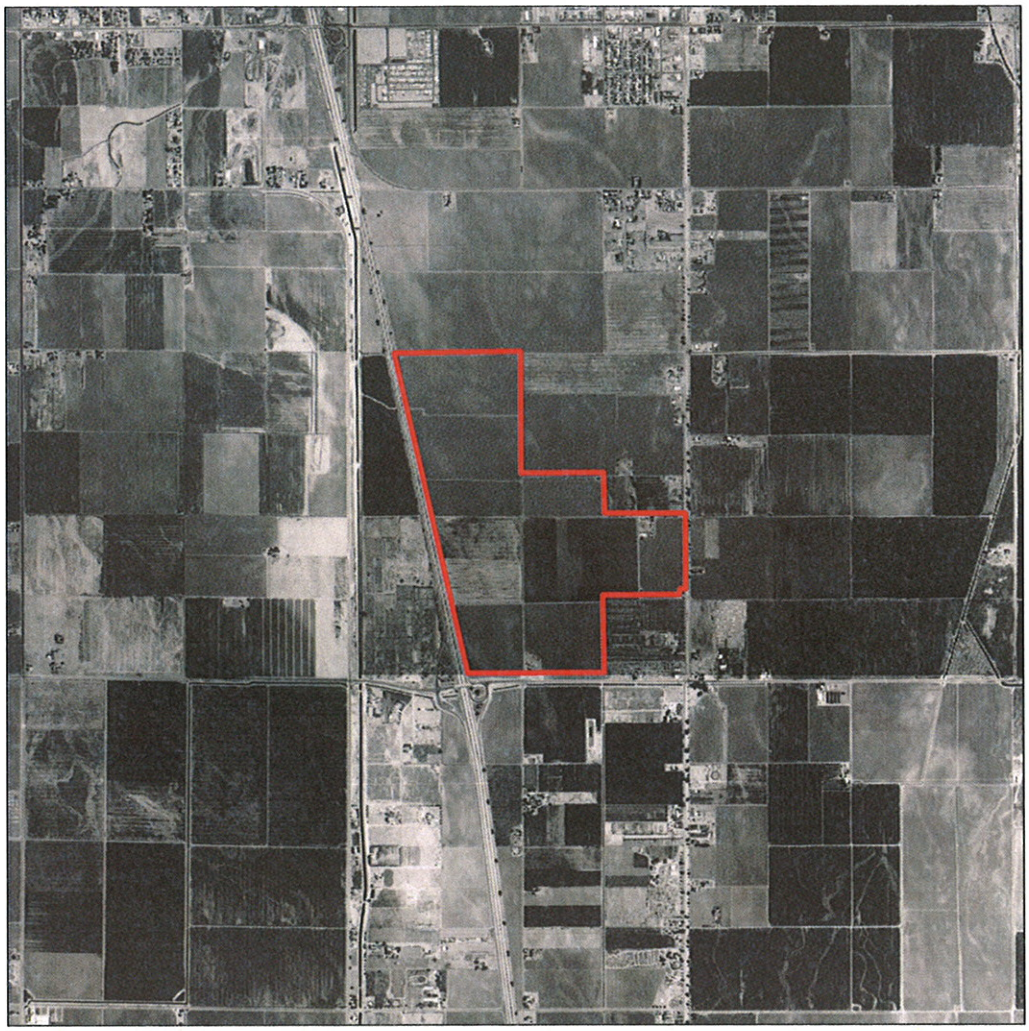
1975 Aerial Photograph
99–Houghton, LLC Property
Portion of Section 7, T.31S., R.28E., M.D.B.& M.
Source: Kern County Department of Engineering and Survey Services



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NOT TO SCALE

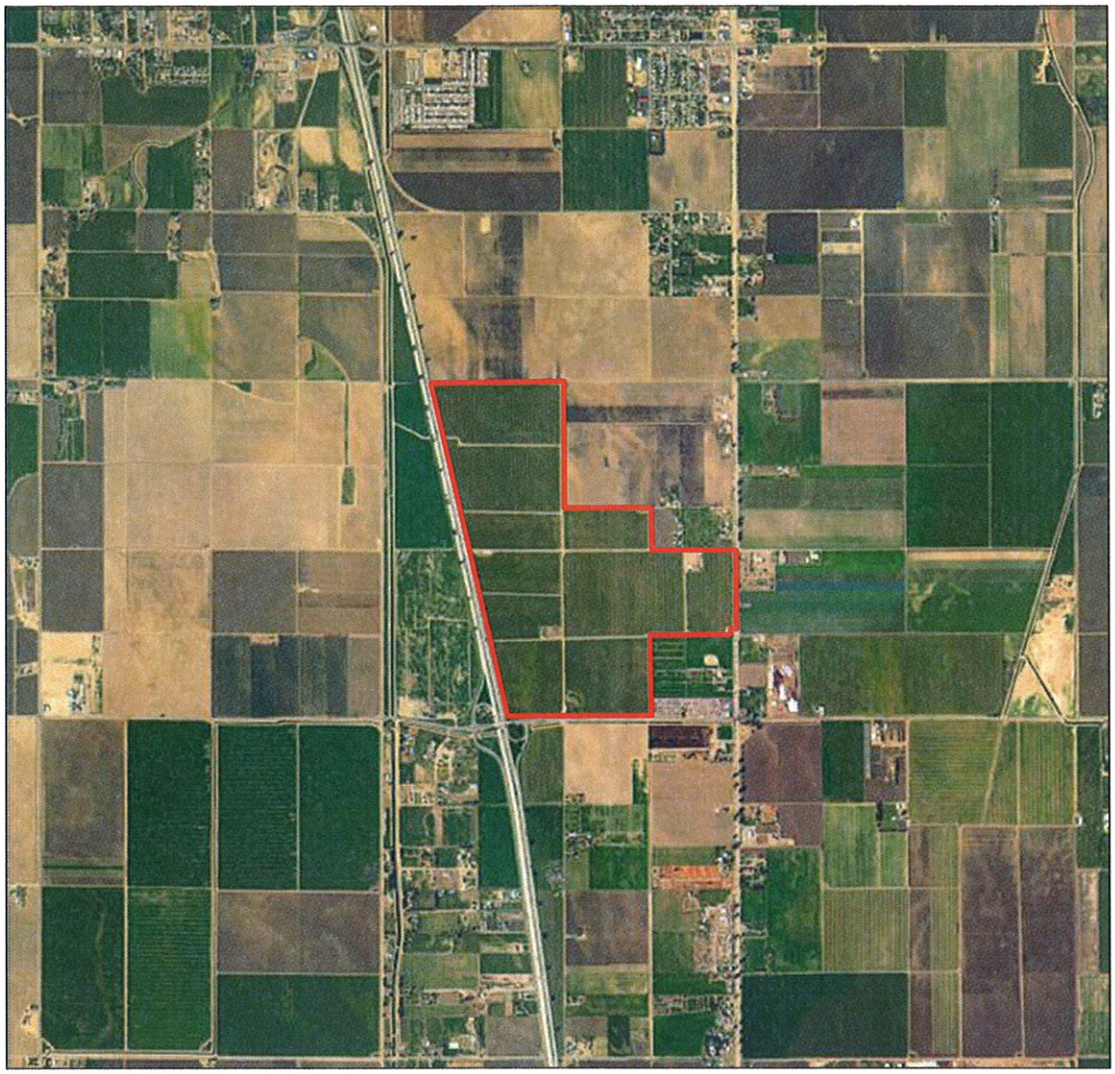
1981 Aerial Photograph
99–Houghton, LLC Property
Portion of Section 7, T.31S., R.28E., M.D.B.& M.
Source: Kern County Department of Engineering and Survey Services



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W E
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NOT TO SCALE

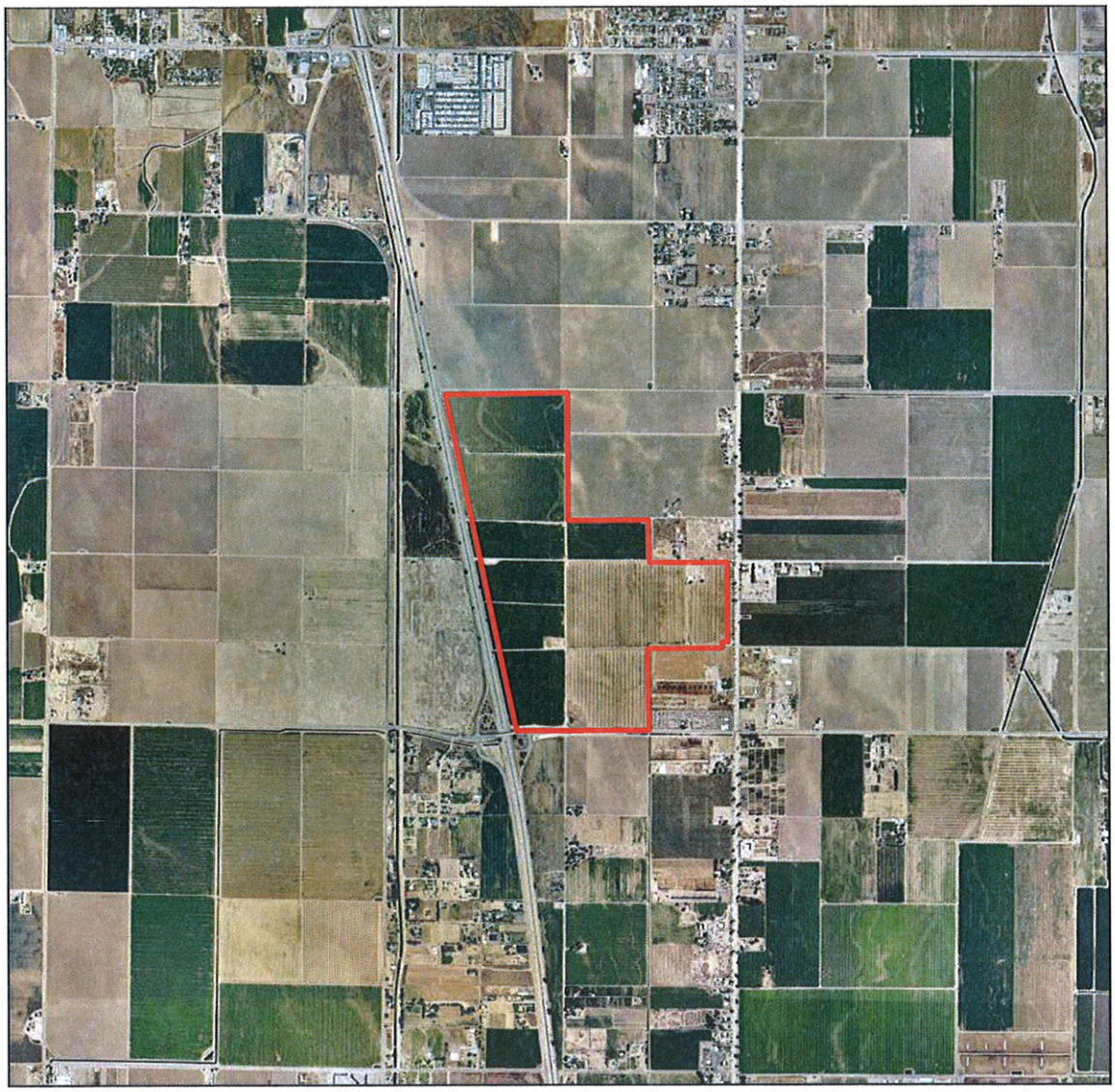
1990 Aerial Photograph
99–Houghton, LLC Property
Portion of Section 7, T.31S., R.28E., M.D.B.& M.
Source: Kern County Department of Engineering and Survey Services



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NOT TO SCALE

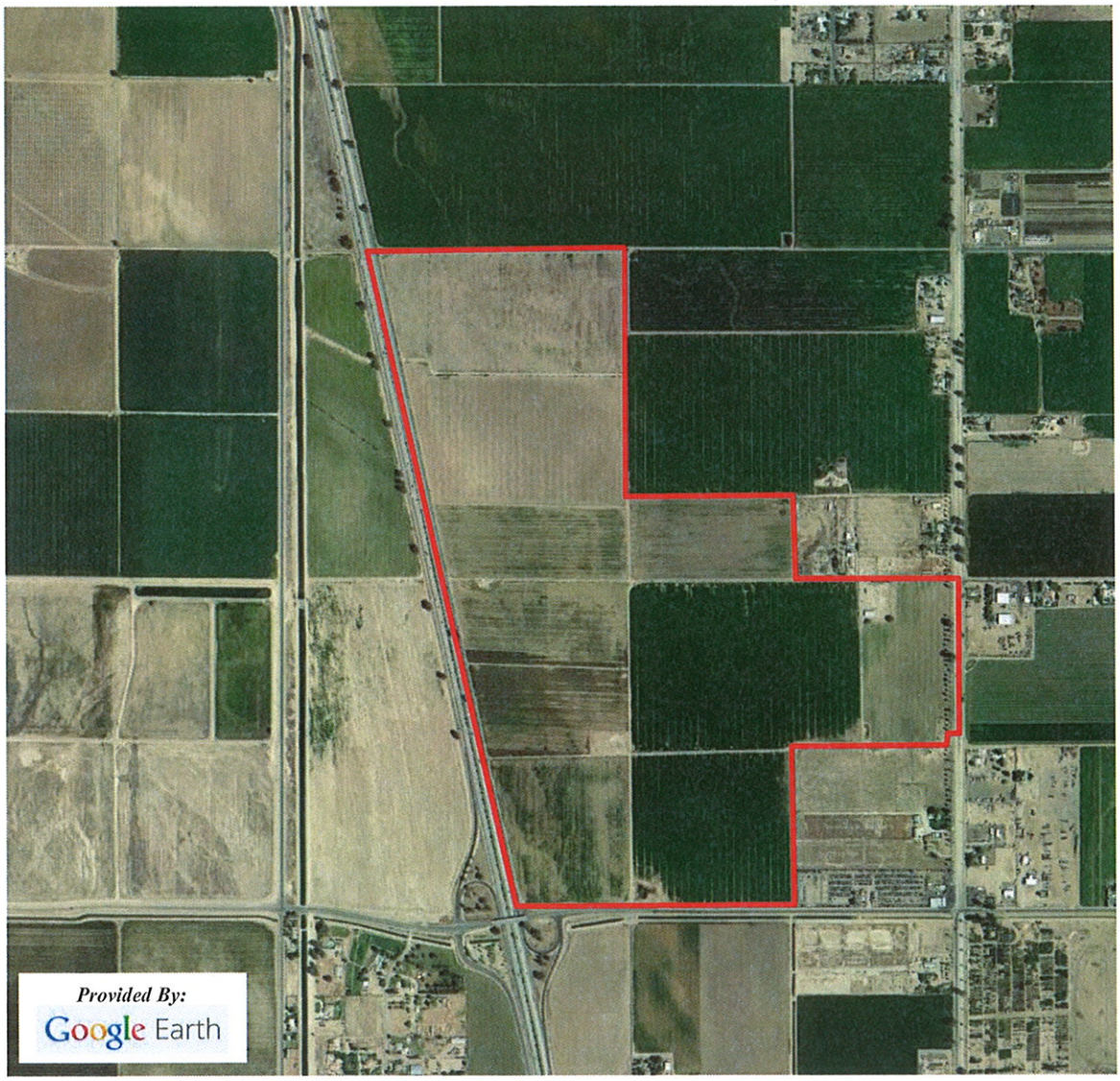
2000 Aerial Photograph
99–Houghton, LLC Property
Portion of Section 7, T.31S., R.28E., M.D.B.& M.
Source: Kern County Department of Engineering and Survey Services(Air Photo USA)





2006 Aerial Photograph

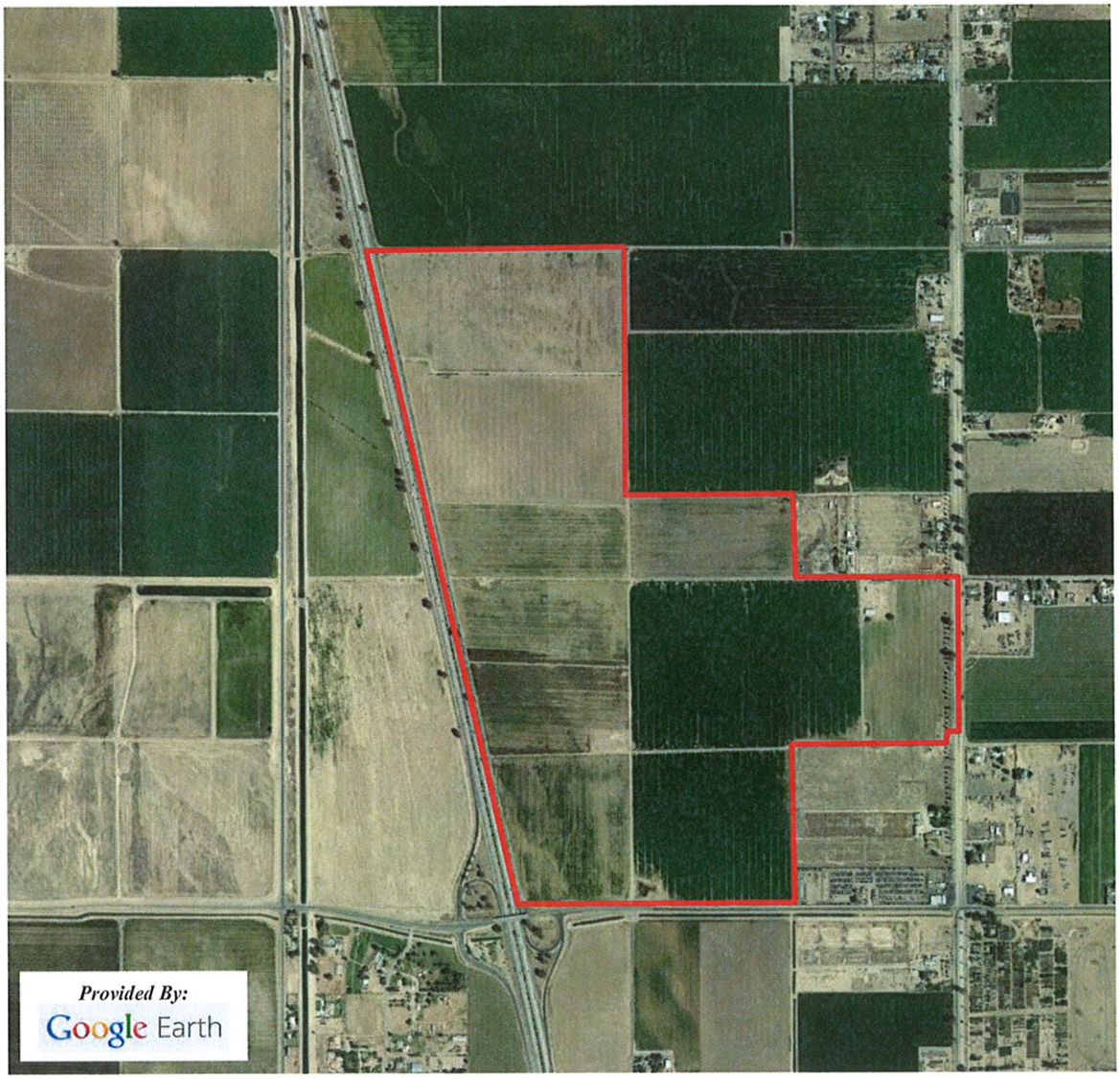
Source: Air Photo USA



Portion of Section 7,T.31S., R.28E., M.D.B.& M.

NORTH
Not to Scale

2014 Aerial Photograph
County of Kern, State of California

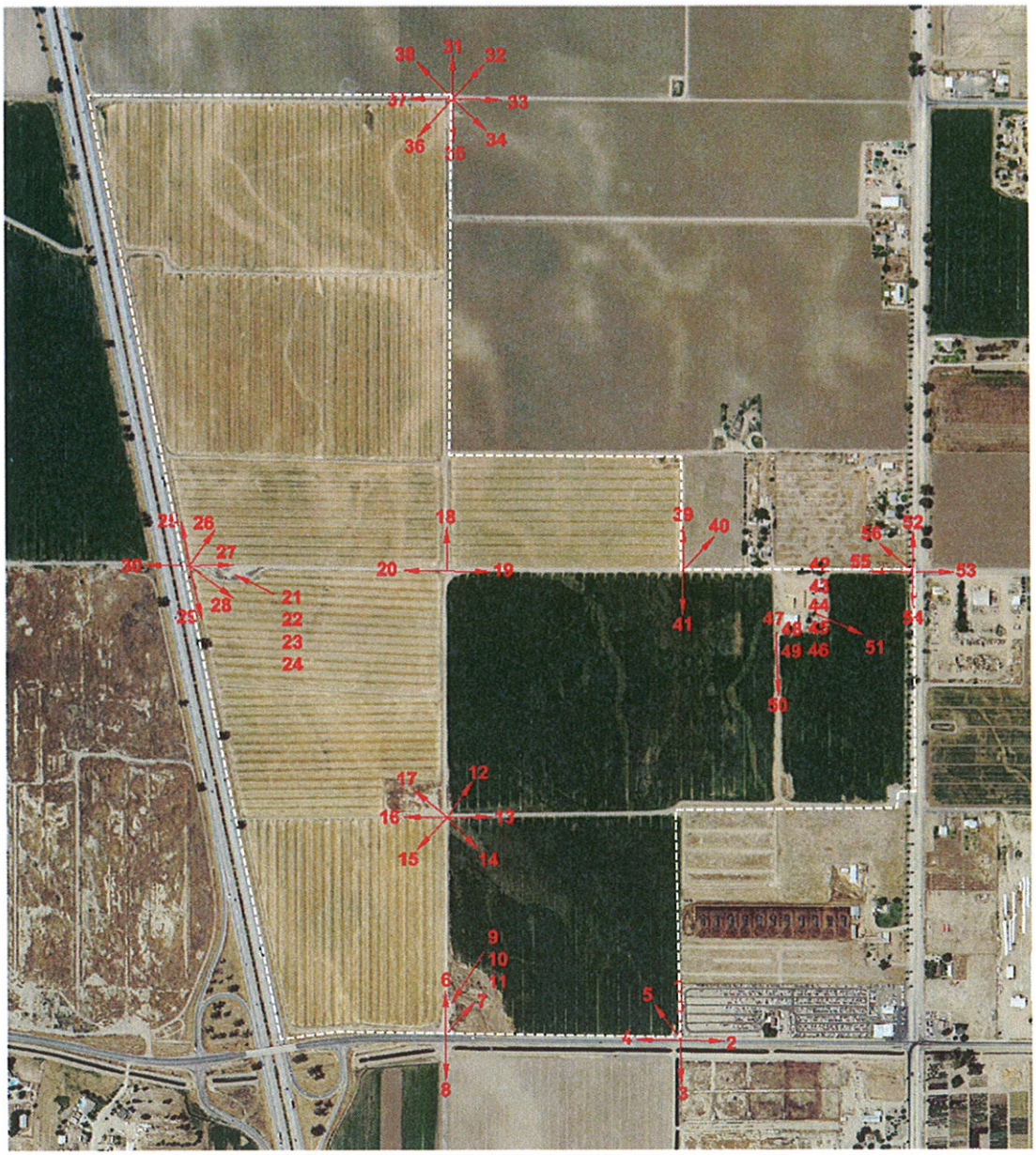


Portion of Section 7,T.31S., R.28E., M.D.B.& M.

NORTH
Not to Scale

2014 Aerial Photograph
County of Kern, State of California

APPENDIX "H"



Portion of Section 7,T.31S., R.28E., M.D.B.& M.

Site Photo Index



Photo 1: Looking north from Houghton Road along the southeast property boundary



Photo 2: Looking east along Houghton Road from southeast corner of property.



Photo 3: Looking south from the southeast corner of property



Photo 4: Looking west along southern property boundary.



Photo 5: Looking northwest from southeast corner of property.



Photo 6: Looking north from south ¼ corner.



Photo 7: Looking northeast from south ¼ corner



Photo 8: Looking south from the south ¼ corner.



Photo 9: Electrical Box located near the south ¼ corner



Photo 10: Pump located near the south ¼ corner



Photo 11: Power Pole with transformers located near the south ¼ corner



Photo 12: Looking Northeast



Photo 13: Looking east



Photo 14: Looking southeast



Photo 15: Looking southwest



Photo 16: Looking west



Photo 17: Looking northwest



Photo 18: Looking north from center of section 7



Photo 19: Looking east from center of section 7



Photo 20: Looking west from center of section



Photo 21: Diesel fuel tank



Photo 22: Diesel powered generator



Photo 23: Pump and diesel generator

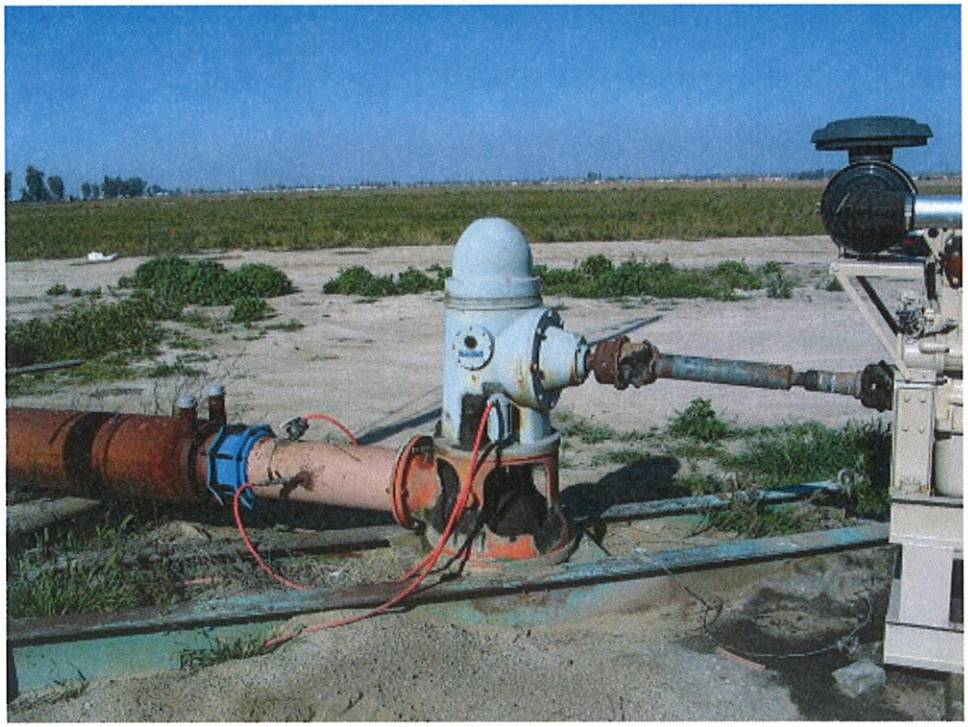


Photo 24: Pump



Photo 25: Looking north from west property boundary



Photo 26: Looking northeast from west property boundary



Photo 27: Looking east from west property boundary



Photo 28: Looking southeast from west property boundary



Photo 29: Looking south from west property boundary

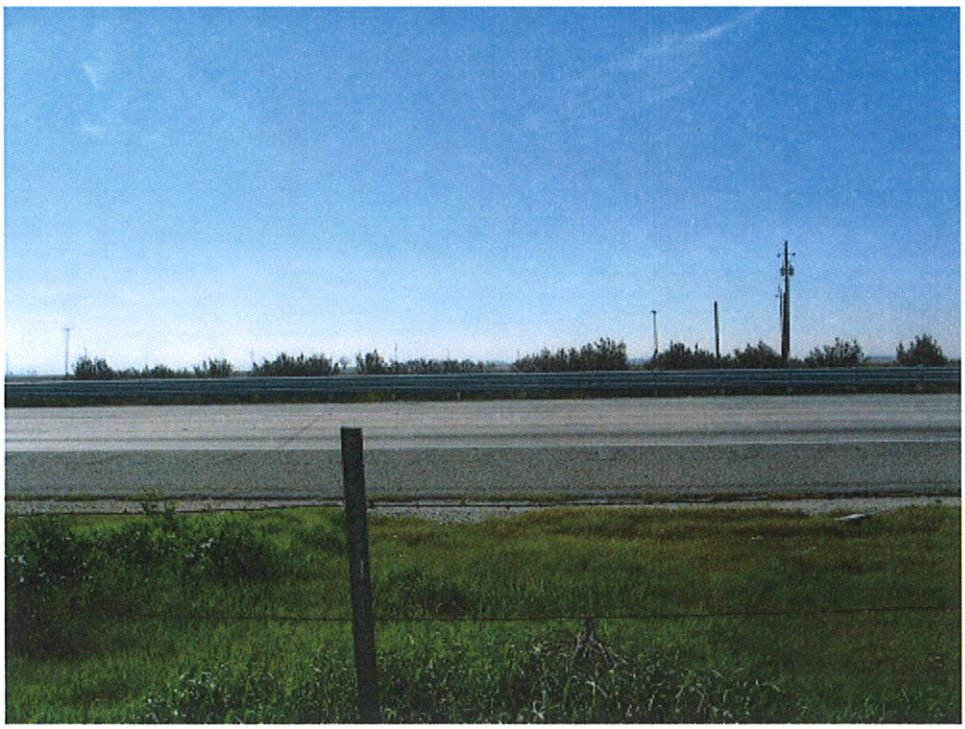


Photo 30: Looking west from west property boundary



Photo 31: Looking north from northeast corner of property (north ¼ corner)



Photo 32: Looking northeast from north ¼ corner



Photo 33: Looking east from north ¼ corner



Photo 34: Looking southeast from north ¼ corner (adjacent property)



Photo 35: Looking south from north ¼ corner



Photo 36: Looking southwest from north ¼ corner.



Photo 37: Looking west from north ¼ corner



Photo 38: Looking northwest from north ¼ corner



Photo 39: Looking north



Photo 40: Looking northeast



Photo 41: Looking south



Photo 42: Water storage tank



Photo 43: Water storage tank



Photo 44: Propane storage tank



Photo 45: Storage building, propane tank, electrical panel

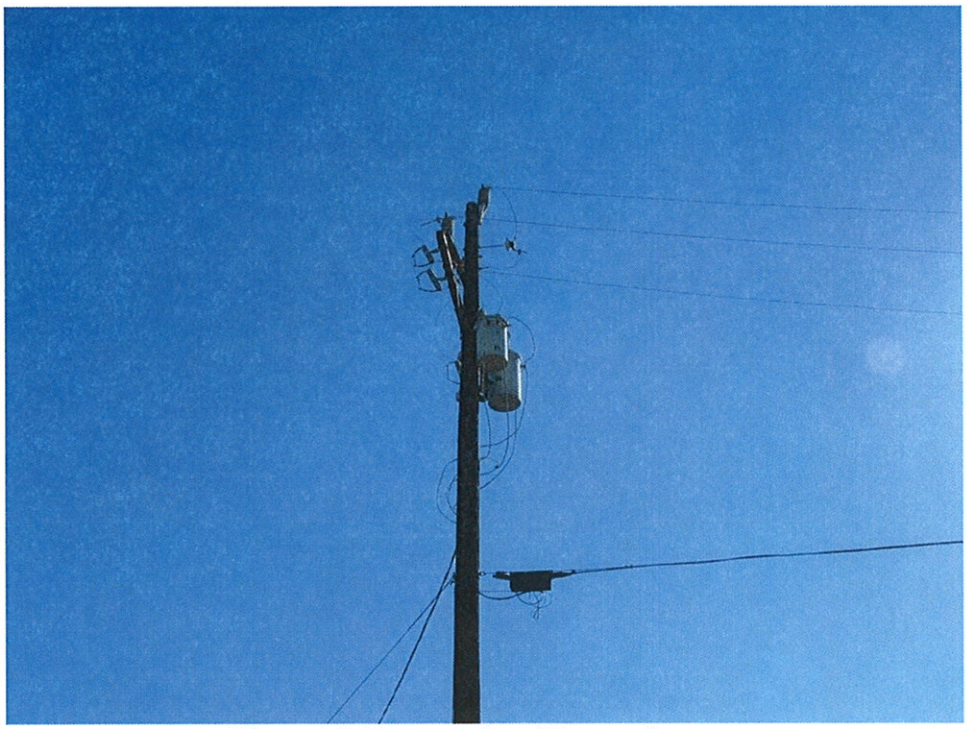


Photo 46: Power pole with transformers



Photo 47: Tires located on the west side of storage building



Photo 48: Storage tank located in back of building



Photo 49:



Photo 50: Looking south from storage building



Photo 51: Looking southeast from storage building



Photo 52: Looking north along Union Avenue from east ¼ corner



Photo 53: Looking west from east ¼ corner



Photo 54: Looking south from south ¼ corner

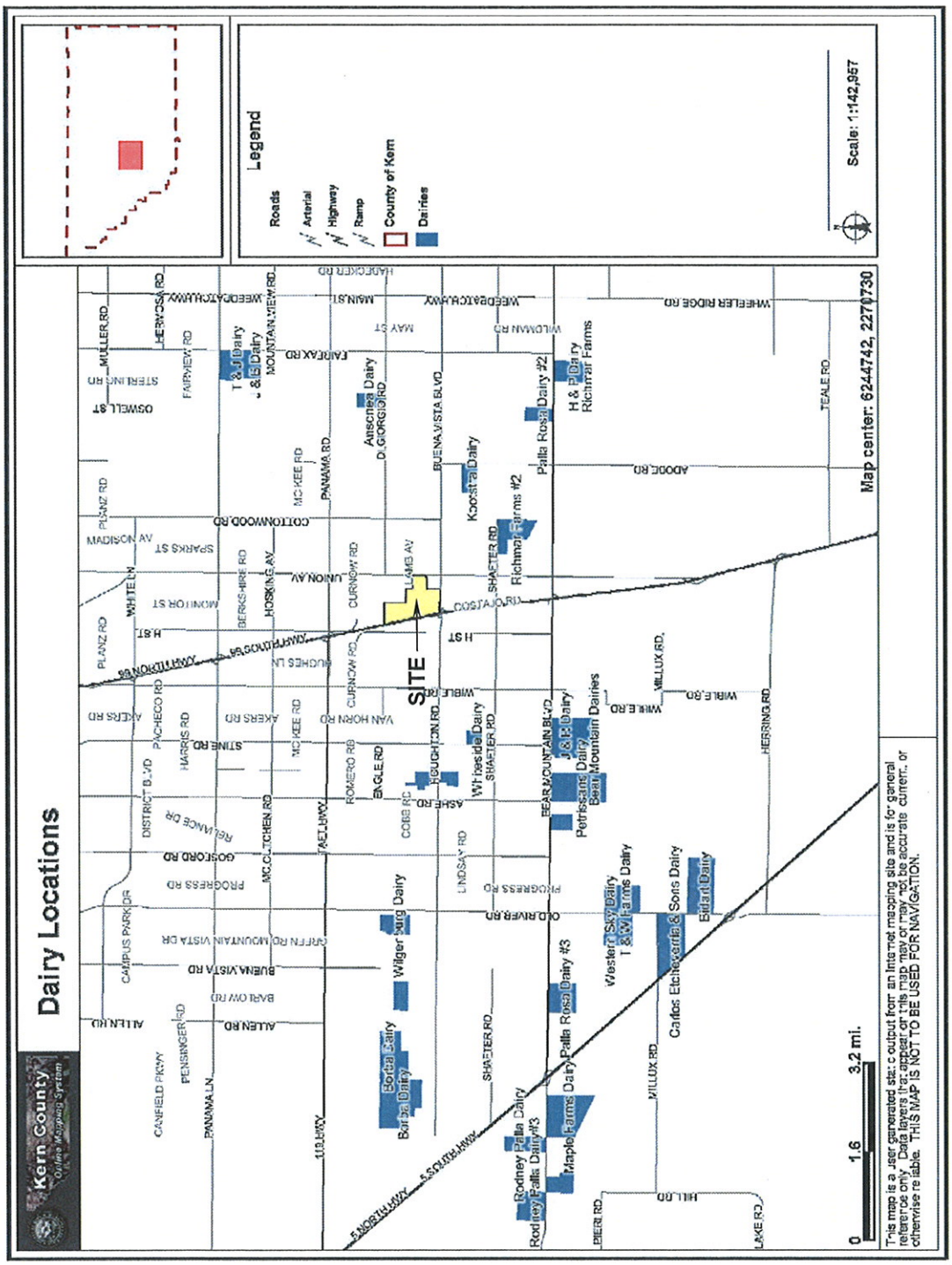


Photo 55: Looking west from east ¼ corner



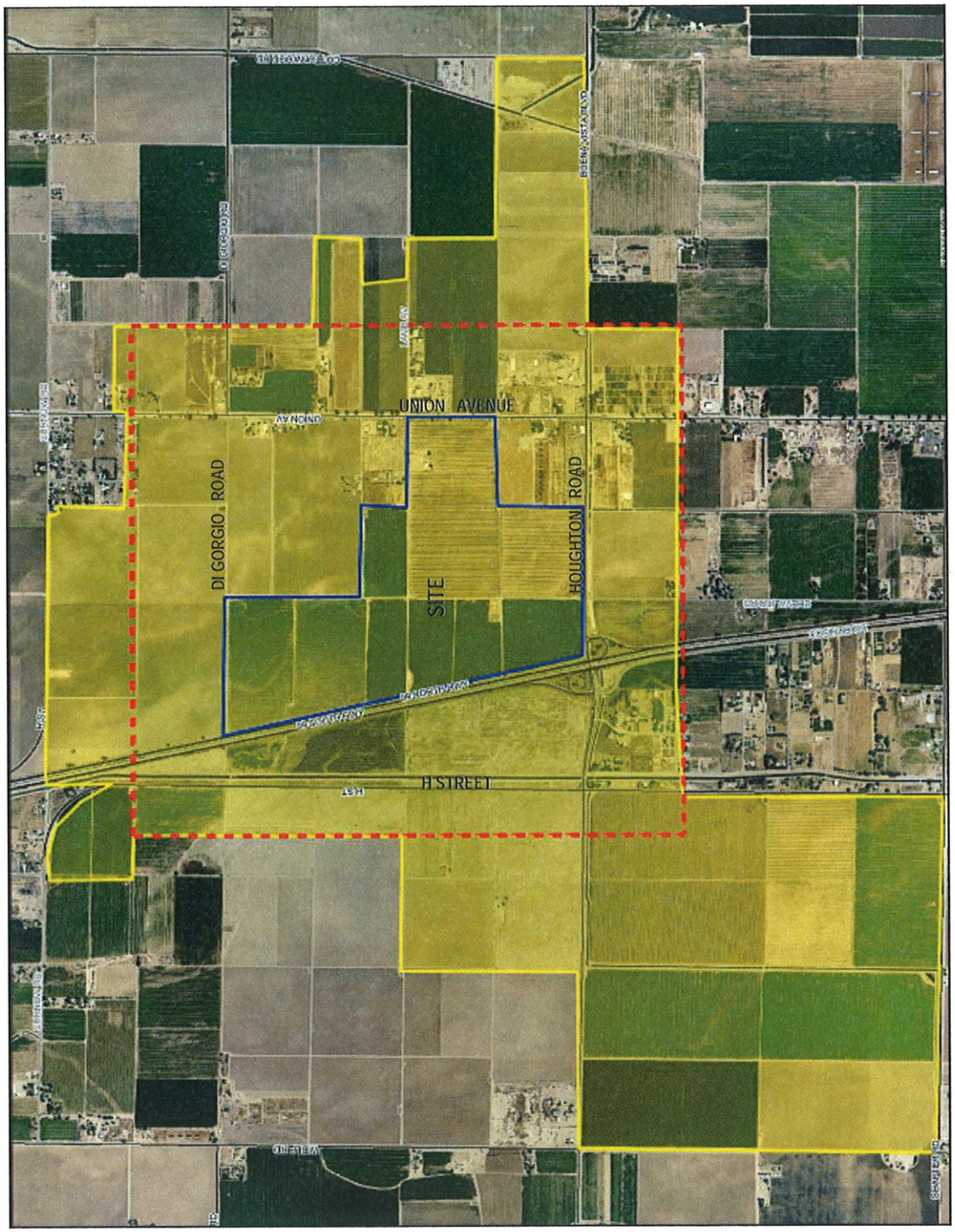
Photo 56: Looking northwesterly from east ¼ corner

APPENDIX "I"



Existing Dairy Locations
Kern County GIS
9-12-08

APPENDIX
"J"



Zone of Influence
LESA
Kern County GIS

TABLE 1A
LAND EVALUATION WORKSHEET

Land Capability

Alphabetical Symbol	Numerical Symbol	Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
KsA	101	Bakersfield fine sandy loam, drained, 0-1 percent slopes	170.22	53.9	IIs-0	80	35.2		IIs-0
CaA	123	Cajon sandy loam, 0 to 2 percent slopes, overwash	144.09	45.6	IIIs-4	60	27.4	Not available	IIIs-4
		Totals	0	1.0		LCC Total	62.6	Storie Index Total	-

(must sum to 1.0)

TABLE 1B
SITE ASSESSMENT WORKSHEET 1

Project Size Score

LCC Class I - II	LCC Class III	LCC Class IV - VIII	
170.22			
	140.09		
170.22	140.09	0	*total acres*
100	90	0	*project size scores*

Highest Project Size Score: 100

TABLE 2

NUMERIC CONVERSION OF LAND CAPABILITY CLASSIFICATION UNITS

Land Capability Classification	LCC Point Rating
I	100
IIe	90
IIs,w	80
IIIe	70
IIIs,w	60
IVe	50
IVs,w	40
V	30
VI	20
VII	10
VIII	0

TABLE 3

PROJECT SIZE SCORING

LCC Class I - II Soils	
Acres	Score
80 or above	100
60-79	90
40-59	80
20-39	50
10-19	30
fewer than 10	0

LCC Class III	
Acres	Score
160 or above	100
120-159	90
80-119	80
60-79	70
40-59	60
20-39	30
10-19	10
fewer than 10	0

LCC Class IV - VIII	
Acres	Score
320 or above	100
240-319	80
160-239	60
100-159	40
40-99	20
fewer than 40	0

TABLE 4
SITE ASSESSMENT WORKSHEET 2

Water Resources Availability

Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score
314.31	well water	0.75	100	75.0
117.75	surface water	0.25	100	25.0
totals		1.00	Total Water Resource Score	100.0
		(must sum to 1.0)		

TABLE 5
WATER RESOURCE AVAILABILITY SCORING

Option	Non-Drought Years Restrictions			Drought Years			Water Resource Score
	Irrigated Production Feasible?	Physical Restrictions?	Economic Restrictions?	Irrigated Production Feasible?	Physical Restrictions?	Economic Restrictions?	
1	yes	no	no	yes	no	no	100
2	yes	no	no	yes	no	yes	95
3	yes	no	yes	yes	no	yes	90
4	yes	no	no	yes	yes	no	85
5	yes	no	no	yes	yes	yes	80
6	yes	yes	no	yes	yes	no	75
7	yes	yes	yes	yes	yes	yes	65
8	yes	no	no	no	-	-	50
9	yes	no	yes	no	-	-	45
10	yes	yes	no	no	-	-	35
11	yes	yes	yes	no	-	-	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

SURROUNDING AGRICULTURAL LAND RATING

Percent of Project's Zone of Influence in Agricultural Use	Surrounding Agricultural Land Score
90-100%	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
less than 40%	0

Surrounding Agricultural Land Score	93

TABLE 7
SURROUNDING PROTECTED RESOURCE LAND RATING

Percent of Project's Zone of Influence Defined as Protected	Surrounding Protected Resource Land Score	
90 - 100% 100 Points	100	
80 - 89	90	
75 - 79	80	
70 - 74	70	
65 - 69	60	
60 - 64	50	
55 - 59	40	
50 - 54	30	
45 - 49	20	
40 - 44	10	
40 <	0	34.5%

Protected resource lands are those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

- Williamson Act contracted lands
- Publicly owned lands maintained as park, forest, or watershed resources
- Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

Surrounding Protected Resource Land Score	0

TABLE 8
FINAL LESA SCORESHEET

Factor Name	Factor Rating (0-100 Points)	Factor Weighting (Total=1.0)	Weighted Factor Rating
LAND EVALUATION			
Land Capability Classification	62.55	0.50	31.28
Storie Index Rating	-	-	-
SITE ASSESSMENT			
Project Size	100.00	0.15	15.00
Water Resource Availability	100.00	0.15	15.00
Surrounding Agricultural Lands	93.00	0.15	13.95
Protected Resource Lands	0.00	0.05	0.00
		Total LESA Score	75.23

TABLE 9
California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0 to 39 points	not considered significant
40 to 59 points	considered significant ONLY if LE AND SA subscore are each greater than or equal to 20 points
60 to 79 points	considered significant UNLESS either LE OR SA subscore is LESS than 20 points
80 to 100 points	considered significant

CALIFORNIA AGRICULTURAL

LAND EVALUATION AND SITE ASSESSMENT MODEL

Instruction Manual



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EXECUTIVE SUMMARY

Land Evaluation and Site Assessment (LESA) is a term used to define an approach for rating the relative quality of land resources based upon specific measurable features. The formulation of a California Agricultural LESA Model is the result of Senate Bill 850 (Chapter 812 /1993), which charges the Resources Agency, in consultation with the Governor's Office of Planning and Research, with developing an amendment to Appendix G of the California Environmental Quality Act (CEQA) Guidelines concerning agricultural lands. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095).

The California Agricultural LESA Model is composed of six different factors. Two Land Evaluation factors are based upon measures of soil resource quality. Four Site Assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is separately rated on a 100 point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. It is this project score that becomes the basis for making a determination of a project's potential significance, based upon a range of established scoring thresholds. This Manual provides detailed instructions on how to utilize the California LESA Model, and includes worksheets for applying the Model to specific projects.

INTRODUCTION

Defining the LESA System

The Land Evaluation and Site Assessment (LESA) system is a point-based approach that is generally used for rating the relative value of agricultural land resources. In basic terms, a given LESA model is created by defining and measuring two separate sets of factors. The first set, Land Evaluation, includes factors that measure the inherent soil-based qualities of land as they relate to agricultural suitability. The second set, Site Assessment, includes factors that are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land. While this dual rating approach is common to all LESA models, the individual land evaluation and site assessment factors that are ultimately utilized and measured can vary considerably, and can be selected to meet the local or regional needs and conditions for which a LESA model is being designed to address. In short, the LESA methodology lends itself well to adaptation and customization in individual states and localities. Considerable additional information on LESA may be found in *A Decade with LESA - the Evolution of Land Evaluation and Site Assessment* (8).

Background on LESA Nationwide

In 1981, the federal Natural Resources Conservation Service (NRCS), known then as the Soil Conservation Service, released a new system that was designed to provide objective ratings of the agricultural suitability of land compared to demands for nonagricultural uses of lands. The system became known as Land Evaluation and Site Assessment, or LESA. Soon after it was designed, LESA was adopted as a procedural tool at the federal level for identifying and addressing the potential adverse effects of federal programs (e.g., funding of highway construction) on farmland protection. The Farmland Protection Policy Act of 1981 (5) spells out requirements to ensure that federal programs, to the extent practical, are compatible with state, local, and private programs and policies to protect farmland, and calls for the use of LESA to aid in this analysis. Typically, staff of the NRCS is involved in performing LESA scoring analyses of individual projects that involve other agencies of the federal government.

Since its inception, the LESA approach has received substantial attention from state and local governments as well. Nationwide, over two hundred jurisdictions have developed local LESA methodologies (7). One of the attractive features of the LESA approach is that it is well suited to being modified to reflect regional and local conditions. Typical local applications of LESA include assisting in decision making concerning the sitting of projects, changes in zoning, and spheres of influence determinations. LESA is

also increasingly being utilized for farmland protection programs, such as the identification of priority areas to concentrate conservation easement acquisition efforts.

Because of the inherent flexibility in LESA model design, there is a broad array of factors that a given LESA model can utilize. Some LESA models require the measurement of as many as twenty different factors. Over the past 15 years, the body of knowledge concerning LESA model development and application has begun to indicate that LESA models utilizing only several basic factors can capture much of the variability associated with the determination of the relative value of agricultural lands. In fact, LESA models with many factors are increasingly viewed as having redundancies, with different factors essentially measuring the same features, or being highly correlated with one another. Additional information on the evolution and development of the LESA approach is provided in, A *Decade with LESA -The Evolution of Land Evaluation and Site Assessment* (8).

Development of the California Agricultural LESA Model

In 1990 the Department of Conservation commissioned a study to investigate land use decisions that affect the conversion of agricultural lands in California. The study, conducted by Jones and Stokes Associates, Inc., was prepared in response to concerns about agricultural land conversion identified in the *California Soil Conservation Plan* (1) (developed by the ad hoc Soil Conservation Advisory Committee serving the Department of Conservation in 1987). Among these concerns was the belief that there was inadequate information available concerning the socioeconomic and environmental implications of farmland conversions, and that the adequacy of current farmland conversion impact analysis under the California Environmental Quality Act (CEQA) was not fully known. The findings of this study are included in the publication, *The Impacts of Farmland Conversion in California* (2).

Currently, neither CEQA nor the State CEQA Guidelines contains procedures or specific guidance concerning how agencies should address farmland conversion impacts of projects. The only specific mention of agricultural issues is contained in Appendix G of the State CEQA Guidelines, which states that a project will normally have a significant effect on the environment if it will "convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land".

Among the conclusions contained in *The Impacts of Farmland Conversion in California* study was that the lack of guidance in how lead agencies should address the significance of farmland conversion impacts resulted in many instances of no impact analysis at all. A survey of environmental documents sent to the Governor's Office of Planning and Research (OPR) between 1986 and 1988 was performed. The survey

showed that among projects that affected at least 100 acres of land and for which agriculture was a project issue, nearly 30 percent received Negative Declarations, and therefore did not did not receive the environmental impact analysis that would be provided by an Environmental Impact Report (EIR).

Of those projects involving the conversion of agricultural lands and being the subject of an EIR, the study found a broad range of approaches and levels of detail in describing the environmental setting, performing an impact analysis, and providing alternative mitigation measures. The only agricultural impacts found to be significant in the EIRs were those involving the direct removal of prime agricultural lands from production by the project itself. The focus on prime farmland conversion in the projects surveyed was deemed to be related to the narrow direction provided in Appendix G of the State CEQA Guidelines.

The formulation of a California LESA Model is the result of Senate Bill 850 (Chapter 812 /1993), which charges the Resources Agency, in consultation with the Governor's Office of Planning and Research, to develop an amendment to Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095). This legislation authorizes the Department of Conservation to develop a California LESA Model, which can in turn be adopted as the required amendment to Appendix G of the CEQA Guidelines.

Presentation of the California LESA Model

The California LESA Model is presented in this Manual in the following sections:

Section I. provides a listing of the information and tools that will typically be needed to develop LESA scores for individual projects.

Section II. provides step-by-step instructions for scoring each of the six Land Evaluation and Site Assessment factors that are utilized in the Model, with an explanation of the rationale for the use of each factor.

Section III. defines the assignment of weights to each of the factors relative to one another, and the creation of a final LESA score for a given project.

Section IV. assigns scoring thresholds to final LESA scores for the purpose of determining the significance of a given project under CEQA where the conversion of agricultural lands is a project issue.

Additionally:

Appendix A. provides an abridged set of step-by-step LESA scoring instructions that can be used and reproduced for scoring individual projects.

Appendix B. demonstrates the application of the California LESA Model to the scoring of a hypothetical project.

The California Agricultural LESA Model

Section I. Required Resources and Information

The California Land Evaluation and Site Assessment (LESA) Model requires the use and interpretation of basic land resource information concerning a given project. A series of measurements and calculations is also necessary to obtain a LESA score. Listed below are the materials and tools that will generally be needed to make these determinations.

Land Evaluation and Site Assessment calculations will require:

1. A calculator or other means of tabulating numbers

2. An accurately scaled map of the project area, such as a parcel map

3. A means for making acreage determinations of irregularly shaped map units. Options include, from least to most technical:

    - A transparent grid-square or dot-planimeter method of aerial measurement

    - A hand operated electronic planimeter

    - The automatic planimetry capabilities of a Geographic Information System (GIS)

4. A modern soil survey, generally produced by the USDA Natural Resources Conservation Service, which delineates the soil-mapping units for a given project. [Note: If modern soil survey information is not available for a given area of study, it may be necessary to draw upon the services of a professional soil scientist to perform a specific project survey].

5. Maps that depict land uses for parcels including and surrounding the project site, such as the Department of Conservation's Important Farmland Map series, the Department of Water Resources Land Use map series, or other appropriate information.

6. Maps or information that indicate the location of parcels including and surrounding the project site that are within agricultural preserves, are under public ownership, have conservation easements, or have other forms of long term commitments that are considered compatible with the agricultural use of a given project site.

Section II. Defining and Scoring the California Land Evaluation and Site Assessment Model Factors

This section provides detailed step-by-step instructions for the measurement and scoring of each of the Land Evaluation and Site Assessment factors that are utilized in the California Agricultural LESA Model, and is intended to serve as an introduction to the process of utilizing the Model. Once users are familiar with the Model, a more streamlined set of instructions and scoring sheets is available in Appendix A. In addition, the scoring of a hypothetical project is presented using these scoring sheets in Appendix B.

Scoring of Land Evaluation Factors

The California LESA Model includes two Land Evaluation factors that are separately rated:

1. The Land Capability Classification Rating
2. The Storie Index Rating

The information needed to make these ratings is typically available from soil surveys that have been conducted by the federal Natural Resources Conservation Service (formerly known as the Soil Conservation Service). Consultation should be made with NRCS staff (field offices exist in most counties) to assure that valid and current soil resource information is available for the project site. Copies of soil surveys are available at local field offices of the NRCS, and may also be available through libraries, city and county planning departments, the Cooperative Extension, and other sources. In addition, a Certified Professional Soil Scientist (CPSS) may also be consulted to obtain appropriate soil resource information for the project site. A directory of CPSS registered soil consultants is available through the Professional Soil Scientists Association of California, P.O. Box 3213, Yuba City, CA 95992-3213; phone: (916) 671-4276.

1) The USDA Land Capability Classification (LCC) - The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops, and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receive the highest rating (Class I). Specific subclasses are also utilized to further characterize soils. An expanded explanation of the LCC is included in most soil surveys.

2) The Storie Index - The Storie Index provides a numeric rating (based upon a 100 point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are

considered in the index rating. The factors are: profile characteristics, texture of the surface layer, slope, and other factors (e.g., drainage, salinity).

In some situations, only the USDA Land Capability Classification information may be currently available from a given published soil survey. However, Storie Index ratings can readily be calculated from information contained in soil surveys by qualified soil scientists. Users are encouraged to seek assistance from NRCS staff or Certified Professional Soil Scientists to derive Storie Index information for the soils as well. If, however, limitations of time or resources restrict the derivation of Storie Index ratings for the soils within a region, it may be possible to adapt the Land Evaluation by relying solely upon the LCC rating. Under this scenario the LCC rating would account for 50 percent of the overall LESA factor weighting.

Identifying a Project's Soils

In order to rate the Land Capability Classification and Storie Index factors, the evaluator must identify the soils that exist on a given project site and determine their relative proportions. A **Land Evaluation Worksheet** (Table 1A.) is used to tabulate these figures, based upon the following:

Step 1.
Locate the project on the appropriate map sheet in the Soil Survey.

Step 2.
Photocopy the map sheet and clearly delineate the project boundaries on the map, paying close attention to the map scale.

Step 3.
Identify all of the soil mapping units existing in the project site (each mapping unit will have a different map unit symbol) and enter the each mapping unit symbol in **Column A** of the **Land Evaluation Worksheet** (Table 1A).

Step 4.
Calculate the acreage of each soil mapping unit present within the project site using any of the means identified in **Section 1, Required Resources and Information**, and enter this information in **Column B**.

Step 5.

Divide the acres of each soil mapping unit by the total project acreage to determine the proportion of each unit that comprises the project, and enter this information in Column C.

1. Land Evaluation - The Land Capability Classification Rating

Step 1.
In the Guide to Mapping Units typically found within soil surveys, identify the Land Capability Classification (LCC) designation (e.g., IV-e) for each mapping unit that has been identified in the project and enter these designations in **Column D** of the **Land Evaluation Worksheet** (Table 1A.).

Step 2.
From Table 2., **The Numeric Conversion of Land Capability Classification Units**, obtain a numeric score for each mapping unit, and enter these scores in **Column E**.

Step 3.
Multiply the proportion of each soil mapping unit (**Column C**) by the LCC points for each mapping unit (**Column E**) and enter the resulting scores in **Column F**.

Step 4.
Sum the LCC scores in **Column F** to obtain a single LCC Score for the project. Enter this LCC Score in **Line 1** of the **Final LESA Worksheet** (Table 8)

Table 2. Numeric Conversion of Land Capability Classification Units

Land Capability Classification	LCC Point Rating
I	100
IIe	90
IIs,w	80
IIIe	70
IIIs,w	60
IVe	50
IVs,w	40
V	30
VI	20
VII	10
VIII	0

Table 1A.
Land Evaluation Worksheet

Land Capability Classification (LCC) and Storie Index Scores

A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
Totals		(Must Sum to 1.0)		***LCC Total***		***Storie Index Total***	

Table 1B.
Site Assessment Worksheet 1.

Project Size Score

	I	J	K
	LCC Class I - II	LCC Class III	LCC Class IV - VIII
Total Acres			
Project Size Scores			

Highest Project Size Score |

2. Land Evaluation - The Storie Index Rating Score

Step 1.
From the appropriate soil survey or other sources of information identified in Appendix C, determine the Storie Index Rating (the Storie Index Rating is already based upon a 100 point scale) for each mapping unit and enter these values in **Column G** of the **Land Evaluation Worksheet** (Table 1A.).

Step 2.
Multiply the proportion of each soil mapping unit found within the project (**Column C**) by the Storie Index Rating (**Column G**), and enter these scores in **Column H**.

Step 3.
Sum the Storie Index Rating scores in **Column H** to obtain a single Storie Index Rating score for the project. Enter this Storie Index Rating Score in **Line 2** of the **Final LESA Worksheet** (Table 8)

Scoring of Site Assessment Factors

The California LESA Model includes four Site Assessment factors that are separately rated:

1. **The Project Size Rating**
2. **The Water Resources Availability Rating**
3. **The Surrounding Agricultural Land Rating**
4. **The Surrounding Protected Resource Land Rating**

1. Site Assessment - The Project Size Rating

The Project Size Rating relies upon acreage figures that were tabulated under the Land Capability Classification Rating in Table 1A. The Project Size rating is based upon identifying acreage figures for three separate groupings of soil classes within the project site, and then determining which grouping generates the highest Project Size Score.

Step 1.
Using information tabulated in **Columns B** and **D** of the **Land Evaluation Worksheet** (Table 1A), enter acreage figures in **Site Assessment Worksheet 1. - Project Size** (Table 1B) using either **Column I, J,** or **K** for each of the soil mapping units in a given project.

Step 2.
Sum the entries in **Column I** to determine the total acreage of Class I and II soils on the project site.

Sum the entries in **Column J** to determine the total acreage of Class III soils on the project site.

Sum the entries in **Column K** to determine the total acreage of Class IV and lower rated soils on the project site.

Step 3.
For each of the three columns, apply the appropriate scoring plan provided in Table 3, **Project Size Scoring**, and enter the **Project Size Score** for each grouping in the **Site Assessment Worksheet 1. - Project Size** (Table 1B). Determine which column generates the highest score. The highest score becomes the overall **Project Size Score**. Enter this number in **Line 3** of the **Final LESA Scoresheet** (Table 8).

Table 3. Project Size Scoring

LCC Class I or II soils		LCC Class III soils		LCC Class IV or lower	
Acres	*Score*	*Acres*	*Score*	*Acres*	*Score*
80 or above	100	160 or above	100	320 or above	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
fewer than 10	0	20-39	30	fewer than 40	0
		10-19	10		
		fewer than 10	0		

Explanation of the Project Size Factor

The Project Size factor in the California Agricultural LESA Model was developed in cooperation with Nichols-Berman, a consulting firm under contract with the Department of Conservation. A thorough discussion of the development of this rating is presented by Nichols-Berman in a report to the Department entitled, *Statewide LESA Methodologies Report - Project Size and Water Resource Availability Factors* (3).

The inclusion of the measure of a project's size in the California Agricultural LESA Models is a recognition of the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions. Certain economies of scale for equipment and infrastructure can also be more favorable for larger operations. In addition, larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon support industries (e.g., fertilizers, farm equipment, and shipping) and food processing industries.

While the size of a given farming operation may in many cases serve as a direct indicator of the overall economic viability of the operation, The California Agricultural LESA Model does not specifically consider the issue of economic viability. The variables of economic viability for a specific farm include such factors as the financial management and farming skills of the operator, as well as the debt load and interest rates being paid by an individual operator, which are issues that cannot readily be included in a statewide LESA model.

In terms of agricultural productivity, the size of a farming operation can be considered not just from its total acreage, but the acreage of different quality lands that comprise the operation. Lands with higher quality soils lend themselves to greater management and cropping flexibility and have the potential to provide a greater economic return per unit acre. For a given project, instead of relying upon a single acreage figure in the Project Size rating, the project is divided into three acreage groupings based upon the Land Capability Classification ratings that were previously determined in the Land Evaluation analysis. Under the Project Size rating, relatively fewer acres of high quality soils are required to achieve a maximum Project Size score. Alternatively, a maximum score on lesser quality soils could also be derived, provided there is a sufficiently large acreage present. Acreage figures utilized in scoring are the synthesis of interviews that were conducted statewide for growers of a broad range of crops. In the interviews growers were queried as to what acreage they felt would be necessary in order for a given parcel to be considered attractive for them to farm.

The USDA LCC continues to be the most widely available source of information on land quality. Project Size under this definition is readily measurable, and utilizes much of the same information needed to score a given project under the Land Evaluation component of the methodology. This approach also complements the LE determination, which, while addressing soil quality, does not account for the total acreage of soils of given qualities within a project.

This approach allows for an accounting of the significance of high quality agricultural land as well as lesser quality agricultural lands, which by virtue of their large area can be considered significant agricultural resources. In this way, no single acreage figure for a specific class of soils (e.g., soils defined as "prime") is necessary.

2. Site Assessment - The Water Resources Availability Rating

The Water Resources Availability Rating is based upon identifying the various water sources that may supply a given property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. **Site Assessment Worksheet 2. - Water Resources Availability Worksheet** (Table 4) is used to tabulate the score.

Step 1.
Identify the different water resource types that are used to supply the proposed project site (for example, irrigation district water, ground water, and riparian water are considered to be three different types of water resources). Where there is only one water source identified for the proposed project, skip to Step 4.

Step 2.
Divide the proposed project site into portions, with the boundaries of each portion being defined by the irrigation water source(s) supplying it. A site that is fully served by a single source of water will have a single portion, encompassing the entire site. A site that is fully served by two or more sources that are consistently merged together to serve a crop's needs would also have a single portion. (e.g., a portion of the proposed project may receive both irrigation district and groundwater). If the project site includes land that has no irrigation supply, consider this acreage as a separate portion as well. Enter the water resource portions of the project in **Column B** of Table 4, **Site Assessment Worksheet 2. - Water Resources Availability**.

[As an example, a hypothetical project site is determined to have four separate water supply portions:

Portion 1 is served by irrigation district water only;
Portion 2 is served by ground water only;
Portion 3 is served by *both* irrigation district water and ground water;
Portion 4 is not irrigated at all.]

Step 3.
Calculate the proportion of the total project area that is represented by each water resource portion, and enter these figures in **Column C** of **Site Assessment Worksheet 2. - Water Resources Availability**, verifying that the sum of the proportions equals 1.0.

Table 4. Site Assessment Worksheet 2. - Water Resources Availability

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1				
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	***Total Water Resource Score***	

Step 4.
For each water resource supply portion of the project site, determine whether irrigated and dryland agriculture is *feasible*, and if any *physical* or *economic restrictions* exist, during both *drought* and *non-drought* years. These italicized terms are defined below:

- A *physical restriction* is an occasional or regular interruption or reduction in a water supply, or a shortened irrigation season, that forces a change in agricultural practices -- such as planting a crop that uses less water, or leaving land fallow. (This could be from cutbacks in supply by irrigation and water districts, or by ground or surface water becoming depleted or unusable. Poor water quality can also result in a physical restriction -- for example by requiring the planting of salt-tolerant plants, or by effectively reducing the amount of available water.)

- An *economic restriction* is a rise in the cost of water to a level that forces a reduction in consumption. (This could be from surcharge increases from water suppliers as they pass along the cost of finding new water supplies, the extra cost of pumping more ground water to make up for losses in surface water supplies, or the extra energy costs of pumping the same amount of ground water from deeper within an aquifer.)

- Irrigated agricultural production is *feasible* when:

  1) There is an existing irrigation system on the project site that can serve the portion of the project identified in Step 2;

  2) *Physical* and/or *economic restrictions* are not severe enough to halt production; and

  3) It is possible to achieve a viable economic return on crops though irrigated production.

(A major question that should be considered is, if there is an irrigated crop that can be grown within the region, can it actually be grown on the project site? Depending upon the jurisdiction, some typical crops that have a large water demand may not be feasible to grow on the project site, while others that require less water are feasible. Information to aid in making this determination can be obtained from county agricultural commissioners, the UC Cooperative Extension, irrigation districts, and other sources.)

- *Dryland production* is *feasible* when rainfall is adequate to allow an economically viable return on a nonirrigated crop.

- A *drought year* is a year that lies within a defined drought period, as defined by the Department of Water Resources or by a local water agency. Many regions of the state are by their arid nature dependent upon imports of water to support irrigated agriculture. These regions shall not be considered under periods of drought unless a condition of drought is declared for the regions that typically would be providing water exports.

Step 5.
Each of the project's water resource supply portions identified in **Step 2** is scored separately. Water Resources Availability scoring is performed by identifying the appropriate condition that applies to each portion of the project, as identified in Table 5., **Water Resource Availability Scoring**. Using Table 5, identify the option that best describes the water resource availability for that portion and its corresponding water resource score. Option 1 defines the condition of no restrictions on water resource availability and is followed progressively with increasing restrictions to Option 14, the most severe condition, where neither irrigated nor dryland production is considered feasible. Enter each score into **Column D** of Table 4.

Step 6.
For each portion of the project site, determine the section's weighted score by multiplying the portion's score (**Column D**), by its proportion of the project area (**Column C**), and enter these scores in **Column E**, the weighted Water Availability Score. Sum the **Column E** scores to obtain the total Water Resource Availability Score, and enter this figure in **Line 4** of the **Final LESA Score Sheet** (Table 8).

Table 5. Water Resource Availability Scoring

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	-- --	-- --	50
9	YES	NO	YES	NO	-- --	-- --	45
10	YES	YES	NO	NO	-- --	-- --	35
11	YES	YES	YES	NO	-- --	-- --	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

Explanation of the Water Resource Availability Rating

The Water Resource Availability factor in the California Agricultural LESA Model was developed in cooperation with Nichols-Berman, a consulting firm under contract with the Department of Conservation. A thorough discussion of the development of this rating is presented by Nichols-Berman in a report to the Department entitled, *Statewide LESA Methodologies Report - Project Size and Water Resource Availability Factors* (3). During the development of this factor it became apparent that certain conditions unique to California would need to be represented in this system.

First, it was decided to classify water reliability based upon the *effects* on agricultural production (such as being forced to change to lower-value crops, putting in groundwater pumps, or cutting back on the acreage farmed) rather than the actual *type* of limitation (such as a limitation on the quantity, frequency, or duration of water delivery). LESA systems have traditionally focused on the latter. However, it was found that the many types of limitations are too varied in California to adequately represent in the LESA system. In the Statewide LESA system, these effects are referred to as *restrictions*.

Second, the factor had to include an interrelation with cost. The historical shortages and unreliability of California water use has led to the establishment of various interconnected and dual systems. Probably more than any other state, reliability is related with cost -- a more reliable water supply can sometimes be obtained, but at a greater cost. Therefore, *restrictions* were classified into two major categories -- *physical* and *economic*. These are separated because, generally, a physical restriction is more severe than an economic restriction and this should be reflected in the LESA system.

Third, the factor had to include the effects of the drought cycle in California. During the drought of 1987 to 1992, many agricultural areas of the state experienced water shortages. The impact of these shortages resulted in a number of different actions. Some areas were able to avoid the worst effects of the drought simply by implementing water conservation measures. Other areas were able to obtain additional water supplies, such as by securing water transfers or simply pumping more groundwater, but at an increase in the overall price of water. Other options included shifting crops, replanting to higher value crops to offset the increase in water prices, or leaving land fallow. A project site that experiences restrictions during a drought year should not be scored as high as a similar project site that does not.

The easiest way to make determinations of irrigation feasibility and the potential restrictions of water sources is to investigate the cropping history of the project site. For instance, was the water supply to the project site reduced by the local irrigation district during the last drought? If the site has a ground water supply, do area ground water levels sometimes drop to levels that force markedly higher energy costs to pump the water?

If the history of the project site is unavailable (including when the site has recently installed an irrigation system), look at the history of the general area. However, remember that the project site may have different conditions than the rest of the region. For instance, the project site could have an older water right than others in the region. Although certain areas of the state had severe restrictions on water deliveries during the last drought, some parcels within these areas had very secure deliveries due to more senior water rights. If this was the case in the region of the project site, check the date of water right and compare it with parcels that received their total allotment during the last drought. The local irrigation district should have information on water deliveries.

The scoring of water resource availability for a project site should not just reflect the adequacies of water supply in the past -- it should be a *prediction* of how the water system will perform in the future. For instance, a local jurisdiction might find that the allocation of flows to stream and river systems has been recently increased for environmental reasons, which will decrease the future available surface water supply. In this case, the past history of the site is not an adequate representation of future water supply and water system performance.

3. Site Assessment - The Surrounding Agricultural Land Rating

Determination of the surrounding agricultural land use rating is based upon the identification of a project's "Zone of Influence" (ZOI), which is defined as that land near a given project, both directly adjoining and within a defined distance away, that is likely to influence, and be influenced by, the agricultural land use of the subject project site. The determination of the ZOI is described below, and is illustrated with an example in Figure 1.

Defining a Project's "Zone of Influence"

Step 1.
Locate the proposed project on an appropriate map and outline the area and dimensions of the proposed project site.

Step 2.
Determine the smallest rectangle that will completely contain the project site (Rectangle A).

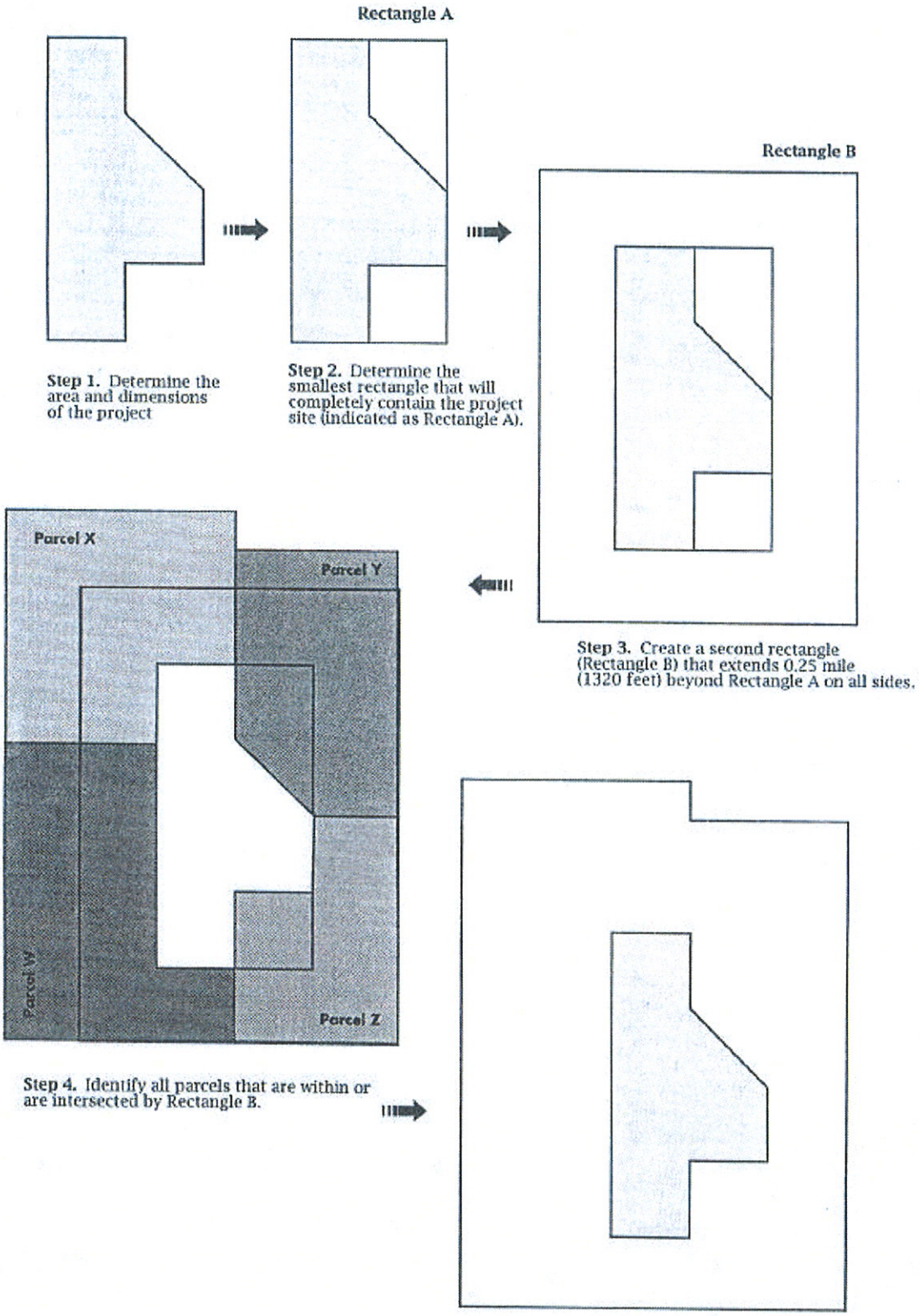
Step 3.
Create a second rectangle (Rectangle B) that extends 0.25 mile (1320 feet) beyond Rectangle A on all sides.

Step 4.
Identify all parcels that are within or are intersected by Rectangle B.

Step 5.
Define the project site's "zone of influence" as the entire area of all parcels identified in Step 4, less the area of the proposed project from Step 1.

[In the illustration provided in Figure 1, Parcels W, X, and Y extend beyond Rectangle B and are therefore included in their entirety in defining the project site's Zone of Influence.]

Figure 1: Defining a Project's Zone of Influence



Measuring Surrounding Agricultural Land

Step 1.
Calculate the percentage of the project's Zone of Influence that is currently producing agricultural crops. [This figure can be determined using information from the Department of Conservation's Important Farmland Map Series, the Department of Water Resources' Land Use Map Series, locally derived maps, or direct site inspection. For agricultural land that is currently fallowed, a determination must be made concerning whether the land has been fallowed as part of a rotational sequence during normal agricultural operations, or because the land has become formally "committed" to a nonagricultural use. Land that has become formally committed, whether fallow or not, should not generally be included in determining the proportion of the Zone of Influence that is agricultural land. For further information on the definition of Committed Land, refer to the following Explanation of the Surrounding Agricultural Land Rating.]

Step 2.
Based on the percentage of agricultural land in the ZOI determined in Step 1, assign a Surrounding Agricultural Land score to the project according to Table 6, and enter this score in **Line 5** of the **Final LESA Scoresheet** (Table 8) .

Table 6. Surrounding Agricultural Land Rating

Percent of Project's Zone of Influence in Agricultural Use	Surrounding Agricultural Land Score
90 - 100%	100 Points
80 - 89	90
75 - 79	80
70 - 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
40 <	0

Explanation of the Surrounding Agricultural Land Rating

The Surrounding Agricultural Land Rating is designed to provide a measurement of the level of agricultural land use for lands in close proximity to a subject project. The California Agricultural LESA Model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has a relatively small percentage of surrounding land in agricultural production. The definition of a "Zone of Influence" that accounts for surrounding lands up to a minimum of one quarter mile from the project boundary is the result of several iterations during model development for assessing an area that will generally be a representative sample of surrounding land use. In a simple example, a single one quarter mile square project (160 acres) would have a Zone of Influence that is a minimum of eight times greater (1280 acres) that the parcel itself.

Land within a Zone of Influence that is observed to be fallow will require a case by case determination of whether this land should be considered agricultural land. The Department of Conservation's Important Farmland Maps may be of assistance in making this determination. In addition, land currently in agricultural production may be designated as being "committed" to future nonagricultural development. The Department of Conservation's Farmland Mapping and Monitoring Program has a land use designation of Land Committed to Nonagricultural Use, and is defined as "land that is permanently committed by local elected officials to nonagricultural development by virtue of decisions which cannot be reversed simply by a majority vote of a city council or county board of supervisors. The "committed" land must be so designated in an adopted local general plan, and must also meet the requirements of either (a) or (b) below:

(a). It must have received one of the following final discretionary approvals:

1. Tentative subdivision map (approved per the Subdivision Map Act);
2. Tentative or final parcel map (approved per the Subdivision Map Act);
3. Recorded development agreement (per Government Code §65864);
4. Other decisions by a local government which are analogous to items #1-3 above and which exhibit an element of permanence. Zoning by itself does not qualify as a permanent commitment.

Or

(b) It must be the subject of one of the final fiscal commitments to finance the capital improvements specifically required for future development of the land in question as shown below:

1. Recorded Resolution of Intent to form a district and levy an assessment;
2. Payment of assessment;
3. Sale of bonds;
4. Binding contract, secured by bonds, guaranteeing installation of infrastructure;
5. Other fiscal commitments which are analogous to items #1-4 above and exhibit an element of permanence."

Lead agencies are encouraged to identify Land Committed to Nonagricultural Use within a project's ZOI and make the determination whether this land, while still in agricultural production, be considered nonagricultural land for the purposes of the calculation performed here.

4. Site Assessment - The Surrounding Protected Resource Land Rating

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating, and is scored in a similar manner. Protected resource lands are those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

- Williamson Act contracted lands
- Publicly owned lands maintained as park, forest, or watershed resources
- Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

Instructions for the Surrounding Protected Resource Land Rating

Step 1.
Utilizing the same "Zone of Influence" (ZOI) area calculated for a project under the Surrounding Agricultural Land Rating, calculate the percentage of the ZOI that is Protected Resource Land, as defined above.

Step 2.
Assign a Surrounding Protected Resource Land score to the project according to Table 7, and enter this score on **Line 6** of the **Final LESA Scoresheet** (Table 8).

Table 7. Surrounding Protected Resource Land Rating

Percent of Project's Zone of Influence Defined as Protected	Surrounding Protected Resource Land Score
90 - 100%	100 Points
80 - 89	90
75 - 79	80
70 - 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
40 <	0

Section III. Weighting of Factors and Final LESA Scoring

The California LESA Model is weighted so that 50 percent of the total LESA score of a given project is derived from the Land Evaluation factors, and 50 percent from the Site Assessment factors. Individual factor weights are listed below, with the sum of the factor weights required to equal 100 percent.

Land Evaluation Factors

Land Capability Classification	25%
Storie Index Rating	25%
Land Evaluation Subtotal	**50%**

Site Assessment Factors

Project Size	15%
Water Resource Availability	15%
Surrounding Agricultural Lands	15%
Surrounding Protected Resource Lands	5%
Site Assessment Subtotal	**50%**
Total LESA Factor Weighting	**100%**

Each factor is measured separately (each on 100 point scale) and entered in the appropriate line in **Column B** of the **Final LESA Scoresheet** (Table 8). Each factor's score is then multiplied by its respective factor weight, resulting in a weighted factor score in **Column D** as indicated in Table 8. The weighted factor scores are summed, yielding a Total LESA Score (100 points maximum) for a given project, which is entered in **Line 7** of **Column D**.

Table 8. Final LESA Scoresheet

A	B		C		D
Factor Name	Factor Rating (0-100 points)	X	Factor Weighting (Total = 1.00)	=	Weighted Factor Rating
Land Evaluation					
1. Land Capability Classification	<Line 1>_____	X	0.25	=	_____
2. Storie Index Rating	<Line 2>_____	X	0.25	=	_____
Site Assessment					
1. Project Size	<Line 3>_____	X	0.15	=	_____
2. Water Resource Availability	<Line 4>_____	X	0.15	=	_____
3. Surrounding Agricultural Lands	<Line 5>_____	X	0.15	=	_____
4. Protected Resource Lands	<Line 6>_____	X	0.05	=	_____
			Total LESA Score (sum of weighted factor ratings)		<Line 7>_____

Section IV. California Agricultural LESA Scoring Thresholds - Making Determinations of Significance Under CEQA

A single LESA score is generated for a given project after all of the individual Land Evaluation and Site Assessment factors have been scored and weighted as detailed in Sections 2 and 3. Just as with the scoring of individual factors that comprise the California Agricultural LESA Model, final project scoring is based on a scale of 100 points, with a given project being capable of deriving a maximum of 50 points from the Land Evaluation factors and 50 points from the Site Assessment factors.

The California Agricultural LESA Model is designed to make determinations of the potential significance of a project's conversion of agricultural lands during the Initial Study phase of the CEQA review process. Scoring thresholds are based upon both the total LESA score as well as the component LE and SA subscores. In this manner the scoring thresholds are dependent upon the attainment of a minimum score for the LE and SA subscores so that a single threshold is not the result of heavily skewed subscores (i.e., a site with a very high LE score, but a very low SA score, or vice versa). Table 9 presents the California Agricultural LESA scoring thresholds.

Table 9. California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to 59 Points	Considered Significant only if LE and SA subscores are each greater than or equal to 20 points
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points
80 to 100 Points	Considered Significant

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1. *Conserving the Wealth of the Land - A Plan for Soil Conservation*, Department of Conservation. 1987.

2. *The Impacts of Farmland Conversion in California*. Prepared by Jones and Stokes, Associates, Inc., for the California Department of Conservation. 1991.

3. *Statewide LESA Methodologies Report - Project Size and Water Resource Availability Factors.* Prepared by Nichols - Berman, for the Department of Conservation. 1995.

4. *LESA Guidelines for Local Jurisdictions - Project Size and Water Resource Availability Factors.* Prepared by Nichols - Berman, for the Department of Conservation. 1995.

5. Office of the Federal Register National Archives and Records Administration. The Farmland Protection and Policy Act, part 658. Code of Federal Regulations - Agriculture, Parts 400 to 699. 1990.

6. Pease, J and R. Coughlin. Land Evaluation and Site Assessment: *A Guidebook for Rating Agricultural Lands, Second Edition*; prepared for the USDA Natural Resources Conservation Service; Soil and Water Conservation Society. 1996.

7. Pease, J., et al. *State and Local LESA Systems: Status and Evaluation*; In: Steiner, F., J. Pease, and R. Coughlin, eds. *A Decade with LESA: The Evolution of Land Evaluation and Site Assessment.* Soil and Water Conservation Society. 1994.

8. Steiner, F., J. Pease, and R. Coughlin, eds. *A Decade with LESA: The Evolution of Land Evaluation and Site Assessment.* Soil and Water Conservation Society. 1994.

McINTOSH & ASSOCIATES

Land Surveying

Civil Engineering

Photogrammetry

G P S

Planning

Environmental

Landscape Architecture

Petroleum Engineering

September 25, 2019

Kern County Planning &
Natural Resources Department
2700 "M" Street
Bakersfield, CA 93301

Attention: Carlos Rojas

Reference: 99 Houghton RDEIR
Addendum to Farmland Conversion Study
Mc#06-012.01

Dear Carlos:

Please consider the following as an Addendum to the Farmland Conversion Study Prepared by McIntosh & Associates, dated June 2017.

In response to the following Sections: 4.7 Geologic and Seismic Hazards; 4.10 Hydrology and Water Quality; and 4.18 Wildfire of the RDraft EIR for 99 Houghton Industrial Park located in a portion of Section 7, Township 31 South, Range 28 East, M. D. B. & M., and as Addendum to the Farmland Conversion Study we offer the following corrections:

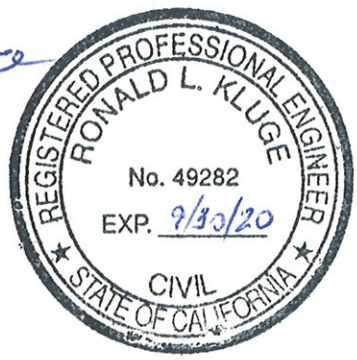
Section 3.0 Environmental Setting, § 3.10 Flood Zone refers to the 9/29/1986 Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM); and is hereby corrected to refer to FIRM Map 06029C2725E dated 9/26/2008.

Included herewith are FIRM Panel 2725 of 4125, Map #06029C2725E and Legend depicting Zone X.

Please contact us if you have any questions regarding this matter.

Sincerely,
McIntosh & Associates

Ronald L. Kluge
RCE 49282



661 • 834 • 4814

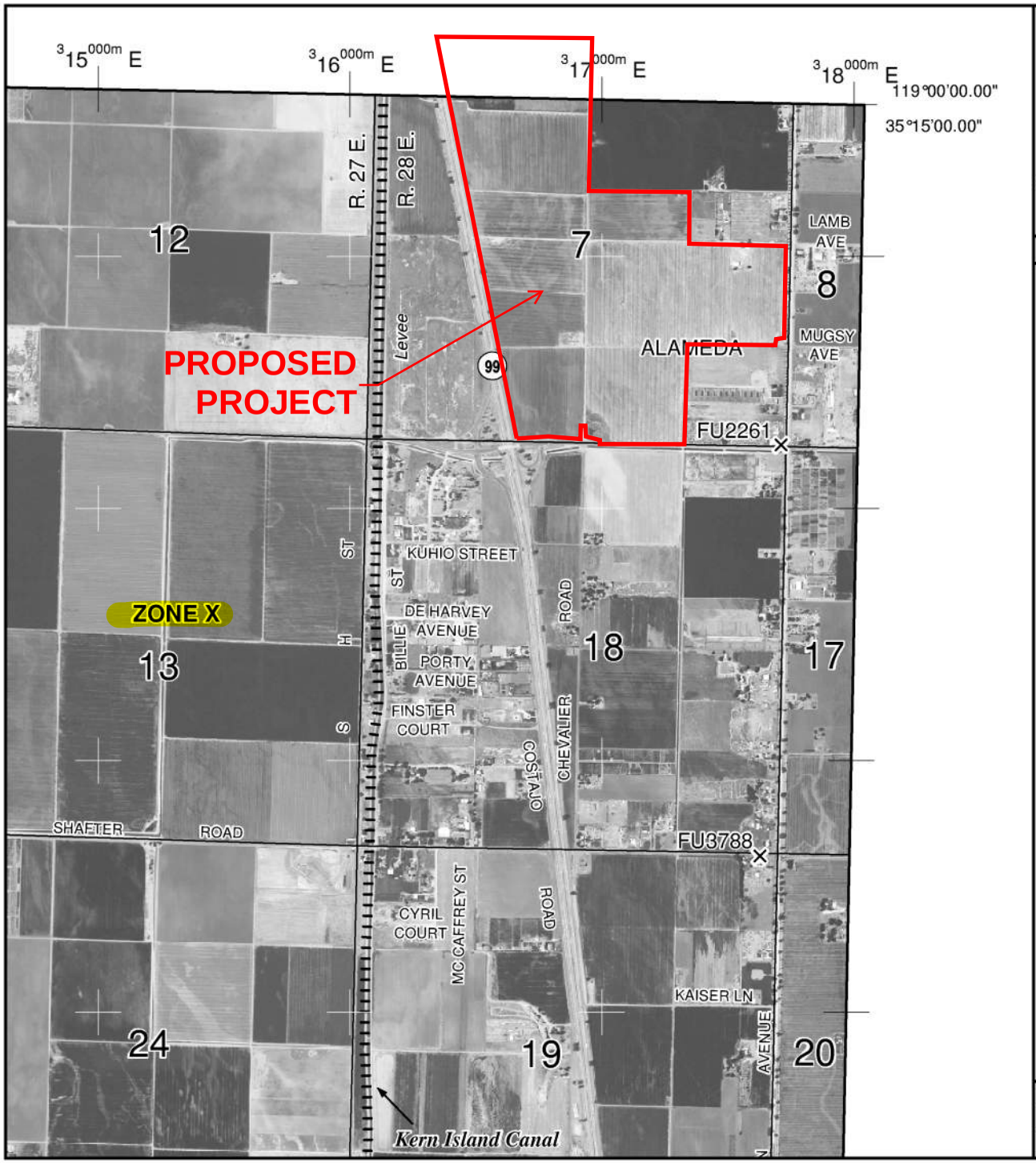
Fax 661 • 834 • 0972

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mcengr@mcintoshassoc.com



MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

600 0 600 1200 M

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2725E

FIRM

FLOOD INSURANCE RATE MAP

KERN COUNTY, CALIFORNIA

AND INCORPORATED AREAS

PANEL 2725 OF 4125

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KERN COUNTY	060075	2725	E

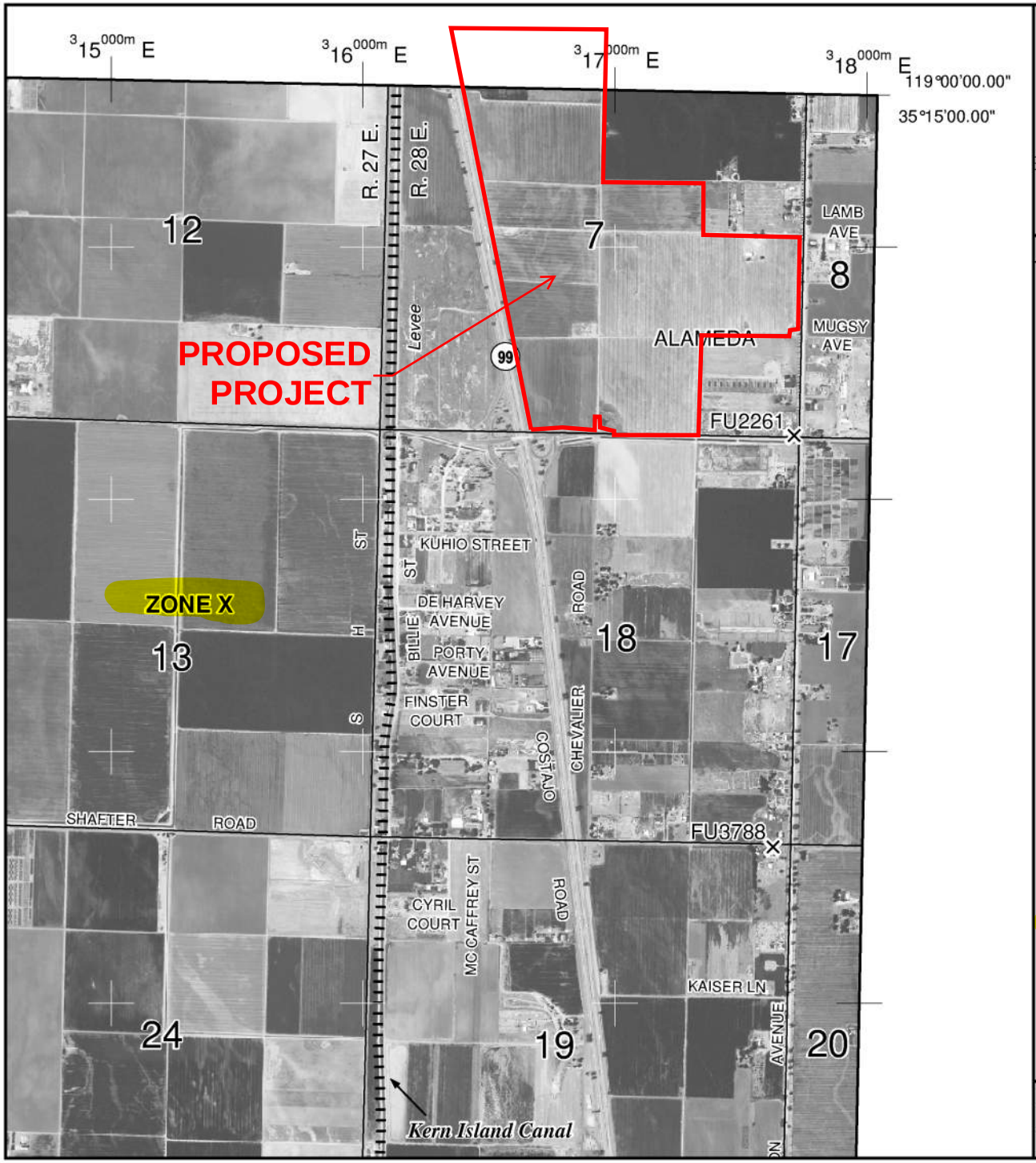
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06029C2725E

EFFECTIVE DATE
SEPTEMBER 26, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

0 600 1200 METE

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Appendix C

Air Quality Impact Analysis

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Air Quality Impact Analysis

Houghton and 99
Mixed Use Industrial Commercial Project
Project # 150505.0163

Prepared for:

Mitchell Property Management, LP
16420 Johnson Road
Bakersfield, CA 93314

Prepared by:

Insight Environmental Consultants
A Trinity Consultants Company

5500 Ming Avenue, Suite 140
Bakersfield, California 93309
661-282-2200

July 2017

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EXECUTIVE SUMMARY

Insight Environmental Consultants, Inc. has completed an Air Quality Impact Analysis (AQIA) for the Houghton and 99 Mixed Use Industrial Commercial Project (proposed project). The proposed pproject would be located within Kern County, approximately 9 miles south of central Bakersfield, and northeast of the intersection of Houghton Road and Highway 99.

The proposed mixed use industrial and commercial proposed pproject would require a General Plan Amendment from 314.3 acres of Resource Intensive Agriculture (R-IA) to: 107.72 acres of Light Industrial (LI), 159.58 acres of Service Industrial (SI), 25 acres Highway Commercial (16 acres already allowed), and 22 acres of General Commercial (GC). The proposed project would also require a Kern County Zone Change from Exclusive Agriculture (A) to: 107.72 acres of Light Industrial Precise Development Combining (M-1 PD), 159.58 acres of Medium Industrial, Precise Development Combining (M-2 PD), 25 acres of Highway Commercial (CH PD), and 22 acres or General Commercial (c-2 PD). The proposed pproject would include construction and operation of: 1) 1,677,060 square feet of light industrial; 2) 2,424,114 square feet of service industrial; 3) 272,250 square feet of highway commercial; and 4) 239.580 square feet of general commercial.

Construction would begin in 2016 and the applicant anticipates the proposed pproject would be fully operational by 2024. The proposed pproject's construction and operation would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO_2), and suspended particulate matter (PM_{10} and $PM_{2.5}$). Proposed project operations would generate air pollutant emissions from mobile sources (automobile activity from clients, employees and maintenance crews) and area sources (incidental activities related to permanent utilities and services for the commercial center). Proposed project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2 (California Air Pollution Control Officers Association (CAPCOA) 2013).

Tables 7-1, 7-2 and 9-1 present the proposed project's construction, operations and GHG emissions and provide substantial evidence to support a less than significant impact due to construction related emissions and a significant and unavoidable ROG, CO, PM_{10} and NOx air quality impact within the San Joaquin Valley Air Basin (SJVAB) due to operational emissions.

Cumulative impacts were also evaluated. Records search of the City of Bakersfield Planning Department (BPD) Tentative Tract Map, Kern County GIS Geocortex IMP Map Viewer, and the City of Bakersfield Cumulative Projects Map identified one hundred and three other projects within a six-mile radius of the proposed pproject. Evaluation of the cumulative emissions supports a finding that the proposed project's contribution would be cumulatively considerable because the proposed pproject's incremental emissions would be significant and unavoidable.

1.0 INTRODUCTION

This AQIA was prepared pursuant to the San Joaquin Valley Air Pollution Control District's (SJVAPCD) Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD 2015a*)*, the Kern County Planning and Community Development Department's (KCPD) Air Quality Preparation Guidelines (2006), the California Environmental Quality Act (CEQA) (Public Resources Code 21000 to 21177) and CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387).

2.0 GENERAL PROPOSED PROJECT DESCRIPTION

The Houghton and 99 Mixed Use Industrial Commercial Project (proposed project) would be located within Kern County, approximately 9 miles south of central Bakersfield, and northeast of the intersection of Houghton Road and Highway 99. **Figure 2-1** depicts the regional and proposed project location.



Figure 2-1 - Regional and Proposed Project Location

The proposed mixed use industrial and commercial pproject would require a General Plan Amendment from 314.3 acres of Resource Intensive Agriculture (R-IA) to: 107.72 acres of Light Industrial (LI), 159.58 acres of Service Industrial (SI), 25 acres Highway Commercial (16 acres already allowed), and 22 acres of General Commercial (GC). The proposed project would also require a Kern County Zone Change from Exclusive Agriculture (A) to: 107.72 acres of Light Industrial Precise Development Combining (M-1 PD), 159.58 acres of Medium Industrial, Precise Development Combining (M-2 PD), 25 acres of Highway Commercial (CH PD), and 22 acres or General Commercial (c-2 PD). The proposed project would include construction and operations of: 1) 1,677,060 square feet of light industrial; 2) 2,424,114 square feet of service industrial; 3) 272,250 square feet of

highway commercial; and 4) 239.580 square feet of general commercial.

Figure 2-2 depicts the proposed project site's topography based on United States Geological Survey (USGS) maps. The proposed project site is located at an elevation of approximately 350 feet above mean sea level. Existing land uses in the vicinity of the proposed project site include agricultural to the north, south, east and west and scattered residential developments to the west and east. Currently the proposed project site is vacant land.

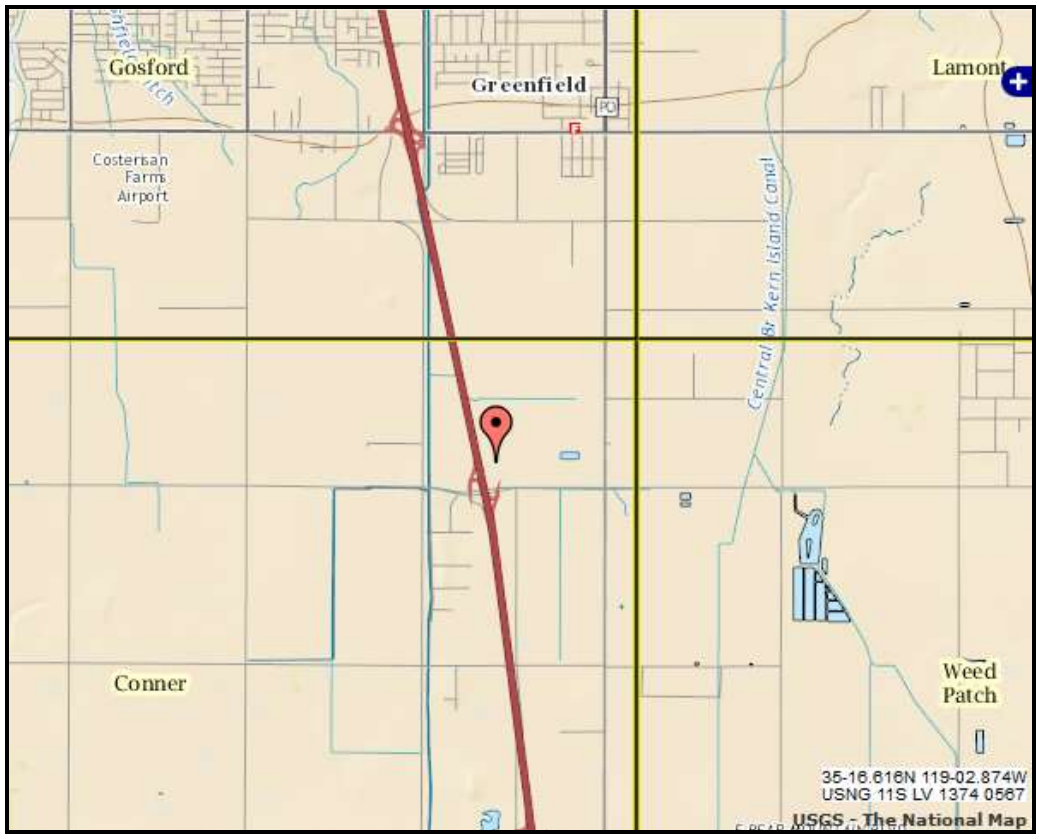


Figure 2-2 – Proposed Project Site Topography (Source: USGS Topographical Map)

3.0 BACKGROUND OF AIR QUALITY STANDARDS

Protection of the public health is maintained through the attainment and maintenance of ambient air quality standards for various atmospheric compounds and the enforcement of emissions limits for individual stationary sources. The Federal Clean Air Act requires that the U.S. Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) to protect the health, safety, and welfare of the public. NAAQS have been established for ozone (O_3), CO, NO_2, SO_2, PM_{10} and $PM_{2.5}$, and lead (Pb). California has also adopted ambient air quality standards (CAAQS) for these "criteria" air pollutants. CAAQS are more stringent than the corresponding NAAQS and include standards for hydrogen sulfide (H_2S), vinyl chloride (chloroethene) and visibility reducing particles. The U.S. Clean Air Act Amendments of 1977 required each state to identify areas that were in non-attainment of the NAAQS and to develop State Implementation Plans (SIP's) containing strategies to bring these non-attainment areas into compliance. NAAQS and CAAQS designation/classification for Kern County are presented in **Section 4.0** below and further details are included in **Attachments A,**

B, C and **D**.

Responsibility for regulation of air quality in California lies with the California Air Resources Board (CARB), the 35 local air districts with oversight responsibility held by the EPA. CARB is responsible for regulating mobile source emissions, establishing CAAQS, conducting research, managing regulation development, and providing oversight and coordination of the activities of the 35 air districts. The air districts are primarily responsible for regulating stationary source emissions and monitoring ambient pollutant concentrations. CARB also determines whether air basins, or portions thereof, are "unclassified", in "attainment" or in "non-attainment" for the NAAQS and CAAQS relying on statewide air quality monitoring data.

4.0 EXISTING SETTING

The proposed project area is located in the San Joaquin Valley Air Basin (SJVAB or Basin) portion of Kern County which is included among the eight counties that comprise the SJVAPCD. The SJVAPCD acts as the regulatory agency for air pollution control in the Basin and is the local agency empowered to regulate air pollutant emissions for the plan area. Under the provisions of the U.S. Clean Air Act, the Kern County portion of the SJVAB has been classified as non-attainment, attainment, unclassified/attainment or unclassified under the established NAAQS and CAAQS for various criteria pollutants. **Table 4-1** provides the SJVAB's designation and classification based on the various criteria pollutants under both NAAQS and CAAQS. **Table 4-2** provides the NAAQS and CAAQS.

Table 4-1 - SJVAB Attainment Status

Pollutant	NAAQS[a]	CAAQS[b]
O_3, 1-hour	No Federal Standard[f]	Nonattainment/Severe
O_3, 8-hour	Nonattainment/Extreme[e]	Nonattainment
PM_{10}	Attainment[c]	Nonattainment
$PM_{2.5}$	Nonattainment[d]	Nonattainment
CO	Attainment/Unclassified	Attainment/Unclassified
NO_2	Attainment/Unclassified	Attainment
SO_2	Attainment/Unclassified	Attainment
Pb (Particulate)	No Designation/Classification	Attainment
H_2S	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing particulates	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

[a] See 40 CFR Part 81
[b] See CCR Title 17 Sections 60200-60210
[c] On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.
[d] The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).
[e] Though the Valley was initially classified as serious nonattainment for the 1997 8-hour O_3 standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
[f] Effective June 15, 2005, the EPA revoked the federal 1-hour O_3 standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010).

Table 4-1 - SJVAB Attainment Status

Many applicable requirements for extreme 1-hour O_3 nonattainment areas continue to apply to the SJVAB.
Source: SJVAPCD 2015

Table 4-2 - Federal & California Standards

		NAAQS	CAAQS
Pollutant	**Averaging Time**	**Concentration**	
O_3	8-Hour	0.070 ppm (137 µg/m³) [c]	0.070 ppm (137 µg/m³)
	1-Hour	[a]	0.09 ppm (180 µg/m³)
CO	8-Hour	9 ppm (10 mg/m³)	9.0 ppm (10 mg/m³)
	1-Hour	35 ppm (40 mg/m³)	20 ppm (23 mg/m³)
NO_2	Annual Average	53 ppb (100 µg/m³)	0.030 ppm (56 µg/m³)
	1-Hour	100 ppb (188.68 µg/m³)	0.18 ppm (338 µg/m³)
SO_2	3-Hour	0.5 ppm (1,300 µg/m³)	
	24 Hour	0.14 ppm (365 µg/m³)	0.04 ppm (105 µg/m³)
	1-Hour	75 ppb (196 µg/m³)	0.25 ppm (655 µg/m³)
Particulate Matter (PM10)	Annual Arithmetic Mean	[b]	20 µg/m³
	24-Hour	150 µg/m³	50 µg/m³
Fine Particulate Matter (PM2.5)	Annual Arithmetic Mean	12 µg/m³	12 µg/m³
	24-Hour	35 µg/m³	
Sulfates	24-Hour		25 µg/m³
Pb [d]	Calendar Quarter	0.15 µg/m³	
	30 Day Average		1.5 µg/m³
H_2S	1-Hour		0.03 ppm (42 µg/m³)
Vinyl Chloride (chloroethene)	24-Hour		0.010 ppm (26 µg/m³)
Visibility Reducing particles	8 Hour (1000 to 1800 PST)		[e]

ppm = parts per million
ppb = parts per billion
mg/m3 = milligrams per cubic meter
µg/m ³= micrograms per cubic meter

[a] 1-Hour O_3 standard revoked effective June 15, 2005.
[b] Annual PM 10 standard revoked effective December 18, 2006.
[c] EPA finalized the revised (2008) 8-hour O_3 standard of 0.075 ppm on March 27, 2008. The 1997 8-hour O_3 standard of 0.08 ppm has not been revoked. In the January 19, 2010 Federal Register, EPA proposed to revise the 2008 O_3 NAAQS of 0.075 ppm to a NAAQS in the range of 0.060 to 0.070 ppm. EPA expects to finalize the revised NAAQS, which will replace the 0.075 ppm NAAQS, by July 29, 2011.
[d] On October 15, 2008, EPA strengthened the Pb standard.
[e] Statewide Visibility Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.
Source: SJVAPCD 2015c and CARB 2015a

The SJVAPCD along with the CARB operates an air quality monitoring network that provides information on average concentrations of those pollutants for which state or Federal agencies have established NAAQS and CAAQS. Information from the monitoring stations is available from the SJVAPCD (2015c) and CARB (2015a). The monitoring stations in the San Joaquin Valley are depicted in **Figure 4-1**.

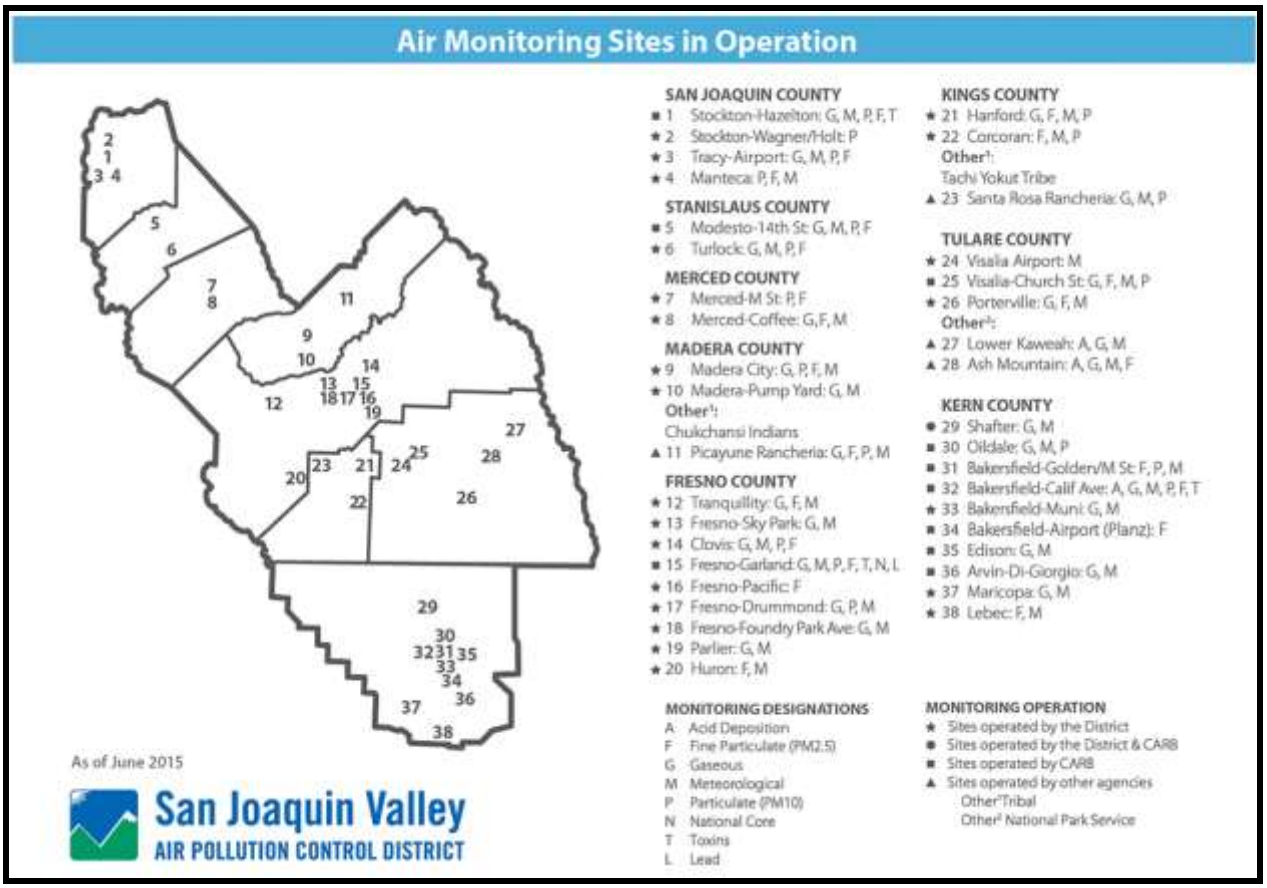


Figure 4-1 – SJVAPCD Monitoring Network

Existing Air Quality

For the purposes of background data and this air quality assessment, this analysis relied on data collected in the last three years for the CARB monitoring stations that are located in the closest proximity to the proposed project site. **Table 4-3** provides the background concentrations for O_3, PM_{10}, $PM_{2.5}$, CO, NO_2, SO_2, and Pb as of November 2015. Information is provided for the Bakersfield-5558 California Avenue, Oildale – 3311 Manor St., Bakersfield – 410 E. Planz Rd., Bakersfield-Municipal Airport, Bakersfield – Golden State Highway, Edison, Shafter – Walker Street, Fresno – 1st Street and Sacramento – Del Paso Manor monitoring stations for 2013 through 2015. No data is available for H_2S, Vinyl Chloride or other toxic air contaminants in Kern County.

Table 4-3 - Existing Air Quality Monitoring Data in Proposed Project Area

Table 4.3-4. Existing Air Quality Monitoring Data in Proposed Project Area						
Pollutant and	**Maximum Concentration**			**Days Exceeding Standard**		
Monitoring Station Location	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
O3 – 1-hour CAAQS (0.09 ppm)						
SJVAB						
Bakersfield-5558 California Ave.	0.107	0.102	0.104	3	3	6
Bakersfield – Municipal Airport	0.109	0.108	0.118	6	10	23
Arvin – Di Giorgio	0.109	0.109	0.124	14	15	16
Edison	0.101	0.107	0.112	2	15	17
Maricopa – Stanislaus Street	0.089	0.090	0.094	0	0	0
Shafter – Walker Street	0.112	0.100	0.104	1	2	3
Oildale – 3311 Manor St.	0.099	0.093	0.099	1	0	2
O3 – 8-hour CAAQS (0.07 ppm)						
SJVAB						
Bakersfield-5558 California Ave.	0.099	0.093	0.097	47	39	54
Bakersfield – Municipal Airport	0.103	0.095	0.106	56	60	73
Arvin – Di Giorgio	0.095	0.092	0.101	68	69	55
Edison	0.086	0.092	0.099	21	55	45
Maricopa – Stanislaus Street	0.084	0.084	0.088	23	25	32
Shafter – Walker Street	0.097	0.087	0.091	19	28	34
Oildale – 3311 Manor St.	0.090	0.085	0.092	15	25	33
O3 – 8-hour NAAQS (0.07 ppm)						
SJVAB						
Bakersfield-5558 California Ave.	0.098	0.092	0.096	43	36	52
Bakersfield – Municipal Airport	0.102	0.095	0.106	55	58	69
Arvin – Di Giorgio	0.094	0.091	0.101	64	65	53
Edison	0.086	0.091	0.099	19	52	42
Maricopa – Stanislaus Street	0.083	0.083	0.087	23	24	32
Shafter – Walker Street	0.096	0.087	0.090	17	24	34
Oildale – 3311 Manor St.	0.090	0.085	0.092	13	24	33
PM10 – 24-hour CAAQS (50 µg/m3)						
SJVAB						
Bakersfield-5558 California Ave.	116.9	419.5	103.6	16	69	20
Bakersfield – Golden State Hwy.	*	*	94.6	0	0	16
Oildale – 3311 Manor St.	138.0	335.6	104.4	27	20	26
PM10 – 24-hour NAAQS (150 µg/m3)						
SJVAB						
Bakersfield-5558 California Ave.	120.07	430.1	104.7	0	1	0
Bakersfield – Golden State Hwy.	*	*	100.5	0	0	0
Oildale – 3311 Manor St.	134.3	336.4	98.5	0	3	0
PM2.5 - 24-hour NAAQS (35 µg/m3)						
SJVAB						
Bakersfield – 410 E Planz Rd.	167.3	91.0	83.2	15	15	13
Bakersfield – 5558 California Ave.	111.7	101.9	107.8	44	37	29
Bakersfield – Golden State Highway	*	107.2	91.1	*	2	9
CO - 8-Hour CAAQS & NAAQS (9.0 ppm)						
Fresno – 1st St.	n/a	n/a	n/a	n/a	n/a	n/a
NO2 - 1-Hour CAAQS (0.18 ppm)						
SJVAB						
Bakersfield – 5558 California Ave.	0.055	0.060	0.054	0	0	0
Shafter – Walker Street	0.058	0.058	0.045	0	0	0
Edison	0.047	0.035	0.046	0	0	0
Bakersfield – Municipal Airport	0.065	0.064	0.055	0	0	0

Table 4.3-4. Existing Air Quality Monitoring Data in Proposed Project Area						
Pollutant and Monitoring Station Location	Maximum Concentration			Days Exceeding Standard		
	2013	2014	2015	2013	2014	2015
NO2 - 1-Hour NAAQS (0.10 ppm)						
SJVAB						
Bakersfield – 5558 California Ave.	0.055	0.061	0.055	0	0	0
Shafter – Walker Street	0.059	0.059	0.045	0	0	0
Edison	0.047	0.035	0.047	0	0	0
Bakersfield – Municipal Airport	0.065	0.064	0.055	0	0	0
SO2 – 24-hour Concentration - CAAQS (0.04 ppm) & NAAQS (0.14 ppm)						
Sacramento – Del Paso Manor	n/a	n/a	n/a	n/a	n/a	n/a
Pb - Maximum 30-Day Concentration CAAQS (1500 ng/m3)						
Bakersfield - 5558 California Ave	0.0067	0.0140	0.0095	*	*	*

Source: CARB, 2017a
Notes: ppm= parts per million
* There was insufficient (or no) data available to determine the value.

Notes: ppm= parts per million
* There was insufficient (or no) data available to determine the value.
[1] SJVAB did not have any monitoring stations that measured SO_2 during the years of 2012-2014.

The following is a description of criteria air pollutants, typical sources and health effects and the recently documented pollutant levels in the proposed project vicinity.

Ozone (O_3)

The SJVAB has high concentrations of O_3 and these high levels are known to cause eye irritation and impair respiratory functions. High levels of O_3 can also affect plants and materials. Grapes, lettuce, spinach and many types of garden flowers and shrubs are particularly vulnerable to O_3 damage. O_3 is not directly emitted into the atmosphere; it is a secondary pollutant produced from a photochemical interaction between hydrocarbons and nitrogen oxides (NOx). One to three hours of strong sunlight in a stable atmosphere create O_3. The "ozone season" therefore typically spans from April through October. O_3 is a regional pollutant; wind transports and diffuses the precursors while activating the photochemical reaction process. The data presented in **Table 4-3** shows that the Bakersfield area exceeded the 1-hour average ambient O_3 CAAQS and the 8-hour average ambient O_3 NAAQS and CAAQS from 2012 through 2014.

Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)

Both NAAQS and CAAQS now apply to particulates under 10 microns (PM_{10}). Since the smaller diameter fraction of total suspended particulates are documented to represent the greatest health hazard, EPA has established NAAQS for particulates under 2.5 microns ($PM_{2.5}$). The proposed project area is classified as attainment for PM_{10} and non-attainment for NAAQS $PM_{2.5}$.

Dust and fumes from industrial and agricultural operations generate particulate matter. Natural activities, such as wind-raised dust, fires and ocean spray, also increase the level of particulates in the atmosphere. The largest source of PM_{10} and $PM_{2.5}$ in Kern County is vehicle movement over paved and unpaved roads from demolition and construction activities and farming operations. PM_{10} and $PM_{2.5}$ are considered regional pollutants with elevated levels typically occurring over a wide geographic area. Concentrations tend to be highest in the winter, during periods of high atmospheric stability and low wind speed. Very small particulates may contain absorbed gases that produce injury to the respiratory tract. Particulates of aerosol size suspended in the air can both scatter and absorb sunlight, producing haze and reducing visibility. They can also damage a wide range of materials. **Table 4-3** shows that PM_{10} levels exceeded the CAAQS during 2012 through 2014, exceeded the NAAQS in 2014, and exceeded the $PM_{2.5}$ NAAQS from 2012 through 2014. Similar levels can be expected to occur in the vicinity of the proposed project site.

Carbon Monoxide (CO)

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. Wind speed and atmospheric mixing also influence CO concentrations; however, under inversion conditions prevalent in the San Joaquin valley, CO concentrations may be more uniformly distributed over a broad area.

Internal combustion engines, principally in vehicles, produce CO due to incomplete fuel combustion. Various industrial processes also produce CO emissions through incomplete combustion. Gasoline-powered motor vehicles are typically the major source of this contaminant. CO does not irritate the respiratory tract, but passes through the lungs directly into the blood stream, and by interfering with the transfer of fresh oxygen to the blood, deprives sensitive tissues of oxygen, thereby aggravate cardiovascular disease, causing fatigue, headaches, and dizziness. CO is not known to have adverse effects on vegetation, visibility or materials. **Table 4-3** reports no CO levels at the Bakersfield monitoring station during the three-year period from 2012 through 2014; historically Bakersfield data for CO has been below the CAAQS and NAAQS.

Nitrogen Dioxide (NO_2) and Hydrocarbons

Kern County has been designated as an attainment area for the NAAQS for NO_2. NO_2 is the "whiskey brown" colored gas readily visible during periods of heavy air pollution. Mobile sources and oil and gas production account for nearly all of the county's NOx emissions, most of which is emitted as NO_2. Combustion in motor vehicle engines, power plants, refineries and other industrial operations are the primary sources in the region. Railroads and aircraft are other potentially significant sources of combustion air contaminants. Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of hydrocarbons and sunlight to form NO_2 and O_3. NO_2, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppm on days of 10-mile visibility. NO_x is an important air pollutant in the region because it is a primary receptor of ultraviolet light, which initiates the reactions producing photochemical smog. It also reacts in the air to form nitrate particulates.

Motor vehicles are the major source of reactive hydrocarbons in the basin. Other sources include evaporation of organic solvents and petroleum production and refining operations. Certain hydrocarbons can damage plants by inhibiting growth and by causing flowers and leaves to fall. Levels of hydrocarbons currently measured in urban areas are not known to cause adverse effects in humans. However, certain members of this contaminant group are important components in the reactions, which produce photochemical oxidants. **Table 4-3** shows that the Federal or State NO_2 standards have not been exceeded at the Edison or the Bakersfield area-monitoring stations over the three-year period of 2012 through 2014. Hydrocarbons are not currently monitored.

Sulfur Dioxide (SO_2)

Kern County has been designated as an attainment area for the NAAQS for SO_2. SO_2 is the primary combustion product of sulfur, or sulfur containing fuels. Fuel combustion is the major source of this pollutant, while chemical plants, sulfur recovery plants, and metal processing facilities are minor contributors. Gaseous fuels (natural gas, propane, etc.) typically have lower percentages of sulfur containing compounds than liquid fuels such as diesel or crude oil. SO_2 levels are generally higher in the winter months. Decreasing levels of SO_2 in the atmosphere reflect the use of natural gas in power plants and boilers.

At high concentrations, SO_2 irritates the upper respiratory tract. At lower concentrations, when respirated in combination with particulates, SO_2 can result in greater harm by injuring lung tissues. Sulfur oxides (SOx), in combination with moisture and oxygen, results in the formation of sulfuric acid, which can yellow the leaves of plants, dissolve marble, and oxidize iron and steel. SOx can also react to produce sulfates that reduce visibility and sunlight. **Table 4-3** shows no data has been reported over the

three-year period in Bakersfield.

Lead (Pb) and Suspended Sulfate

Ambient Pb levels have dropped dramatically due to the increase in the percentage of motor vehicles that run exclusively on unleaded fuel. Ambient Pb levels in Bakersfield are well below the ambient standard and are expected to continue to decline; the data reported in **Table 4-3** only shows the highest concentration as the number of days exceeding standards are not reported. Suspended sulfate levels have stabilized to the point where no excesses of the State standard are expected in any given year.

5.0 CLIMATE

The most significant single control on the weather pattern of the San Joaquin Valley is the semi-permanent subtropical high-pressure cell, referred to as the "Pacific High." During the summer, the Pacific High is positioned off the coast of northern California, diverting ocean-derived storms to the north. Hence, the summer months are virtually rainless. During the winter, the Pacific High moves southward allowing storms to pass through the San Joaquin Valley. Almost all of the precipitation expected during a given year occurs from December through April. During the summer, the predominant surface winds are out of the northwest. Air enters the Valley through the Carquinez strait and flows toward the Tehachapi Mountains. This up-valley (northwesterly) wind flow is interrupted in early fall by the emergence of nocturnal, down-valley (southeasterly) winds which become progressively more predominant as winter approaches. Wind speeds are generally highest during the spring and lightest in fall and winter. The relatively cool air flowing through the Carquinez strait is warmed on its journey south through the Valley. On reaching the southern end of the Valley, the average high temperature during the summer is nearly 100 degrees Fahrenheit (°F). Relative humidity during the summer is quite low, causing large diurnal temperature variations. Temperatures during the summer often drop into the upper 60s. In winter, the average high temperatures reach into the mid-50s and the average low drops to the mid-30s. In addition, another high-pressure cell, known as the "Great Basin High," develops east of the Sierra Nevada Mountain Range during winter. When this cell is weak, a layer of cool, damp air becomes trapped in the basin and extensive fog results. During inversions, vertical dispersion is restricted, and pollutant emissions are trapped beneath the inversion and pushed against the mountains, adversely affecting regional air quality. Surface-based inversions, while shallow and typically short-lived, are present most mornings. Elevated inversions, while less frequent than ground-based inversions, are typically longer lasting and create the severe air stagnation problems. The winter season characteristically has the poorest conditions for vertical mixing of the entire year.

Meteorological data for various monitoring stations is maintained by the Western Regional Climate Center. Meteorological data for the proposed project site is expected to be similar to the data recorded at the Bakersfield monitoring station. **Table 5-1** presents average precipitation data recorded at the Bakersfield monitoring station. Over the 78-year period from October of 1937 through January of 2015 (the most recent data available), the average annual precipitation was 6.17 inches.

Table 5-1 – Bakersfield Weather Data

Period of Record Monthly Climate Summary for the Period 10/01/1937 to 1/20/2015													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Maximum Temp (F)	57.4	63.6	69.0	75.7	84.2	92.1	98.6	96.7	91.0	80.5	67.3	57.8	77.8
Average Minimum Temp (F)	38.5	42.1	45.4	49.7	56.6	63.3	69.2	67.7	63.1	54.0	44.1	38.5	52.7
Average	1.04	1.16	1.12	0.67	0.21	0.07	0.01	0.04	0.10	0.30	0.59	0.85	6.17

Total Precip.(in.)													
Average Snowfall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent of possible observations for period of record: Max. Temp.: 99.6% Min. Temp.: 99.6% Precipitation: 99.7% Snowfall: 92.4% Snow Depth: 92.2%													

Source: Western Regional Climate Center, 2015.

6.0 SIGNIFICANCE CRITERIA

To determine whether a proposed project could create a potential CEQA impact, local, state and federal agencies have developed "thresholds of significance." Such measures of significance can generally be categorized as follows:

- Thresholds of significance adopted by air quality agencies to guide lead agencies in their evaluation of air quality impacts under the CEQA;
- Ambient air quality standards or other concentration-based limits; and
- Regulations established by air districts, CARB and EPA for the evaluation of stationary sources when applying for Authorities to Construct, Permits to Operate and other permit program requirements (e.g., New Source Review).
- Regulations applied in areas where severe air quality problems exist.

Summary tables and discussions of these thresholds of significance are provided below.

Measures Adopted for the Evaluation of Air Quality Impacts Under CEQA

The SJVAPCD adopted its GAMAQI to establish consistent CEQA guidelines for projects with potential air quality impacts (2015a). According to the SJVAPCD's GAMAQI, a project would have potentially significant air quality impacts when the project:

- Creates a conflict with or obstructs implementation of the applicable air quality plan;
- Causes a violation of any air quality standard or generates substantial contribution towards exceeding an existing or projected air quality standard;
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment under a NAAQS and CAAQS (including emissions which exceed quantitative thresholds for O_3 precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; or
- Creates objectionable odors that affect a substantial number of people.

The SJVAPCD GAMAQI thresholds are designed to implement the general criteria for air quality emissions as required in the State CEQA Guidelines, Appendix G, Paragraph III and CEQA (State of California CEQA Guidelines, §15064.7). SJVAPCD's specific CEQA air quality thresholds are presented in **Table 6-1**.

Table 6-1 SJVAPCD CEQA Thresholds of Significance

Criteria Pollutant	Significance Level	
	Construction	Operational
CO	100 tons/yr	100 tons/yr

NOx	10 tons/yr	10 tons/yr
ROG	10 tons/yr	10 tons/yr
SOx	27 tons/yr	27 tons/yr
PM10	15 tons/yr	15 tons/yr
PM2.5	15 tons/yr	15 tons/yr

Sources: SJVAPCD 2015a

Measures Based on Ambient Air Quality Impacts

State CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation*" would be considered to create significant impacts on air quality. Therefore, an AQIA should determine whether the emissions from a project would cause or contribute significantly to violations of the NAAQS or CAAQS (presented above in **Table 4-2**) when added to existing ambient concentrations.

The EPA has established the federal Prevention of Significant Deterioration (PSD) program to determine what comprises "significant impact levels" (SIL) to NAAQS attainment areas. A project's impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional "increment analysis" is required. As the proposed project would not include modification to the stationary source under NSR, it would not be subject to either PSD or NSR review. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the proposed project would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation.*" Ambient air quality emissions estimates below the PSD SIL thresholds would result in less than significant ambient air quality impacts on both a project and cumulative CEQA impact analysis. The SJVAB is classified as non-attainment for the O_3 NAAQS and, as such, is subject to "non-attainment new source review" (NSR). PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance.

Measures Used with Hazardous Air Pollutants

The SJVAPCD's GAMAQI states, "From a health risk perspective there are basically two types of land use projects that have the potential to cause long-term public health risk impacts:

- Type A Projects: Land use projects that will place new toxic sources in the vicinity of existing receptors, and
- Type B Projects: Land use projects that will place new receptors in the vicinity of existing toxics sources." (SJVAPCD 2015a)

Table 6-2 presents the thresholds of significance uses with TACs when evaluating HAPs.

Table 6-2 Measures of Significance – TOXIC AIR CONTAMINANTS (TACs)

Agency	Level	Description
Measures Adopted for the Evaluation of Impacts Under CEQA		
SJVAPCD	Not Significant	If construction emissions do not exceed operational thresholds, then construction impacts are assumed to be less than significant. No TACs threshold from construction activities has been established.
	20 in one million	Carcinogenic Risk Limit for Maximally Exposed Individual.
	Hazard Index >1	Chronic and Acute Hazard Index Risk for Maximally Exposed Individual.

Source: SJVAPCD 2015a

Global Climate Change Thresholds of Significance

On December 17, 2009, SJVAPCD adopted *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA*; which outlined the SJVAPCD's methodology for assessing a project's significance for GHGs under CEQA. The following criteria was outlined in the document to determine whether a project could have a significant impact:

- Projects determined to be exempt from the requirements of CEQA would be determined to have a less than significant individual and cumulative impact for GHG emissions and would not require further environmental review, including analysis of project specific GHG emissions. Projects exempt under CEQA would be evaluated consistent with established rules and regulations governing project approval and would not be required to implement BPS.
- Projects complying 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 would be determined to have a less than significant individual and cumulative impact for GHG emissions. 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. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.
- Projects implementing Best Performance Standards would not require quantification of project specific GHG emissions. Consistent with CEQA Guideline, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.
- Projects not implementing Best Performance Standards would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29 percent (%), compared to Business-as-Usual (BAU*), including GHG emission reductions achieved since the 2002-2004 baseline period. Projects

achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.

- Notwithstanding any of the above provisions, projects requiring preparation of an Environmental Impact Report for any other reason would require quantification of project specific GHG emissions. Projects implementing BPS or achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.

7.0 PROPOSED PROJECT-RELATED EMISSIONS

This document was prepared pursuant to the SJVAPCD's GAMAQI, and the Kern County Air Quality Assessment Preparation Guidelines of the Kern County CEQA Implementation Document. The GAMAQI identifies thresholds that separate a project's short-term emissions from its long-term emissions.

The CalEEMod standard defaults were applied for the emissions estimates except for the following:

- Land use size and lot acreage was adjusted to match the proposed project description;
- Construction scheduled was estimated for each construction phase;
- Average daily traffic numbers were adjusted based on data from proposed project Traffic Study; and
- Demolition construction phase was removed.

Short-Term Emissions

Short-term emissions are primarily from the construction phase of a project and are recognized to be short in duration and without lasting impacts on air quality.

The proposed project applicant did not provide a list of specific construction equipment; the analysis applied the default CalEEMod equipment list, many variables are factored into the calculation of construction emissions such as length of the construction period, number of each type of equipment, site characteristics, area climate, and construction personnel activities. All equipment was assumed to be in use for the proposed project for specified hours per day and load factors. SJVAPCD's required measures for all projects include:

- Water exposed area 3 times per day; and
- Reduce vehicle speed to less than 15 miles per hour.

Table 7-1 presents the proposed project's short-term emissions based on the anticipated construction period.

TABLE 7-1 – Short-Term Proposed Project Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated						
Year 2016	0.20	1.84	1.50	0.002	0.30	0.18
Year 2017	3.71	3.35	3.56	0.006	0.39	0.23
Year 2018	3.82	4.47	4.72	0.009	0.64	0.36
Year 2019	0.26	2.26	2.37	0.004	0.39	0.21
Year 2020	3.47	1.61	2.06	0.004	0.22	0.11
Year 2021	3.67	3.25	4.19	0.009	0.56	0.29
Year 2022	0.20	1.61	2.12	0.004	0.35	0.18
Year 2023	3.43	1.17	1.90	0.004	0.19	0.09
Year 2024	3.60	2.49	3.90	0.009	0.51	0.24
Mitigated						
Year 2016	0.20	1.84	1.50	0.002	0.20	0.13
Year 2017	3.71	3.35	3.56	0.006	0.39	0.23
Year 2018	3.82	4.47	4.72	0.009	0.54	0.32
Year 2019	0.26	2.26	2.37	0.004	0.29	0.17
Year 2020	3.47	1.61	2.06	0.004	0.22	0.11
Year 2021	3.67	3.25	4.19	0.009	0.46	0.24
Year 2022	0.20	1.61	2.12	0.004	0.25	0.13
Year 2023	3.43	1.17	1.90	0.004	0.19	0.09
Year 2024	3.60	2.49	3.90	0.009	0.41	0.19
SJVAPCD Threshold	10	10	100	27	15	15
Is Threshold Exceeded After Mitigation?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

As calculated with CalEEMod using the default equipment listing, the estimated short-term emissions would *not exceed* SJVAPCD significance threshold levels and would therefore be *less than significant*.

Long-Term Operations Emissions

Long-term emissions are caused by operational mobile, area and energy sources. Long-term emissions would consist of the following components.

Fugitive Dust Emissions

Operation of the proposed project site at full build-out is not expected to present a substantial source of fugitive dust (PM_{10}) emissions. The main source of PM_{10} emissions would be from vehicular traffic associated with the proposed project site.

PM_{10} on its own as well as in combination with other pollutants creates a health hazard. The SJVAPCD's Regulation VIII establishes required controls to reduce and minimizing fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed proposed project (and all projects):

- Rule 4102 - Nuisance
- Regulation VIII – Fugitive PM_{10} Prohibitions
  - Rule 8011 - General Requirements
  - Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities
  - Rule 8041 - Carryout and Trackout
  - Rule 8051 - Open Areas

The proposed project would comply with applicable SJVAPCD Rules and Regulations, the local zoning codes, and additional emissions reduction measures recommended later in this analysis, in Section 11, Mitigation and Other Recommended Measures.

Exhaust Emissions
Proposed project-related transportation activities from employees and consumers would generate mobile source ROG, NOx, SOx, CO, PM_{10} and $PM_{2.5}$ exhaust emissions.

Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total proposed project emissions include: level of activity, site characteristics, weather conditions, and number of employees and consumers.

The CalEEMod program was used to predict the proposed project's operational emissions. CalEEMod is the currently accepted prediction estimation tool for operational emissions impacts in SJVAPCD. As described above, the proposed project would include construction and operations of: 1) 1,677,060 square feet of light industrial; 2) 2,424,114 square feet of service industrial; 3) 272,250 square feet of highway commercial; and 4) 239.580 square feet of general commercial.

Projected Emissions
The proposed project is expected to have long-term air quality impacts as shown in **Table 7-2**. The output from the CalEEMod runs are available in **Attachment E.** The proposed project analysis applied the land use description as presented in the proposed project description. Mitigation measures reflected in the emission reductions include:

- Increase Diversity;
- Use Low VOC Paint (Non-residential interior) (47 g/L);
- Use Low VOC Paint (Non-residential exterior) (100 g/L);
- 3% Electric Lawnmower;
- 3% Electric Leaf blower; and
- 3% Electric Chainsaw.

TABLE 7-2 – Post-Project (Operational) Emissions

Emissions Source	Pollutant (tons/year)*					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Unmitigated						
Area Source Emissions	12.96	0.0002	0.03	0.00	0.0001	0.0001
Energy Source Emissions	0.30	2.74	2.30	0.02	0.21	0.21
Mobile Source Emissions	22.40	70.27	288.17	0.67	33.51	10.02
Unmitigated Operational Emissions	**35.65**	**73.01**	**290.50**	**0.69**	**33.72**	**10.23**
Mitigated						
Area Source Emissions	11.79	0.0002	0.03	0.00	0.0001	0.0001
Energy Source Emissions	0.30	2.74	2.30	0.02	0.21	0.21
Mobile Source Emissions	21.46	63.92	275.48	0.59	29.15	8.72
Rule 9510 - ISR Compliance Reduction	-	(17.96)	-	-	(12.50)	-
Mitigated Operational Emissions	**33.55**	**48.70**	**277.80**	**0.61**	**16.86**	**8.93**
SJVAPCD and KCPD Threshold	10	10	100	27	15	15
Is Threshold Exceeded After Mitigation?	**YES**	**YES**	**YES**	**NO**	**YES**	**NO**

*Note: 0.00 may represent zero or emissions less than 0.005.

As shown in **Table 7-2**, operations-related emissions, as calculated by CalEEMod (See **Attachment E**), would exceed the SJVAPCD significant threshold levels. Therefore, the proposed project would have *a significant and unavoidable long term air quality impact*.

Potential Impacts on Sensitive Receptors

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes and daycare centers. The nearest proposed residential sensitive receptor is generally south and east of the proposed project site. There are four known non-residential sensitive receptors within 2 miles of the proposed project site and are listed below in **Table 7-3**.

Table 7-3 – Sensitive Receptors Located ≤ 2 Miles from Proposed Project

Receptor	Type of Facility	Distance from Project in Miles	Direction from project
General Shafter Elementary School	K-8 Public	1.09	SW
McKee Middle School	6-8 Public	1.35	NE
Horizon Elementary School	K-5 Public	2.00	N
Golden Valley High School	9-12 public	1.76	N

Based on the distance of these sensitive receptors from the proposed project and the potential visibility, health, and odor impacts analyzed below, the proposed project is expected to have a *less than significant* impact on sensitive receptors.

Potential Impacts to Visibility to Nearby Class 1 Areas

Visibility impact analyses are intended for stationary sources of emissions which are subject to the Prevention of Significant Deterioration (PSD) requirements in 40 CFR Part 60; they are not usually conducted for area sources. Because the proposed project's PM10 emissions increase are predicted to be less than the PSD threshold levels, an impact at any Class 1 area within 100 kilometers of the proposed project (including Edwards Air Force Base, China Lake Naval Weapons Station and the entire R-2508 Airspace Complex) is extremely unlikely. Therefore, based on the proposed project's predicted less-than significant ambient air quality PM_{10} emissions concentrations, the proposed project would be expected to have a less than significant impact to visibility at any Class 1 Area.

Potential Impacts From Carbon Monoxide (CO) – Mobile Sources

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. CO concentrations are also influenced by wind speed and atmospheric mixing. CO concentrations may be more uniformly distributed when inversion conditions are prevalent in the valley. Under certain meteorological conditions CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptors, e.g. children, the elderly, hospital patients, etc. This localized impact can result in elevated levels of CO, or "hotspots" even though concentrations at the closest air quality monitoring station may be below NAAQS and CAAQS.

The localized project impacts depend on whether ambient CO levels in the proposed project vicinity would be above or below NAAQS. If ambient levels are below the standards, a project is considered to have significant impacts if a project's emissions would exceed one or more of these standards. If ambient levels already exceed a state standard, a project's emissions are considered significant if they would increase one-hour CO concentrations by 10 ppm or more or eight-hour CO concentrations by 0.45 ppm or more. There are two criteria established by the SJVAPCD's GAMAQI by which CO "Hot Spot" modeling is required:

I. A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity would be reduced to LOS E or F; or
II. A traffic study indicates that the project would substantially worsen an already existing LOS F

on one or more streets or at one or more intersections in the project vicinity.

A traffic impact study (McIntosh 2016) was prepared for this proposed project. This traffic impact study documents that all proposed project study intersections and roadway segments would operate at a LOS of C or better; these proposed project findings are within the GAMAQI significance criteria (SJVAPCD 2015a). Therefore, CO "Hotspot" Modeling was not conducted for this proposed project and no concentrated excessive CO emissions are expected to be caused once the proposed project is completed.

Predicted Health Risk Impacts

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of HAPs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs.

The proposed project would result in emissions of Hazardous Air Pollutants (HAPs) and would be located near existing residences; therefore, an assessment of the potential risk to the population attributable to emissions of hazardous air pollutants from the proposed project is required.

To predict the potential health risk to the population attributable to emissions of HAPs from the proposed project, ambient air concentrations were predicted with dispersion modeling to arrive at a conservative estimate of increased individual carcinogenic risk that might occur as a result of continuous exposure over a 70-year lifetime. Similarly, predicted concentrations were used to calculate non-cancer chronic and acute hazard indices (HIs), which are the ratio of expected exposure to acceptable exposure. The basis for evaluating potential health risk is the identification of sources with increased HAPs. HAP emissions from anticipated on-site heavy-duty diesel trucks were evaluated.

Health risk is determined using the Hotspots Analysis and Reporting Program (HARP2) software distributed by the CARB; HARP2 requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source (CARB 2014b). Assumptions used to calculate the emission rates for the proposed project are outlined below.

The most recent version of EPA's AMS/EPA Regulatory Model - AERMOD (recompiled for the Lakes ISC-AERMOD View 9.1.0 interface) was used to predict the dispersion of emissions from the proposed project (Lakes Environmental 2015). The analysis employed all of the regulatory default AERMOD model keyword parameters, including elevated terrain options even though the proposed project area terrain is level.

Diesel combustion emissions from the heavy-duty trucks were modeled as line sources for on-site travel. Three line sources were modeled; one for each anticipated industrial site. A total of three point sources for onsite idling were modeled, with one point source corresponding with each line source. A unit emission rate of 1 grams/second (g/sec) was input to AERMOD for each source. The modeled emission rates input to HARP were based on the estimated number of trucks, the on-site distance of truck travel, fifteen minutes of idling per truck and emission factors generated by EMFAC2014. Since specifics about the proposed project site were not known at the time this assessment was completed the number of trucks were estimated by using the fleet mix percentage for heavy-duty trucks from CalEEMod and average daily trips from the traffic study for this proposed project. This is assumed to be an over estimate, therefore, the modeling results are considered conservative. Annual emissions for truck travel and idling are provided in **Attachment G**.

Individual discrete receptors were modeled for miscellaneous residences, places of employment, and sensitive receptors in the surrounding area. A total of 731 receptors were modeled for health risk.

The SJVAPCD provided meteorological data for Bakersfield, California to be used for projects within the proposed project area. SJVAPCD-approved, AERMET-processed U Star meteorological datasets for calendar years 2010 through 2014 was input to AERMOD (SJVAPCD 2016b). This was the most recent available dataset available at the time the modeling runs were conducted. Rural dispersion parameters were used because the operation and the majority of the land surrounding the facility is considered "rural" under the Auer land use classification method (Auer 1978).

AERMOD was used to generate ambient concentrations for the 1-hour, 4-hour, 6-hour, monthly and period timeframes. Plot files generated by AERMOD were imported to HARP ONRAMP software wherein pollutant-specific emission rates were assigned to adjust the AERMOD-predicted air concentrations calculated with unit emission rates. HARP ONRAMP was used to generate source, X/Q and emission import files for HARP. The files generated in HARP ONRAMP were then uploaded into the HARP to HARP2 Converter, then HARP2.

Emissions from ARB's EMFAC2014 Web Database were used to calculate onsite diesel particulate matter (DPM) emissions from diesel delivery trucks for onsite travel and idling for the health risk assessment.

HARP post-processing was used to assess the potential for excess chronic and acute non-cancer effects and cancer risk using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA). HARP2 site parameters were set for mandatory minimum pathways (to enable inhalation, soil, dermal and mother's milk pathways for carcinogenic risk. The deposition rate was set to 0.02 m/s. Risk reports were generated using the derived OEHHA analysis method for carcinogenic risk and non-carcinogenic chronic and acute risk. Site parameters are included in the HARP2 output files. Total cancer risk was predicted for inhalation and non-inhalation pathways at each receptor. A hazard index was computed for chronic non-cancer health effects for each applicable endpoint and each receptor. There is currently no acute risk associated with DPM emissions, therefore, acute risk has not been calculated. SJVAPCD has set the level of significance for carcinogenic risk at twenty in one million, which is understood as the possibility of causing twenty additional cancer cases in a population of one million people. The level of significance for chronic non-cancer risk is a hazard index of 1.0.

The carcinogenic risk and the health hazard index (HI) for chronic and acute non-cancer risk at the point of maximum impact (PMI) do not exceed the significance levels of twenty in one million (20×10^{-6}), 1.0, and 1.0, respectively for the proposed project. The PMIs, are identified by receptor location and risk, and are provided in **Table 7-4**.

Table 7-4 –Potential Maximum Impacts Predicted By HARP

	Value	UTM East	UTM North
Excess Cancer Risk [a]	3.34E-06	317484.48	3901285.72
Chronic Hazard Index	6.77E-04	317484.48	3901285.72

[a] Based on continuous, 70-year residential exposure for the most sensitive receptor

As shown above in **Table 7-4**, the maximum predicted cancer risk for the proposed project is 3.34E-06. The maximum chronic non-cancer hazard index for the proposed project is 6.77E-04. Since the PMI remained below the significance threshold for cancer and chronic risk, this proposed project would not have an adverse effect to any of the surrounding communities.

The potential health risk attributable to the proposed project is determined to be <u>less than significant</u> based on the following conclusions:

1) Potential carcinogenic risk from the proposed project is *below* the significance level of twenty in a million at each of the modeled receptors; and

2) The hazard index for the potential chronic non-cancer risk from the proposed project is *below* the significance level of 1.0 at each of the modeled receptors.
3) The hazard index for the potential acute non-cancer risk was not calculated since there is no acute risk associated with DPM emission, therefore, the proposed project is considered *below* the significance level.

Odor Impacts and Mitigation

The SJVAPCD's GAMAQI states "*An analysis of potential odor impacts should be conducted for both of the following two situations:*

1. *Generators – projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and*
2. *Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources.*" (SJVAPCD 2015a).

GAMAQI also states "*The District has identified some common types of facilities that have been known to produce odors in the San Joaquin Valley Air Basin. These are presented in Table 6 (Screening Levels for Potential Odor Sources), can be used as a screening tool to qualitatively assess a project's potential to adversely affect area receptors."* (SJVAPCD 2015a). Because the proposed project is a mixed use industrial and commercial project, any industrial activities triggering air permits would be under the regulation of the SJVAPCD and commercial activities do not typically allow tenants that create objectionable odors, the proposed project is not expected to be a source of objectionable odors.

Based on the provisions of the SJVAPCD's GAMAQI (2015a), the proposed project would not exceed any screening trigger levels to be considered a source of objectionable odors or odorous compounds (SJVAPCD 2015a). Furthermore, there does not appear to be any significant source of objectionable odors in close proximity that may adversely impact the proposed project site when it is in operation. As such, the proposed project would not be a source of any odorous compounds nor would it likely be impacted by any odorous source.

Impacts to the Ambient Air Quality

An ambient air quality analysis was performed to determine if the proposed project has the potential to impact ambient air quality through a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard. The basis for the analysis is dispersion modeling and the proposed project's long-term air quality impacts shown in **Table 7-2**.

The maximum off-site ground level concentration of each pollutant for the 1-hour, 3-hour, 8-hour, 24-hour and annual periods was predicted using the most recent version of EPA's AMS/EPA Regulatory Model (AERMOD) dispersion software under the Lakes Environmental ISC-AERMOD View interface. SJVAPCD-approved, AERMET-processed U Star meteorological datasets for calendar years 2010 through 2014 was input to AERMOD (SJVAPCD 2016b). This was the most recent available dataset available at the time the modeling runs were conducted. All of the regulatory default AERMOD model keyword parameters were employed. Rural dispersion parameters were used for this proposed project, which differs from the urban setting used in the CalEEMod model. The CalEEMod selection criteria is based on trip distances to the proposed project site while the AERMOD selection criteria is based on the majority of the land use surrounding the facility. The majority of the land surrounding the proposed project site is considered "rural" under the Auer land use classification method (Auer 1978).

Emissions were evaluated for each pollutant on a short-term (correlating to pollutant averaging period) and long-term (annual) basis, with the exception of CO that was evaluated only for short-term exposures since there are no long term significance thresholds for CO. Emissions were modeled as an area source with a release height of 1.0 meters.

The majority of mobile emissions predicted by CalEEMod will occur beyond the proposed project boundary because of vehicle trips. In order to determine the on-site vehicle emissions the following methodology was discussed and approved by the SJVAPCD (Villalvazo personal communications). An estimated on-site trip distance was determined by calculating the diagonal distance from the center of the proposed project to the furthest corner. The on-site estimated trip distance was determined to be 0.75 miles. The on-site estimated trip distance was then divided by the average trip length used by CalEEMod, 8.09 miles, in order to determine the on-site to off-site mobile emissions ratio, 9.27%. The total mobile emissions calculated by CalEEMod were then reduced by 90.73% to estimate the mobile on-site emissions used for ambient air quality modeling.

A fenceline coordinate grid of receptor points was constructed. The grid consisted of a 25-meter fenceline spacing and 25-meter tier spacing extending a distance of 100 meters with initial receptors starting 25 meters from the facility boundary. Elevated terrain options were employed even though there is not a complex terrain in the proposed project area.

For each pollutant and averaging period modeled, a "total" concentration was estimated by adding the maximum measured background air concentration to the maximum predicted proposed project impacts. The maximum measured background air concentrations used in this analysis were calculated from measured concentrations at the nearest monitoring stations.

The results of the air dispersion modeling, presented in **Table 7-5**, demonstrate that the maximum impacts attributable to the proposed project, when considered in addition to the existing background concentrations, are below the applicable ambient air quality standard for NO_x, SO_x and CO. The AERMOD output files are provided in **Attachment F**.

Table 7-5 - Predicted Ambient Air Quality Impacts

Pollutant	Averaging Period	Background ($\mu g/m^3$)	Project ($\mu g/m^3$)	Project + Background ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	CAAQS ($\mu g/m^3$)
NO_2	1-hour	59.76	44.04	103.80	188.68	338
	Annual	24.57	3.08	27.65	100	56
SO_2	1-hour	30.50	0.36	30.86	196	655
	3-hour	27.450	0.15	27.60	1,300	---
	24-hour	6.770	0.08	6.85	365	105
	Annual	1.440	0.03	1.47	---	---
CO	1-hour	1480.00	141.70	1621.70	40,000	23,000
	8-hour	617.00	51.64	668.64	10,000	10,000
PM_{10}	24-hour	104.00	3.26	107.26	150	50
	Annual	56.42	1.04	57.45	---	20
$PM_{2.5}$	24-hour	83.20	1.14	84.34	35	---
	Annual	17.90	0.36	18.26	12	12

Pre-proposed project concentrations of PM_{10} and $PM_{2.5}$ exceed their respective ambient air quality standards. PM_{10} and $PM_{2.5}$ are evaluated in accordance with the SJVAPCD recommended significant impact level (SIL) for fugitive PM_{10} and $PM_{2.5}$ emissions. It is the SJVAPCD's policy to use significant impact levels to determine whether a proposed new or modified source will cause or contribute significantly to an AAQS violation. If a project's maximum impacts are below the District SIL, the project is judged to not cause or contribute significantly to an AAQS or PSD increment violation. A comparison of the proposed impact from the proposed project to the District SIL values is provided in **Table 7-6.**

Table 7-6: Comparison of Maximum Modeled Proposed Project Impact with Significance Thresholds

Pollutant	Averaging Period	Predicted Concentration ($\mu g/m^3$)	SIL ($\mu g/m^3$)
PM_{10}	24-hour	3.26	10.4
	Annual	1.04	2.08
$PM_{2.5}$	24-hour	1.14	2.5
	Annual	0.36	0.63

Because the proposed project's modelled PM_{10} and $PM_{2.5}$ are below the SJVAPCD's significance levels for 24-hour and annual concentrations, the proposed project's contribution to potential violations of ambient air quality standards would be l*ess-than-significant*.

8.0 CUMULATIVE IMPACTS

Air pollution emissions naturally contribute to cumulative air quality impacts. The SJVAPCD's nonattainment status is a result of past and present development activity within the SJVAB. Furthermore, future development further challenges the SJVAPCD to reach attainment of ambient air quality standards. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development within the SJVAB. When assessing whether there is a new significant cumulative effect, the Lead Agency shall consider whether the incremental effects of the project are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects [CCR §15064(h)(1)]. A Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located, in accordance with CEQA Guidelines §15064(h)(3). (SJVAPCD 2015a)

GAMAQI also states "*If a project is significant based on the thresholds of significance for criteria pollutants, then it is also cumulatively significant. This does not imply that if the project is below all such significance thresholds, it cannot be cumulatively significant."* (SJVAPCD 2015a). Based on the analysis conducted for this proposed project, it is individually *significant*. This AQIA, also considered impacts of the proposed project in conjunction with the impacts of other projects previously proposed in the area. The following cumulative impacts were considered:

- Cumulative O_3 Impacts (ROG and NOx) from numerous sources within the region including transport from outside the region. O_3 is formed through chemical reactions of ROG and NOx in the presence of sunlight.
- Cumulative CO Impacts produced primarily by vehicular emissions.
- Cumulative PM_{10} Impacts from within the region and locally from the various projects. Such projects may cumulatively produce a significant amount of PM_{10} if several projects conduct grading or earthmoving activities at the same time; and
- Hazardous Air Pollutant (HAP) Impacts on sensitive receptors from within the SJVAPCD recommended screening radius of one mile.

Cumulative Regional Air Quality Impacts

The most recent, certified SJVAB Emission Inventory data available from the SJVAPCD is based on data gathered for the 2012 annual inventory.[1] This data will be used to assist the SJVAPCD in demonstrating attainment of Federal 1-hour O_3 Standards. **Table 8-1** provides a comparative look at the impacts proposed by the proposed project to the SJVAB Emissions Inventory.

Table 8-1 – Comparative Analysis Based on SJV Air Basin 2012 Inventory

Emissions Inventory Source	Pollutant (tons/year)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Kern County - 2012[1]	36,026	26,426	58,108	949	16,097	4,964
SJVAB - 2012[1]	218,964	119,282	490,998	4,526	117,567	40,150
Proposed Project	33.55	66.66	277.80	0.61	29.15	8.93
Proposed Project's % of Kern	0.093	0.252	0.478	0.064	0.181	0.180
Proposed Project's % of SJVAB	0.015	0.056	0.057	0.013	0.025	0.022

NOTES:
[1] This is the latest inventory available as of September 2015
SOURCE: CARB 2015b

As shown in **Table 8-1** the proposed project does not pose a significant increase to basin emissions, as such basin emissions would be essentially the same if the proposed project is approved. **Tables 8-2** through **8-4** provide CARB Emissions Inventory projections for the year 2020 for both the SJVAB and the Kern County portion of the air basin. Looking at the SJVAB Emissions predicted by the CARB year 2020 emissions inventory, the Kern County portion of the air basin is a moderate source of the emissions. The proposed project produces a small portion of the total emissions in both Kern County and the entire SJVAB.

Table 8-2 – Emission Inventory SJVAB 2020 Projection – Tons per Year

	ROG	NO_X	PM_{10}
Total Emissions	214,292	78,037	116,180
Percent Stationary Sources	16.81	13.19	4.71
Percent Area-Wide Sources	31.97	6.22	77.98
Percent Mobile Sources	10.00	79.79	4.56
Percent Natural Sources	41.22	0.80	12.72
Total Stationary Source Emissions	36,026	10,293	5,475
Total Area-Wide Source Emissions	68,511	4,855	90,593
Total Mobile Source Emissions	21,426	62,269	5,293
Total Natural Source Emissions	88,330	621	14,783

Source: CARB 2015b
Note: Total may not add due to rounding.

[1] SJVAPCD Emissions for Aggregated Stationary, Area-Wide, Mobile and Natural Sources

Table 8-3 - Emission Inventory SJVAB – Kern County Portion 2020 Estimate Projection – Tons per Year

	ROG	NO_X	PM_{10}
Total Emissions	34,018	16,206	15,294
Percent Stationary Sources	45.49	17.34	11.46
Percent Area-Wide Sources	24.57	3.38	80.67
Percent Mobile Sources	10.19	79.06	5.97
Percent Natural Sources	19.74	0.23	1.67
Total Stationary Source Emissions	15,476	2,811	1,752
Total Area-Wide Source Emissions	8,359	548	12,337
Total Mobile Source Emissions	3,468	12,812	913
Total Natural Source Emissions	6,716	37	256
Source: CARB 2015b Note: Total may not add due to rounding.			

Table 8-4 - 2020 Emissions Projections – Proposed Project, Kern County, and San Joaquin Valley Air Basin

	ROG	NO_X	PM_{10}
Proposed Project	33.55	66.66	29.15
Kern County	34,018	16,206	15,294
SJVAB	214,292	78,037	116,180
Proposed Project Percent of Kern County	0.099	0.411	0.191
Proposed Project Percent of SJVAB	0.016	0.085	0.025
Kern County Percent of SJVAB	15.87	20.77	13.16
Source: CARB 2015b			

As shown above, the proposed project would pose no significant impact on regional O_3 and PM_{10} formation. Because the regional contribution to these cumulative impacts would be negligible, the proposed project would not be considered cumulatively considerable in its contribution to regional O_3 and PM_{10} impacts.

The most recent, certified SJVAB Emission Inventory data available from the CARB is based on data gathered for the 2012 annual inventory (CARB 2015a). This data will be used to assist the SJVAPCD in demonstrating attainment of Federal 8-hour O_3 Standards and contained 218,964 tons/year VOC (ROG) and 119,282 tons/year NOx from all sources (SJVAPCD 2015b). On a regional basis, the proposed project represents approximately 0.016% of the ROG and 0.038% of the NOx emissions of the 2012 inventory of the SJVAB. The projected emissions posed by the proposed project upon the air basin would be less than significant because basin emissions would be essentially the same whether or not the proposed project is built.

Cumulative Localized Air Quality Impacts

A review of the cumulative project lists provided by the City of Bakersfield and KCPD indicates that there are one hundred and four (104) other planned developments found within a six-mile radius of the proposed project. The proposed project is located within Kern County which requires a six-mile cumulative projects analysis. A cumulative projects list is provided in **Attachment E**. The summaries provided below in **Tables 8-5 and 8-6** are only a geographical reference to demonstrate the construction and operations emissions activity in the proposed project vicinity. The number or size of these projects is of no particular significance since no "cumulative" emissions thresholds have been established by the SJVAPCD or the KCPD. The cumulative project list emission estimates were

aggregated by land use activity: tentative tracts, tentative parcels and site plan reviews and as summarized in **Tables 8-5 and 8-6**.

Table 8-5 – Cumulative Construction Projects

Six-Mile Radius Projects	Pollutant (tons/year)(1)							
	ROG	NO_X	CO	SO_X	Fugitive PM_{10}	Exhaust PM_{10}	PM_{10}	$PM_{2.5}$
Tentative tracts subtotal	204.88	114.95	345.67	1.23	131.95	3.77	135.73	36.91
Tentative Parcel Maps Subtotal	3.43	13.51	11.21	0.02	0.77	0.77	1.54	1.05
Site Plan Review Subtotal	8.17	9.41	11.09	0.02	0.95	0.45	1.41	0.73
Total Cumulative Six-Mile Projects	216.48	137.87	367.97	1.27	133.67	4.99	138.68	38.69
This Proposed Project	*22.36*	*22.05*	*26.32*	*0.051*	*1.85*	*1.10*	*2.95*	*1.61*
Total Cumulative Projects	**238.84**	**159.92**	**394.29**	**1.32**	**135.52**	**6.09**	**141.63**	**40.30**

1. These emissions are overestimated and include all years of construction not just a single year, as they are discretionary projects that are subject to various mitigation measures that have not yet been determined nor their impacts reduced herein.

Table 8-6 – Cumulative Operations Projects

Six-Mile Radius Projects	Pollutant (tons/year)(1)							
	ROG	NO_X	CO	SO_X	Fugitive PM_{10}	Exhaust PM_{10}	PM_{10}	$PM_{2.5}$
City of Bakersfield								
Tentative tracts subtotal	162.77	272.39	941.99	3.22	152.26	8.83	161.09	49.3
Tentative Parcel Maps Subtotal	1.68	2.42	9.19	0.03	1.25	0.08	1.32	0.41
Site Plan Review Subtotal	22.9	53.82	243.12	0.55	24.67	2.33	27.00	8.89
Total Cumulative Six-Mile Projects	**187.35**	**328.63**	**1,194.30**	**3.80**	**178.18**	**11.24**	**189.41**	**58.60**
This Proposed Project	*33.55*	*66.66*	*277.80*	*0.61*	*27.82*	*1.54*	*29.36*	*8.93*
Total Cumulative Projects	**220.9**	**395.29**	**1472.1**	**4.41**	**206**	**12.78**	**218.77**	**67.53**

As details regarding the potential emissions from the various projects listed above were not readily available through the KCPD and BPD, the emissions estimates presented were modeled using the CalEEMod computer model to predict cumulative impacts (see **Attachment E** for output results) unless otherwise noted. Emissions for the construction and operational phases of each project were based on total number of lots or square footage for maximum project build-out as noted on the most current BPD Tentative Tract Map, Kern County GIS Geocortex Online Mapping information, and City of Bakersfield Cumulative Projects Map. No mitigation measures were applied to any of the projects as it is not known which, if any, would be required by KCPD or which may be voluntarily proposed by each developer or required by code or regulation. Additionally, no cumulative significance thresholds are shown since no cumulative thresholds have been established by the SJVAPCD, CARB or other regulatory authority. These projects represent all known and reasonably foreseeable projects in the area. As these projects are either currently under construction or, at a minimum, approved by the KCPD and BPD for consistency with applicable regulation, for the purposes of this analysis, it is assumed that they are in conformance with the regional AQAP. Because the proposed project would generate significant and unavoidable proposed project-related operational impacts to criteria air pollutants, the proposed project's contribution to cumulative air quality impacts would be cumulatively considerable.

Cumulative Hazardous Air Pollutants (HAPs)

The GAMAQI also states that when evaluating potential impacts related to HAPs, "*impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards.*" Dispersion modeling shows the proposed project will not exceed any NAAQs, CAAQs or health risk standards. Therefore, the proposed project would not be a significant source of HAPS and the proposed project would *not be expected to pose a significant cumulative CO or HAPs impact*.

Cumulative Carbon Monoxide (CO) - Mobile Sources

The SJVAPCD's GAMAQI has identified CO impacts from impacted traffic intersections and roadway segments as being potentially cumulatively considerable. Traffic increases and added congestion caused by a project can combine to cause a violation of the SJVAPCD's CO standard also known as a "Hotspot". There are two criteria established by the GAMAQI by which CO "Hot Spot" modeling is required:

- A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

A traffic impact study (McIntosh 2016) was prepared for this proposed project. This traffic impact study documents that all proposed project study intersections and roadway segments would operate at a LOS of C or better; these proposed project findings are within the GAMAQI significance criteria (SJVAPCD 2015a). Therefore, CO "Hotspot" Modeling was not conducted for this proposed project and no concentrated excessive CO emissions are expected to be caused once the proposed project is completed.

9.0 IMPACTS TO GLOBAL CLIMATE CHANGE

Global Climate Change Regulatory Issues

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United Nations Framework Convention on Climate Change established an agreement with the goal of controlling GHG emissions, including methane. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs. Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. The Montreal Protocol stipulates that the production and consumption of compounds that deplete O_3 in the stratosphere (chlorofluorocarbons [CFCs], halons, carbon tetrachloride, and methyl chloroform) were phased out by 2000 (methyl chloroform was phased out by 2005).

On September 27, 2006, Assembly Bill 32 (AB32), the California Global Warming Solutions Act of 2006 (the Act) was enacted by the State of California. The legislature stated, "global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California". The Act caps California's GHG emissions at 1990 levels by 2020. The Act defines GHG emissions as all of the following gases: carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. This agreement represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB32 lays out a program to inventory

and reduce GHG emissions in California and from power generation facilities located outside the state that serve California residents and businesses.

AB32 charges CARB with responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. CARB has adopted a list of discrete early action measures that can be implemented to reduce GHG emissions. CARB has defined the 1990 baseline emissions for California, and has adopted that baseline as the 2020 statewide emissions cap. CARB is conducting rulemaking for reducing GHG emissions to achieve the emissions cap by 2020. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the state's efforts to improve air quality.

Global warming and climate change have received substantial public attention for more than 20 years. For example, the United States Global Change Research Program was established by the Global Change Research Act of 1990 to enhance the understanding of natural and human-induced changes in the Earth's global environmental system, to monitor, understand and predict global change, and to provide a sound scientific basis for national and international decision-making. Even so, the analytical tools have not been developed to determine the effect on worldwide global warming from a particular increase in GHG emissions, or the resulting effects on climate change in a particular locale. The scientific tools needed to evaluate the impacts that a specific project may have on the environment are even farther in the future.

Global Climate Change Impacts from the Proposed Project

The Earth's atmosphere naturally includes a number of gases, including CO_2, methane, and nitrous oxides (N_2O) that are referred to as GHGs. These gases trap some amount of solar radiation and the Earth's own radiation, preventing it from passing through Earth's atmosphere and into space. GHGs are vital to life on Earth; without them Earth would be an icy planet. CO_2 is also a trace element that is essential to the cycle of life. It is essential to plant growth and studies have shown that vegetation growth has increased in North America commensurate with the increase in CO_2 over the past decades. However, increasing GHG concentrations tend to warm the planet. A warming trend of about 0.7°F to 1.5°F reportedly occurred during the 20th century, and a number of scientific analyses indicate that rising levels of GHGs in the atmosphere may be contributing to climate change.

As the average temperature of the Earth increases, weather may be affected, including changes in precipitation patterns, accumulation of snow pack, and intensity and duration of spring snowmelt. There may be rises in sea level, resulting in coastal erosion and inundation of coastal areas. Emissions of air pollutants and ambient levels of pollutants also may be affected in areas. Climate zones may change, affecting the ecology and biological resources of a region. There may be changes in fire hazards due to the changes in precipitation and climate zones.

While scientists have established a connection between increasing CO_2 concentrations and increasing average temperatures, important scientific questions remain about how much warming will occur, how fast it will occur, and how the warming will affect the rest of the climate system. At this point, scientific efforts are unable to quantify the degree to which human activity impacts climate change. The phenomenon is worldwide, yet it is expected that there will be substantial regional and local variability in climate changes. It is not possible with today's science to determine the effect of global climate change in a specific locale, or whether the effect of one aspect of climate change may be counteracted by another aspect of climate change, or exacerbated by it.

Human activities generate GHGs. Since pre-industrial times, there has been a build-up of levels of gases like CO_2 in the atmosphere. The human contribution to the increase in atmospheric CO_2 concentrations largely has resulted from the burning of fossil fuels. Fossil fuel combustion accounts for approximately 98% of CO_2 emissions from human activity.

The United States has the second highest emissions of GHGs of any nation on Earth, though CO_2 emissions in California are less than the national average, both in per capita emissions and in emissions per gross state product. Transportation is the largest source of CO_2 emissions in California, accounting for approximately 41% of total emissions. Electricity generation accounts for approximately 22% of CO_2 emissions in California, and the industrial sector accounts for approximately 20.5%.

There are a number of factors available for estimating the GHG emissions. Not all GHG exhibit the same ability to induce climate change; as a result, GHG contributions are commonly quantified in carbon dioxide equivalencies (CO_2e). The proposed project's construction and operational GHG emissions were estimated using the CalEEMOD program. These emissions are summarized in **Table 9-1** and can be found in **Attachment E**. BAU emissions were calculated based on the proposed project activities using 2005 regulations and technologies built into CalEEMod, available as defaults. According to the SJVAPCD, in order for the proposed project to conform with the goals of AB32 at least a 29% reduction from the 2002-2004 BAU period by 2020 must be demonstrated (SJVAPCD 2009). Because 2002-2004 emission factors are not available in CalEEMod, year 2005 was used for BAU. Using 2005 as BAU results in more conservative emission reduction estimations as the emission factors in 2005 are lower (more efficient), thereby producing a smaller reduction between mitigated and BAU. Mitigated proposed project emissions were calculated using updated emission factors from CalEEMod for the anticipated years of operation and corresponding land uses. The 2005 BAU and Mitigated proposed project emissions are summarized in **Tables 9-1 and 9-2** and can be found in **Attachment E**.

Table 9-1 – Estimated Annual GHG Emissions (Tons/Year)

Source	CO_2	CH_4	N_2O	CO_2e
Construction Emissions				
2016 Construction Emissions	195.03	0.04	0.00	195.86
2017 Construction Emissions	536.28	0.07	0.00	537.67
2018 Construction Emissions	718.28	0.10	0.00	720.46
2019 Construction Emissions	361.72	0.06	0.00	362.99
2020 Construction Emissions	337.31	0.04	0.00	338.18
2021 Construction Emissions	685.16	0.10	0.00	687.26
2022 Construction Emissions	348.46	0.06	0.00	349.70
2023 Construction Emissions	333.10	0.04	0.00	333.93
2024 Construction Emissions	681.33	0.10	0.00	683.40
Operational Emissions				
Area Emissions	0.05	0.0001	0.00	0.05
Energy Emissions	10,814	0.41	0.13	10,862
Mobile Emissions	43,523	0.94	0.00	43,543
Waste Emissions	689.03	40.72	0.00	1,544.2
Water Emissions	1,103.1	18.64	0.45	1,633.0
Total Proposed Project Operational Emissions	*56,129*	*60.7*	*0.58*	*57,582*
Annualized Construction Emissions[1]	*139.89*	*0.02*	*0.00*	*140.32*
Proposed Project Emissions	**62,301**	**54.44**	**0.55**	**63,614**

*Note: 0.00 could represent <0.00
1 Per South Coast AQMD's Methodology: Construction emissions are annualized over a 30 year period.

Table 9-2 – Comparison of BAU and Proposed Project Mitigated Emissions (Tons/Year)

	2011 BAU	Proposed Project Mitigated (2020)
CO2e Emissions	85,842	57,582
Percent Reduction		33%

The proposed project will not result in the emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), or sulfur hexafluoride (SF_6), the other gases identified as GHG in AB32. The proposed project will be subject to any regulations developed under AB32 as determined by CARB. As demonstrated in **Table 9-2** the required 29% reduction needed to conform with AB32 goals will be reached with already in place state regulations for mobile sources such as low carbon fuel standards, therefore, the proposed project would be considered *less than significant*.

Feasible and Reasonable Mitigation Relative to Global Warming

CEQA requires that all feasible and reasonable mitigation be applied to the project to reduce the impacts from construction and operations on air quality. The SJVAPCD's "Non-Residential On-Site Mitigation Checklist" was utilized in preparing the mitigation measures and evaluating the projects features. These measures include using controls that limit the exhaust from construction equipment and using alternatives to diesel when possible. Additional reductions would be achieved through the regulatory process of the air district and CARB as required changes to diesel engines are implemented which would affect the product delivery trucks and limits on idling.

While it is not possible to determine whether the proposed project individually would have a significant impact on global warming or climate change, the proposed project would potentially contribute to cumulative GHG emissions in California as well as related health effects. The proposed project emissions would only be a very small fraction of the statewide GHG emissions. However, without the necessary science and analytical tools, it is not possible to assess, with certainty, whether the proposed project's contribution would be cumulatively considerable, within the meaning of CEQA Guidelines Sections 15065(a)(3) and 15130. CEQA, however, does note that the more severe environmental problems the lower the thresholds for treating a project's contribution to cumulative impacts as significant. Given the position of the legislature in AB32 which states that global warming poses serious detrimental effects, and the requirements of CEQA for the lead agency to determine that a project not have a cumulatively considerable contribution, the effect of the proposed project's CO_2 contribution may be considered cumulatively considerable. This determination is based on the lack of clear scientific evidence or other criteria for determining the significance of the proposed project's contribution of GHG to the air quality in the SJVAB. The strategies currently being implemented by CARB may help in reducing the proposed project's GHG emissions and are summarized in the table below.

Table 9-3 – Select CARB GHG Emission Reduction Strategies

Strategy	Description of Strategy
Vehicle Climate Change Standards	AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in Sept. 2004.
Diesel Anti-Idling	In July 2004, CARB adopted a measure to limit diesel-fueled retail motor vehicle idling.
Other Light-Duty Vehicle Technology	New standards would be adopted to phase in beginning in the 2017 model year.
Alternative Fuels: Biodiesel Blends	CARB would develop regulations to require the use of 1% to 4% Biodiesel displacement of California diesel fuel.

Alternative Fuels: Ethanol	Increased use of ethanol fuel.
Heavy-Duty Vehicle Emission Reduction Measures	Increased efficiency in the design of heavy-duty vehicles and an educational program for the heavy-duty vehicle sector.

Not all of these measures are currently appropriate or applicable to the proposed project. While future legislation could further reduce the proposed project's GHG footprint, the analysis of this is speculative and in accordance with CEQA Guidelines Section 15145, will not be further evaluated in this AQIA.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis. Global climate change is this type of issue. The causes and effects may not be just regional or statewide, they may also be worldwide. Given the uncertainties in identifying, let alone quantifying the impact of any single project on global warming and climate change, and the efforts made to reduce emissions of GHGs from the proposed project through design, in accordance with CEQA Section 15130, any further feasible emissions reductions would be accomplished through CARB regulations adopted pursuant to AB32. The cumulative impacts of the proposed project to global climate change as demonstrated in **Table 9-2** will achieve the required 29% reduction needed to conform with AB32 goals. Therefore, the cumulative impacts to global climate change would be *less than significant.*

10.0 CONSISTENCY WITH THE AIR QUALITY ATTAINMENT PLAN

Air quality impacts from proposed projects within Kern County are controlled through policies and provisions of the SJVAPCD and the Kern County General Plan (SJVAPCD 2015a; Kern County 2004). In order to demonstrate that a proposed project would not cause further air quality degradation in either of the SJVAPCD's plan to improve air quality within the air basin or federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for O_3 and PM_{10}. The SJVAPCD is required to submit a "Rate of Progress" document to the CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The California Clean Air Act (CCAA) requires the local air districts with severe or extreme air quality problems to provide for a 5% reduction in non-attainment emissions per year. The SJVAPCD's San Joaquin Valley AQAP complies with this requirement. CARB reviews, approves or amends the document and forwards the plan to the EPA for final review and approval within the SIP.

Air pollution sources associated with stationary sources are regulated through the SJVAPCD permitting authority under the New and Modified Stationary Source Review Rule (SJVAPCD Rule 2201). Owners of any new or modified equipment that emits, reduces or controls air contaminants, except those specifically exempted by the SJVAPCD, are required to apply for an Authority to Construct and Permit to Operate (SJVAPCD Rule 2010). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and are required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (SJVAPCD Rule 2201, 4.7.1). Through this mechanism, the SJVAPCD would ensure that all stationary sources within a project area would be subject to the standards of the SJVAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

Required Evaluation Guidelines

State CEQA Guidelines and the Federal Clean Air Act (Sections 176 and 316) contain specific references on the need to evaluate consistencies between a proposed project and the applicable

AQAP for the project site. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. *Determination that an AQAP is being implemented in the area where the project is being proposed*. The SJVAPCD has implemented the current, modified, AQAP as approved by the CARB. The current AQAP is under review by the U.S. EPA.
2. *The proposed project must be consistent with the growth assumptions of the applicable AQAP*. The proposed project is included within the employment increases projected in the Metropolitan Bakersfield and Kern County General Plans (Table 10-1).
3. *The project must contain in its design all reasonably available and feasible air quality control measures*. The proposed project incorporates various policy and rule-required implementation measures that will reduce related emissions.

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process such as providing electrical outlets on exterior walls of structures to encourage use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time.

As the growth represented by the proposed project was anticipated by the Kern County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

1. The findings of the analysis conducted using Traffic Analysis Zones show that sufficient employment increases are planned for the project area;
2. That, by definition, the proposed emissions from the proposed project are below the SJVAPCD's established emissions impact thresholds; and
3. That the primary source of emissions from the proposed project would be motor vehicles which would be licensed through the State of California and whose emissions are already incorporated into the CARB's San Joaquin Valley Emissions Inventory.

Based on these factors, the proposed project *appears to be consistent with the AQAP*.

Consistency with the Kern Council of Government's Regional Conformity Analysis

The Kern Council of Governments (Kern COG) Regional Conformity Analysis Determination demonstrates that the regional transportation expenditure plans (Destination 2030 Regional Transportation Plan and Federal Transportation Improvement Program) in the Kern County portion of the San Joaquin Valley air quality attainment areas would not hinder the efforts set out in the CARB's SIP for each area's non-attainment pollutants (CO, O_3 and PM_{10}). The analysis uses an adopted regional growth forecast, governed by both the adopted Kern COG Policy and Procedure Manual and a Memorandum of Understanding between the County of Kern and Kern COG (representing itself and outlying municipal member agencies).

The Kern COG Regional Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Kern County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Regional Conformity Analysis were not incorporated into the Kern COG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast. Item 2 under Section 3 – Model Maintenance Procedure, of the Kern COG Regional Transportation Modeling Policy and Procedure Manual states "*Land Use Data*

– General Plan land capacity data or "Build -out capacity" is used to distribute the forecasted County totals, and may be updated as new information becomes available, and is revised in regular consultation with local planning departments." Under the current Kern County Zoning, the proposed project site is designated as "A" for "Exclusive Agriculture' and would be included in the regional growth forecast (see **Figure 10-1**).



Exclusive Agriculture

Figure 10-1 – Kern County Zoning

In addition, a review of Kern COG regional forecast was prepared to evaluate if the proposed project area growth forecast would be sufficient to account for the proposed project's projected employment increase. The adopted growth forecasts are assigned to Traffic Analysis Zones (TAZ) (see **Figure 10-2**); a review of the growth forecast for a six mile radius from a project presents a conservative assessment of the proposed project area.

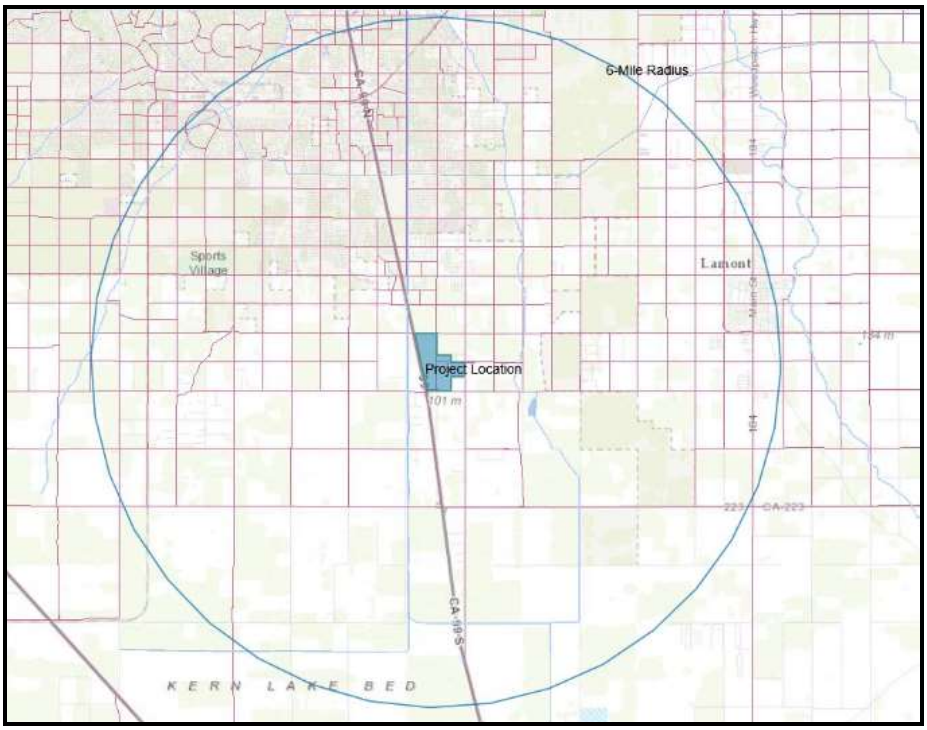


Figure 10-2 – TAZ Six -Mile Analysis Area

Tables 10-1 and 10-2 present the summary of the TAZ growth forecast data for the proposed project's six mile radius. 1,849 additional jobs are forecast between 2015 through 2020; 5,795 additional jobs are forecast between 2015 and 2030 (**Table 10-1**). Kern COG has predicted an increase in growth in population (+6%), an increase in growth in housing (+9%) and an increase in employment (+7%) between 2015 and 2020 (**Table 10-2**). It is anticipated that there would be sufficient employment entitlements forecast for the TAZ analysis area to account for 100% of the proposed project's employment increase at 2030. In order to be considered "consistent" and, therefore, in conformance with the AQAP, these increases would need to occur over the same time as the adopted growth forecast. The proposed project existing growth forecast to 2020 does accommodate the increase in employment as a result of the proposed project.

Table 10-1 – TAZ Analysis Area Projected Growth Analysis[2]

Years:	2015	2020	2030
Population	128,388	136,471	164,550
Households	37,429	40,811	49,703
Employment	27,895	29,744	33,690

Table 10-2 provides the percent increase/decrease for the analysis area population, households and employment.

Table 10-2 – Percent Increase/Decrease on TAZ Analysis Area

Years	Percent Increase / Decrease		
	Population	Households	Employment
2015*	0	0	0
2020	6	9	7
2030	28	33	21

[2] Kern Council of Governments Regional Conformity Analysis Data, 2012

*Baseline year of 2015 was valued at "0" to measure net percent increase/decrease.

The proposed project is consistent with the existing land use designation and is currently located within an existing TAZ. While there is sufficient employment growth forecast to account for employment growth by 2030, the existing growth forecast may need to be modified to reflect the proposed project timing of employment increase in the TAZ. The proposed project would be considered consistent with the adopted growth forecast and, therefore, in conformance with the SJVAB's AQAP.

11.0 MITIGATION AND OTHER RECOMMENDED MEASURES

As the estimated construction and operational emissions from the proposed project would be *significant and unavoidable*, mitigation measures would be required. To ensure that proposed project is in compliance with all applicable SJVAPCD rules and regulations and emissions are reduced to the greatest extent possible, the applicant would be required to implement and comply with a number of measures by regulation and would result in further emission reductions through their inclusion in proposed project construction and long-term design. The following measures have been applied to the proposed project as SJVAPCD rules and regulations and conditions of approval and through the CalEEMod model analysis:

SJVAPCD Required PM_{10} Reduction Measures

As the proposed project would be completed in compliance with SJVAPCD Regulation VIII, dust control measures would be taken to ensure compliance specifically during grading and construction phases. The required Regulation VII measures are as follows:

- Water previously exposed surfaces (soil) whenever visible dust is capable of drifting from the site or approaches 20% opacity.
- Water all unpaved haul roads a minimum of three-times/day or whenever visible dust from such roads is capable of drifting from the site or approaches 20% opacity.
- Reduce speed on unpaved roads to less than 15 miles per hour.
- Install and maintain a track out control device that meets the specifications of SJVAPCD Rule 8041 if the site exceeds 150 vehicle trips per day or more than 20 vehicle trips per day by vehicles with three or more axles.
- Stabilize all disturbed areas, including storage piles, which are not being actively utilized for production purposes using water, chemical stabilizers or by covering with a tarp or other suitable cover.
- Control fugitive dust emissions during land clearing, grubbing, scraping, excavation, leveling, grading, or cut and fill operations with application of water or by presoaking.
- When transporting materials offsite, maintain a freeboard limit of at least 6 inches and cover or effectively wet to limit visible dust emissions.
- Limit and remove the accumulation of mud and/or dirt from adjacent public roadways at the end of each workday. (Use of dry rotary brushes is prohibited except when preceded or accompanied by sufficient wetting to limit visible dust emissions and use of blowers is expressly forbidden).
- Stabilize the surface of storage piles following the addition or removal of materials using water or chemical stabilizer/suppressants.
- Remove visible track-out from the site at the end of each workday.
- Cease grading or other activities that cause excessive (greater than 20% opacity) dust formation during periods of high winds (greater than 20 mph over a one-hour period).

Recommended Measures to Reduce Equipment Exhaust

In addition, the GAMAQI guidance document lists the following measures as approved and recommended for construction activities. These measures are recommended:

- Maintain all construction equipment as recommended by manufacturer manuals.
- Shut down equipment when not in use for extended periods.
- Construction equipment shall operate no longer than eight (8) cumulative hours per day.
- Use electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment.
- Curtail use of high-emitting construction equipment during periods of high or excessive ambient pollutant concentrations.
- All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NO_x emissions.
- On-Road and Off-Road diesel equipment shall use diesel particulate filters if permitted under manufacturer's guidelines.
- On-Road and Off-Road diesel equipment shall use cooled exhaust gas recirculation (EGR) if permitted under manufacturer's guidelines.
- All construction workers shall be encouraged to shuttle (car-pool) to retail establishments or to remain on-site during lunch breaks.
- All construction activities within the proposed project area shall be discontinued during the first stage smog alerts.
- Construction and grading activities shall not be allowed during first stage O_3 alerts. First stage O_3 alerts are declared when the O_3 level exceeds 0.20 ppm (1-hour average).

Other Measures to Reduce Proposed Project Impacts

The following measures are recommended to further reduce the potential for long-term emissions from the proposed project. These measures are required as a matter of regulatory compliance:

- The proposed project design shall comply with applicable standards set forth in Title 24 of the Uniform Building Code to minimize total consumption of energy.
- Applicants shall be required to comply with applicable mitigation measures in the AQAP, SJVAPCD Rules, Traffic Control Measures, Regulation VIII and Indirect Source Rules for the SJVAPCD.
- The developer shall comply with the provisions of SJVAPCD Rule 4601 - Architectural Coatings, during the construction of all buildings and facilities. Application of architectural coatings shall be completed in a manner that poses the least emissions impacts whenever such application is deemed proficient.
- The applicant shall comply with the provisions of SJVAPCD Rule 4641 during the construction and pavement of all roads and parking areas within the proposed project area. Specifically, the applicant shall not allow the use of:
    - Rapid cure cutback asphalt;
    - Medium cure cutback asphalt;
    - Slow cure cutback asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.3); or Emulsified asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.4).
    - The developer shall comply with applicable provisions of SJVAPCD Rule 9510 (Indirect Source Review).

12.0 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project would have short-term air quality impacts due to facility construction activities as well as vehicular emissions. Both of these impacts would be mitigated to the greatest extent

possible and *were found to be less than significant*.

The proposed project would result in long-term air quality impacts due to operational and related mobile source emissions. These impacts would be reduced to the extent feasible and *were found to be significant and unavoidable*.

The proposed project in conjunction with other past, present and foreseeable future projects will result in cumulative short-term and long-term impacts to air quality. The proposed project's incremental contribution to these impacts would be mitigated to the extent feasible, however, the impacts would be considered cumulatively considerable based on long-term impacts. Therefore, the project's contribution to cumulative impacts *were found to be significant and unavoidable*.

The proposed project in conjunction with other past, present and foreseeable future projects would result in cumulative long-term impacts to global climate change. The proposed project's incremental contribution to these impacts will be mitigated to the extent feasible and would be considered *less than significant.*

13.0 ATTACHMENTS

A. Ozone Concentration Data
B. PM_{10} and $PM_{2.5}$ Concentration Data
C. SOx, NOx, and CO Concentration Data
D. Lead Concentration Data
E. Proposed Project Emissions Calculations
    - Proposed Project - CalEEMod v.2013.2.2 Output
    - Cumulative Projects – CalEEMod v.2013.2.2 Output
    - GHG BAU – CalEEMod v.2013.2.2 Output
F. Ambient Air Quality Analysis
    - AAQA Emissions
    - Summary Results
    - AERMOD Modeling Files (Electronic)
G. Health Risk Assessment
    - HRA Emissions
    - AERMOD and HARP2 Modeling Files (Electronic)
H. California Air Resources Board 2012 Estimated Annual Average Emissions –
    - San Joaquin Valley Air Basin
    - Kern County
I. California Air Resources Board – 2020 Forecasted Annual Average Emissions
    - San Joaquin Valley Air Basin
    - Kern County

14.0 REFERENCES

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ATTACHMENT A

Ozone Concentration Data

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

iADAM
at Edison

	2012		2013		2014	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Jul 11	0.118	Jul 19	0.101	Jun 30	0.107
Second High:	Jul 10	0.113	Jul 20	0.095	Jun 9	0.104
Third High:	Aug 10	0.111	Jun 8	0.093	Sep 15	0.103
Fourth High:	Aug 28	0.108	Jul 9	0.092	Sep 23	0.102
California:						
# Days Above the Standard:		22		2		15
California Designation Value:		0.12		0.11		0.11
Expected Peak Day Concentration:		0.118		0.110		0.108
National:						
# Days Above the Standard:		0		0		0
Nat'l Standard Design Value:		0.118		0.113		0.108
Year Coverage:		99		100		95

◄ Shift Backward [1 year] Shift Forward ►

Notes:
Hourly ozone measurements and related statistics are available at Edison between 1981 and 2014. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Statistics related to the revoked standard are shown in italics or italics.

yellow exceeds a California ambient air quality standard. orange exceeds the revoked 1-hour national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

iADAM

at Bakersfield-5558 California Avenue

	2012		2013		2014	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Jul 11	0.102	Jun 8	0.107	Sep 13	0.102
Second High:	Jun 1	0.101	Jun 7	0.097	Sep 11	0.098
Third High:	Jun 16	0.100	Sep 7	0.095	Oct 24	0.098
Fourth High:	Sep 22	0.099	Jul 20	0.091	Jun 8	0.094
California:						
# Days Above the Standard:		9		3		3
California Designation Value:		0.10		0.10		0.10
Expected Peak Day Concentration:		0.104		0.101		0.100
National:						
# Days Above the Standard:		0		0		0
Nat'l Standard Design Value:		0.104		0.101		0.101
Year Coverage:		97		97		83

◄ Shift Backward [1 year] Shift Forward ►

Notes:
Hourly ozone measurements and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2014. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Statistics related to the revoked standard are shown in italics or italics.

yellow exceeds a California ambient air quality standard. orange exceeds the revoked 1-hour national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

iADAM

at Bakersfield-Municipal Airport

	2012		2013		2014	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Jul 10	0.120	Jun 8	0.109	Jun 9	0.108
Second High:	Jul 11	0.119	Jul 19	0.100	Sep 11	0.106
Third High:	Aug 13	0.114	Jul 20	0.100	Jul 25	0.104
Fourth High:	Aug 28	0.113	Aug 31	0.100	Sep 13	0.104
California:						
# Days Above the Standard:		33		6		10
California Designation Value:		0.12		0.12		0.12
Expected Peak Day Concentration:		*		*		0.117
National:						
# Days Above the Standard:		0		0		0
Nat'l Standard Design Value:		0.120		0.119		0.114
Year Coverage:		93		82		95

◄ Shift Backward [1 year] Shift Forward ►

Notes:
Hourly ozone measurements and related statistics are available at Bakersfield-Municipal Airport between 2012 and 2014. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Statistics related to the revoked standard are shown in italics or italics.

yellow exceeds a California ambient air quality standard. orange exceeds the revoked 1-hour national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

iADAM
at Edison

	2012		2013		2014	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:	Aug 10	0.094	Jul 20	0.086	Jun 9	0.091
Second High:	Jul 10	0.090	Jun 8	0.082	Jun 30	0.089
Third High:	Jul 11	0.089	Jul 9	0.080	Sep 11	0.086
Fourth High:	Jun 1	0.088	Jul 19	0.079	Sep 12	0.085
California:						
First High:	Aug 10	0.094	Jul 20	0.086	Jun 9	0.092
Second High:	Jul 10	0.091	Jun 8	0.082	Jun 30	0.090
Third High:	Jul 11	0.090	Jul 9	0.080	Sep 11	0.086
Fourth High:	Jun 1	0.089	Jul 19	0.080	Sep 15	0.086

National:			
# Days Above the Standard:	42	8	24
Nat'l Standard Design Value:	0.093	0.086	0.084
National Year Coverage:	100	99	95
California:			
# Days Above the Standard:	79	21	55
California Designation Value:	0.102	0.097	0.094
Expected Peak Day Concentration:	0.103	0.099	0.094
California Year Coverage:	99	99	92

◄ Shift Backward [1 year] Shift Forward ►

Notes:
Eight-hour ozone averages and related statistics are available at Edison between 1981 and 2014. Some years in this range may not be represented.

All averages expressed in parts per million.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

iADAM

at Bakersfield-5558 California Avenue

	2012		2013		2014	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:	Jul 11	0.095	Jun 8	0.098	Sep 11	0.092
Second High:	Jun 1	0.093	Jun 7	0.089	Sep 12	0.086
Third High:	Jul 10	0.089	Jun 1	0.084	Oct 7	0.086
Fourth High:	Aug 10	0.087	Jul 4	0.084	Jun 9	0.084
California:						
First High:	Jul 11	0.096	Jun 8	0.099	Sep 11	0.093
Second High:	Jun 1	0.094	Jun 7	0.089	Sep 12	0.086
Third High:	Jul 10	0.089	Jun 1	0.085	Oct 7	0.086
Fourth High:	Aug 10	0.088	Jul 4	0.085	Jun 9	0.085

National:			
# Days Above the Standard:	56	22	20
Nat'l Standard Design Value:	0.089	0.086	0.085
National Year Coverage:	97	98	83
California:			
# Days Above the Standard:	83	47	39
California Designation Value:	0.098	0.094	0.093
Expected Peak Day Concentration:	0.098	0.094	0.093
California Year Coverage:	96	98	81

◄ Shift Backward [1 year] Shift Forward ►

Notes:

Eight-hour ozone averages and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2014. Some years in this range may not be represented.

All averages expressed in parts per million.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

iADAM

at Bakersfield-Municipal Airport

	2012		2013		2014	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:	Jul 11	0.107	Jun 8	0.102	Sep 11	0.095
Second High:	Jul 10	0.103	Jun 7	0.094	Sep 12	0.089
Third High:	Aug 10	0.103	Jul 20	0.093	Jun 9	0.087
Fourth High:	Aug 11	0.099	Jul 4	0.087	Aug 8	0.087
California:						
First High:	Jul 11	0.108	Jun 8	0.103	Sep 11	0.095
Second High:	Jul 10	0.103	Jun 7	0.095	Sep 12	0.090
Third High:	Aug 10	0.103	Jul 20	0.093	Jun 9	0.088
Fourth High:	Aug 11	0.100	Jul 4	0.088	Aug 8	0.088

National:			
# Days Above the Standard:	61	23	32
Nat'l Standard Design Value:	*	*	0.091
National Year Coverage:	92	82	95
California:			
# Days Above the Standard:	75	56	60
California Designation Value:	0.108	0.108	0.108
Expected Peak Day Concentration:	*	*	*
California Year Coverage:	58	81	94

◄ Shift Backward [1 year] Shift Forward ►

Notes:

Eight-hour ozone averages and related statistics are available at Bakersfield-Municipal Airport between 2012 and 2014. Some years in this range may not be represented.

All averages expressed in parts per million.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

ATTACHMENT B

PM_{10} and $PM_{2.5}$ Concentration Data

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

iADAM

at Oildale-3311 Manor Street

	2012		2013		2014	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Jan 10	91.1	Nov 12	134.3	Oct 14	336.4
Second High:	Oct 18	86.7	Dec 30	111.6	Jan 23	334.0
Third High:	Nov 5	85.0	Nov 18	98.5	Jun 10	310.7
Fourth High:	Jan 4	83.1	Oct 25	96.8	Jan 17	147.0
California:						
First High:	Jan 10	94.7	Nov 12	138.0	Jan 23	335.6
Second High:	Jan 4	87.2	Dec 30	115.4	Oct 14	328.2
Third High:	Nov 5	86.1	Nov 18	101.4	Jun 10	296.4
Fourth High:	Oct 18	85.7	Dec 13	100.2	Jan 17	150.6

National:			
Estimated # Days > 24-Hour Std:	0.0	0.0	*
Measured # Days > 24-Hour Std:	0	0	3
3-Yr Avg Est # Days > 24-Hr Std:	0.0	0.0	*
Annual Average:	40.4	51.7	56.7
3-Year Average:	38	44	50
California:			
Estimated # Days > 24-Hour Std:	75.2	*	*
Measured # Days > 24-Hour Std:	12	27	20
Annual Average:	40.5	*	*
3-Year Maximum Annual Average:	41	41	41
Year Coverage:	94	100	95

◄ Shift Backward [1 year] Shift Forward ►

Notes:

Daily PM10 averages and related statistics are available at Oildale-3311 Manor Street between 1988 and 2014. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in italics or italics.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.

State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

iADAM

at Bakersfield-5558 California Avenue

	2012		2013		2014	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Nov 14	99.6	Jun 9	120.7	Oct 14	430.1
Second High:	Sep 27	88.9	Aug 20	110.2	Nov 27	80.9
Third High:	Sep 20	80.0	Jan 23	100.1	Oct 20	76.2
Fourth High:	Jan 6	78.7	May 4	86.3	Oct 2	73.0
California:						
First High:	Jan 13	125.8	Jun 9	116.9	Oct 14	419.5
Second High:	Jan 11	118.3	Aug 20	106.2	Nov 27	82.7
Third High:	Jan 1	117.7	Jan 23	103.3	Oct 20	75.4
Fourth High:	Jan 14	116.6	May 4	84.0	Oct 2	71.8

National:			
Estimated # Days > 24-Hour Std:	0.0	*	*
Measured # Days > 24-Hour Std:	0	0	1
3-Yr Avg Est # Days > 24-Hr Std:	0.0	*	*
Annual Average:	40.4	47.0	55.9
3-Year Average:	36	41	49
California:			
Estimated # Days > 24-Hour Std:	89.4	*	*
Measured # Days > 24-Hour Std:	55	16	69
Annual Average:	41.4	*	*
3-Year Maximum Annual Average:	44	41	41
Year Coverage:	97	46	58

◄ Shift Backward [1 year] Shift Forward ►

Notes:

Daily PM10 averages and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2014. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in italics or italics.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.

State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

iADAM

at Bakersfield-410 E Planz Road

	2012		2013		2014	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Nov 26	52.5	May 5	167.3	Nov 7	91.0
Second High:	Dec 11	47.0	Dec 18	111.0	Nov 1	81.6
Third High:	Nov 14	40.6	Dec 16	96.7	Jan 2	76.7
Fourth High:	Jan 31	39.1	Dec 15	83.6	Jan 5	69.5
California:						
First High:	Nov 26	52.5	May 5	167.3	Nov 7	91.0
Second High:	Dec 11	47.0	Dec 18	111.0	Nov 1	81.6
Third High:	Nov 14	40.6	Dec 16	96.7	Jan 2	76.7
Fourth High:	Jan 31	39.1	Dec 15	83.6	Jan 5	69.5

National:			
Estimated # Days > 24-Hour Std:	21.8	49.4	*
Measured # Days > 24-Hour Std:	7	15	15
24-Hour Standard Design Value:	47	60	71
24-Hour Standard 98th Percentile:	40.6	96.7	76.7
Annual Standard Design Value:	15.6	17.3	19.7
Annual Average:	14.6	22.7	21.6
California:			
Annual Std Designation Value:	15	15	15
Annual Average:	14.7	*	*
Year Coverage:	98	92	96

◄ Shift Backward [1 year] Shift Forward ►

Notes:
Daily PM2.5 averages and related statistics are available at Bakersfield-410 E Planz Road between 2000 and 2014. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

iADAM

at Bakersfield-Golden State Highway

	2012		2013		2014	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:		*		*	Nov 8	107.2
Second High:		*		*	Dec 10	42.9
Third High:		*		*	Oct 14	32.3
Fourth High:		*		*	Dec 28	29.1
California:						
First High:		*		*	Nov 8	107.2
Second High:		*		*	Dec 10	42.9
Third High:		*		*	Oct 14	32.3
Fourth High:		*		*	Dec 28	29.1
National:						
Estimated # Days > 24-Hour Std:		*		*		*
Measured # Days > 24-Hour Std:		0		0		2
24-Hour Standard Design Value:		*		*		*
24-Hour Standard 98th Percentile:		*		*		107.2
Annual Standard Design Value:		*		*		*
Annual Average:		*		*		*
California:						
Annual Std Designation Value:		*		*		*
Annual Average:		*		*		*
Year Coverage:		*		*		32

◄ Shift Backward [1 year] Shift Forward ►

Notes:
Daily PM2.5 averages and related statistics are available at Bakersfield-Golden State Highway between 1999 and 2014. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

iADAM

at Bakersfield-5558 California Avenue

	2012		2013		2014	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Jan 1	86.5	Dec 18	111.7	Nov 9	101.9
Second High:	Jan 12	70.3	Dec 17	106.9	Nov 8	96.1
Third High:	Jan 14	65.5	Dec 16	93.0	Nov 10	90.0
Fourth High:	Jan 13	64.2	Dec 15	89.0	Jan 1	84.3
California:						
First High:	Jan 1	86.5	Dec 18	114.9	Nov 9	101.9
Second High:	Jan 12	71.1	Dec 17	106.9	Nov 8	96.7
Third High:	Jan 14	67.3	Dec 16	93.0	Nov 10	90.6
Fourth High:	Jan 13	66.7	Dec 15	89.0	Jan 1	84.3

	2012	2013	2014
National:			
Estimated # Days > 24-Hour Std:	24.4	50.4	39.3
Measured # Days > 24-Hour Std:	22	44	37
24-Hour Standard Design Value:	58	65	69
24-Hour Standard 98th Percentile:	56.4	71.8	79.9
Annual Standard Design Value:	14.5	16.4	17.2
Annual Average:	13.0	19.9	18.5
California:			
Annual Std Designation Value:	18	18	19
Annual Average:	17.9	*	18.6
Year Coverage:	94	92	95

◄ Shift Backward [1 year] Shift Forward ►

Notes:
Daily PM2.5 averages and related statistics are available at Bakersfield-5558 California Avenue between 1999 and 2014. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

ATTACHMENT C

SOx, NOx and CO Concentration Data

Top 4 Summary: Highest 4 Daily Maximum State 24-Hour Sulfur Dioxide Averages

iADAM

at Sacramento-Del Paso Manor

	2012		2013		2014	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
First High:	Aug 14	0.002	Apr 22	0.002		*
Second High:	Jul 4	0.001	May 11	0.002		*
Third High:	Jul 2	0.001	Apr 28	0.001		*
Fourth High:	Jan 9	0.001	Apr 27	0.001		*
Annual Average:		*		*		*
Year Coverage:		67		*		*

◄ Shift Backward [1 year] Shift Forward ►

Notes:
Hourly sulfur dioxide measurements and related statistics are available at Sacramento-Del Paso Manor between 1980 and 2012. Some years in this range may not be represented.

All averages expressed in parts per million.

yellow exceeds a California ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

iADAM
at Edison

	2012		2013		2014	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Nov 15	47.0	Jan 23	47.0	Nov 5	35.0
Second High:	Jan 11	42.0	Dec 17	45.0	Jan 2	31.0
Third High:	Jan 20	39.0	Dec 18	42.0	Jan 16	31.0
Fourth High:	Jan 13	38.0	Jan 9	36.0	Jan 21	31.0
California:						
First High:	Nov 15	47	Jan 23	47	Nov 5	35
Second High:	Jan 11	42	Dec 17	45	Jan 2	31
Third High:	Jan 20	39	Dec 18	42	Jan 16	31
Fourth High:	Jan 13	38	Jan 9	36	Jan 21	31

National:			
1-Hour Standard Design Value:	34	35	34
1-Hour Standard 98th Percentile:	36.0	34.0	30.5
# Days Above the Standard:	0	0	0
Annual Standard Design Value:	7	6	6
California:			
1-Hour Std Designation Value:	40	40	40
Expected Peak Day Concentration:	42	42	41
# Days Above the Standard:	0	0	0
Annual Std Designation Value:	7	7	7
Annual Average:	7	6	*
Year Coverage:	97	94	86

◄ Shift Backward [1 year] Shift Forward ►

Notes:
Hourly nitrogen dioxide measurements and related statistics are available at Edison between 1988 and 2014. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

iADAM

at Bakersfield-5558 California Avenue

	2012		2013		2014	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Oct 1	64.0	Oct 18	55.4	Oct 6	60.9
Second High:	Nov 7	63.0	Oct 21	54.5	Oct 29	58.9
Third High:	Nov 5	62.0	Oct 19	53.8	Nov 10	58.5
Fourth High:	Nov 6	62.0	Oct 22	52.0	Oct 7	58.4
California:						
First High:	Oct 1	64	Oct 18	55	Oct 6	60
Second High:	Nov 7	63	Oct 21	54	Oct 7	58
Third High:	Nov 5	62	Oct 19	53	Oct 29	58
Fourth High:	Nov 6	62	Oct 22	52	Nov 10	58

National:			
1-Hour Standard Design Value:	58	*	*
1-Hour Standard 98th Percentile:	56.0	51.0	58.9
# Days Above the Standard:	0	0	0
Annual Standard Design Value:	15	13	*
California:			
1-Hour Std Designation Value:	70	60	60
Expected Peak Day Concentration:	69	64	64
# Days Above the Standard:	0	0	0
Annual Std Designation Value:	15	15	15
Annual Average:	15	*	*
Year Coverage:	95	75	42

◄ Shift Backward [1 year] Shift Forward ►

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Bakersfield-5558 California Avenue between 1994 and 2014. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

iADAM

at Bakersfield-Municipal Airport

	2012		2013		2014	
	Date	Measurement	Date	Measurement	Date	Measurement
National:						
First High:	Nov 7	65.0	Oct 24	65.0	Jan 2	64.0
Second High:	Oct 30	60.0	Oct 17	59.0	Nov 10	64.0
Third High:	Oct 1	58.0	Oct 21	59.0	Jan 3	63.0
Fourth High:	Sep 21	56.0	Sep 24	57.0	Oct 24	62.0
California:						
First High:	Nov 7	65	Oct 24	65	Jan 2	64
Second High:	Oct 30	60	Oct 17	59	Nov 10	64
Third High:	Oct 1	58	Oct 21	59	Jan 3	63
Fourth High:	Sep 21	56	Sep 24	57	Oct 24	62
National:						
1-Hour Standard Design Value:		*		*		*
1-Hour Standard 98th Percentile:		56.0		56.0		55.0
# Days Above the Standard:		0		0		0
Annual Standard Design Value:		*		14		13
California:						
1-Hour Std Designation Value:		70		70		70
Expected Peak Day Concentration:		68		67		67
# Days Above the Standard:		0		0		0
Annual Std Designation Value:		*		14		14
Annual Average:		*		14		13
Year Coverage:		95		96		99

◄ Shift Backward [1 year] Shift Forward ►

Notes:
Hourly nitrogen dioxide measurements and related statistics are available at Bakersfield-Municipal Airport between 2012 and 2014. Some years in this range may not be represented.

All concentrations expressed in parts per billion.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Carbon Monoxide Averages

iADAM

at Fresno-1st Street

	2012		2013		2014	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:	Jan 2	2.22	*		*	
Second High:	Jan 4	1.96	*		*	
Third High:	Jan 15	1.92	*		*	
Fourth High:	Jan 13	1.65	*		*	
California:						
First High:	Jan 1	2.22	*		*	
Second High:	Jan 3	1.96	*		*	
Third High:	Jan 14	1.92	*		*	
Fourth High:	Jan 12	1.65	*		*	
National:						
# Days Above the Standard:		0		0		0
California:						
# Days Above the Standard:		0		0		0
Expected Peak Day Concentration:		2.68				
Year Coverage:		12		*		*

◄ Shift Backward [1] Shift Forward ►

Notes:

Eight-hour carbon monoxide averages and related statistics are available at Fresno-1st Street between 1990 and 2012. Some years in this range may not be represented.

All averages expressed in parts per million.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:
8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

ATTACHMENT D

Lead Concentration Data



Air Resources Board

View a Different Site
View a Different Substance
Order a Data CD

Annual Toxics Summary

Bakersfield-5558 California Avenue

Lead

nanograms per cubic meter

iADAM

FAQs

Year	Months Present	Minimum	Median	Mean	90th Percentile	Maximum	Standard Deviation	Number of Observations	Detection Limit	Estimated Risk
2013	----------**	0.5	2.9	*	5.3	6.7	1.71	21	1.0	*
2012	------------	1.7	3.4	4.02	8.2	14	2.74	32	1.5	0.05
2011	-*****------	0.75	4.0	*	9.1	11	2.90	20	1.5	*
2010	****--------	0.75	2.5	*	5.7	8.2	2.07	18	1.5	*
2009	------------	1.5	4.5	5.27	11.2	14	3.22	29	1.5	0.06
2008	************	*	*	*	*	*	*	0	*	*
2007	---------**-	0.75	7.1	*	11.7	13	3.23	24	1.5	*
2006	************	*	*	*	*	*	*	0	*	*
2005	************	*	*	*	*	*	*	0	*	*
2004	************	*	*	*	*	*	*	0	*	*
2003	--**********	4.0	*	*	*	7.0	1.64	5	3.0	*
2002	------------	1.5	7.0	6.78	10	17	3.34	36	3.0	0.08
2001	------------	2	5.0	5.83	9.2	26	4.41	39	4.0	0.07
2000	------------	2	5.0	5.92	14.1	22	4.76	40	4.0	0.07
1999	------------	2	5.0	5.70	11.2	25	4.55	39	4.0	0.07
1998	------------	2	7.0	9.43	14	78	11.8	42	4.0	0.1
1997	------------	2	7.0	7.92	14	20	4.40	34	4.0	0.1
1996	------------	2	7.0	7.69	14.5	35	6.10	36	4.0	0.09
1995	------------	2	8.0	8.68	15.1	21	5.14	30	4.0	0.1
1994	****--------	2	10	*	16	39	7.11	25	4.0	*
1993	************	*	*	*	*	*	*	0	*	*
1992	************	*	*	*	*	*	*	0	*	*
1991	************	*	*	*	*	*	*	0	*	*
1990	************	*	*	*	*	*	*	0	*	*
1989	************	*	*	*	*	*	*	0	*	*

Graph It!

Toxics Statistics Home

Notes: Values below the Limit of Detection (LoD) assumed to be ½ LoD.
Means and risks shown only for years with data in all 12 months.
"*" means there was insufficient or no data available to determine the value.

Data Descriptions Page

ATTACHMENT E

Project Emissions Calculations

- Proposed Project - CalEEMod v. 2013.2.2 Output Files
- Cumulative Projects - CalEEMod v. 2013.2.2 Output Files
- GHG BAU - CalEEMod v. 2013.2.2 Output Files

Proposed Project
CalEEMod v. 2013.2.2 Output Files

Houghton 99 Operational

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	2,304.00	1000sqft	269.00	2,304,000.00	0
Regional Shopping Center	511.83	1000sqft	47.00	511,830.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual Project Acreage

Construction Phase - Operational Run Only

Vehicle Trips - Trip Rates based on Traffic Study

Mobile Land Use Mitigation -

Area Mitigation - Based on MSDS from Behr

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	47
tblConstructionPhase	NumDays	400.00	0.00
tblLandUse	LotAcreage	52.89	269.00
tblLandUse	LotAcreage	11.75	47.00
tblProjectCharacteristics	OperationalYear	2014	2024
tblVehicleTrips	ST_TR	1.32	7.14
tblVehicleTrips	ST_TR	49.97	38.35
tblVehicleTrips	SU_TR	0.68	7.14
tblVehicleTrips	SU_TR	25.24	38.35
tblVehicleTrips	WD_TR	6.97	7.14
tblVehicleTrips	WD_TR	42.94	38.35

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	12.9573	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0503	0.0503	1.3000e-004	0.0000	0.0531
Energy	0.3011	2.7374	2.2994	0.0164		0.2080	0.2080		0.2080	0.2080	0.0000	10,814.0822	10,814.0822	0.4114	0.1279	10,862.3766
Mobile	22.3958	70.2714	288.1702	0.6730	31.9953	1.5173	33.5126	8.6211	1.3974	10.0185	0.0000	49,724.7191	49,724.7191	1.0621	0.0000	49,747.0227
Waste						0.0000	0.0000		0.0000	0.0000	689.0285	0.0000	689.0285	40.7204	0.0000	1,544.1572
Water						0.0000	0.0000		0.0000	0.0000	181.0608	922.0305	1,103.0913	18.6384	0.4477	1,633.2945
Total	**35.6542**	**73.0090**	**290.4954**	**0.6894**	**31.9953**	**1.7255**	**33.7208**	**8.6211**	**1.6055**	**10.2266**	**870.0892**	**61,460.8821**	**62,330.9713**	**60.8324**	**0.5757**	**63,786.9040**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	11.7859	2.3000e-004	0.0255	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0496	0.0496	1.3000e-004	0.0000	0.0523
Energy	0.3011	2.7374	2.2994	0.0164		0.2080	0.2080		0.2080	0.2080	0.0000	10,814.0822	10,814.0822	0.4114	0.1279	10,862.3766
Mobile	21.4581	63.9197	275.4795	0.5892	27.8221	1.3290	29.1510	7.4966	1.2239	8.7205	0.0000	43,523.0398	43,523.0398	0.9426	0.0000	43,542.8337
Waste						0.0000	0.0000		0.0000	0.0000	689.0285	0.0000	689.0285	40.7204	0.0000	1,544.1572
Water						0.0000	0.0000		0.0000	0.0000	181.0608	922.0305	1,103.0913	18.6350	0.4470	1,633.0056
Total	**33.5452**	**66.6573**	**277.8044**	**0.6057**	**27.8221**	**1.5371**	**29.3592**	**7.4966**	**1.4321**	**8.9287**	**870.0892**	**55,259.2021**	**56,129.2914**	**60.7094**	**0.5750**	**57,582.4254**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**5.92**	**8.70**	**4.37**	**12.15**	**13.04**	**10.92**	**12.93**	**13.04**	**10.80**	**12.69**	**0.00**	**10.09**	**9.95**	**0.20**	**0.12**	**9.73**

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	1/1/2017	12/30/2016	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	2	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

	ROG	NOx	CO	SO2	Fugitive 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	21.4581	63.9197	275.4795	0.5892	27.8221	1.3290	29.1510	7.4966	1.2239	8.7205	0.0000	43,523.0398	43,523.0398	0.9426	0.0000	43,542.8337
Unmitigated	22.3958	70.2714	288.1702	0.6730	31.9953	1.5173	33.5126	8.6211	1.3974	10.0185	0.0000	49,724.7191	49,724.7191	1.0621	0.0000	49,747.0227

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	16,450.56	16,450.56	16450.56	48,027,593	41,763,205
Regional Shopping Center	19,628.68	19,628.68	19628.68	34,415,060	29,926,197
Total	36,079.24	36,079.24	36,079.24	82,442,653	71,689,403

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.353802	0.053998	0.135319	0.180908	0.057126	0.010421	0.023395	0.172085	0.001498	0.001845	0.006054	0.001012	0.002535

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
NaturalGas Mitigated	0.3011	2.7374	2.2994	0.0164		0.2080	0.2080		0.2080	0.2080	0.0000	2,979.9388	2,979.9388	0.0571	0.0546	2,998.0742
NaturalGas Unmitigated	0.3011	2.7374	2.2994	0.0164		0.2080	0.2080		0.2080	0.2080	0.0000	2,979.9388	2,979.9388	0.0571	0.0546	2,998.0742
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	7,834.1434	7,834.1434	0.3542	0.0733	7,864.3024
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	7,834.1434	7,834.1434	0.3542	0.0733	7,864.3024

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	5.0135e+007	0.2703	2.4576	2.0644	0.0148		0.1868	0.1868		0.1868	0.1868	0.0000	2,675.3967	2,675.3967	0.0513	0.0491	2,691.6787
Regional Shopping Center	5.7069e+006	0.0308	0.2798	0.2350	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	304.5422	304.5422	5.8400e-003	5.5800e-003	306.3956
Total		**0.3011**	**2.7374**	**2.2994**	**0.0164**		**0.2080**	**0.2080**		**0.2080**	**0.2080**	**0.0000**	**2,979.9388**	**2,979.9388**	**0.0571**	**0.0546**	**2,998.0742**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	5.0135e+007	0.2703	2.4576	2.0644	0.0148		0.1868	0.1868		0.1868	0.1868	0.0000	2,675.3967	2,675.3967	0.0513	0.0491	2,691.6787
Regional Shopping Center	5.7069e+006	0.0308	0.2798	0.2350	1.6800e-003		0.0213	0.0213		0.0213	0.0213	0.0000	304.5422	304.5422	5.8400e-003	5.5800e-003	306.3956
Total		**0.3011**	**2.7374**	**2.2994**	**0.0164**		**0.2080**	**0.2080**		**0.2080**	**0.2080**	**0.0000**	**2,979.9388**	**2,979.9388**	**0.0571**	**0.0546**	**2,998.0742**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	2.22566e+007	6,474.7118	0.2928	0.0606	6,499.6374
Regional Shopping Center	4.67301e+006	1,359.4316	0.0615	0.0127	1,364.6650
Total		**7,834.1434**	**0.3542**	**0.0733**	**7,864.3024**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	2.22566e+007	6,474.7118	0.2928	0.0606	6,499.6374
Regional Shopping Center	4.67301e+006	1,359.4316	0.0615	0.0127	1,364.6650
Total		**7,834.1434**	**0.3542**	**0.0733**	**7,864.3024**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive 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	11.7859	2.3000e-004	0.0255	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0496	0.0496	1.3000e-004	0.0000	0.0523
Unmitigated	12.9573	2.3000e-004	0.0258	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0503	0.0503	1.3000e-004	0.0000	0.0531

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	1.9577					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	10.9972					0.0000	0.0000		0.0000	0.0000	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	0.0000	0.0503	0.0503	1.3000e-004	0.0000	0.0531
Total	**12.9573**	**2.3000e-004**	**0.0258**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0503**	**0.0503**	**1.3000e-004**	**0.0000**	**0.0531**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.7864					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	10.9972					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.3400e-003	2.3000e-004	0.0255	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0496	0.0496	1.3000e-004	0.0000	0.0523
Total	**11.7859**	**2.3000e-004**	**0.0255**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0496**	**0.0496**	**1.3000e-004**	**0.0000**	**0.0523**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	1,103.0913	18.6384	0.4477	1,633.2945
Mitigated	1,103.0913	18.6350	0.4470	1,633.0056

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	532.8 / 0	1,007.7250	17.3992	0.4178	1,502.6217
Regional Shopping Center	37.9125 / 23.2367	95.3663	1.2392	0.0300	130.6728
Total		**1,103.0913**	**18.6384**	**0.4477**	**1,633.2945**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	532.8 / 0	1,007.7250	17.3961	0.4171	1,502.3520
Regional Shopping Center	37.9125 / 23.2367	95.3663	1.2389	0.0299	130.6536
Total		**1,103.0913**	**18.6350**	**0.4470**	**1,633.0056**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	689.0285	40.7204	0.0000	1,544.1572
Unmitigated	689.0285	40.7204	0.0000	1,544.1572

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	2856.96	579.9371	34.2733	0.0000	1,299.6763
Regional Shopping Center	537.42	109.0914	6.4471	0.0000	244.4809
Total		**689.0285**	**40.7204**	**0.0000**	**1,544.1572**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	2856.96	579.9371	34.2733	0.0000	1,299.6763
Regional Shopping Center	537.42	109.0914	6.4471	0.0000	244.4809
Total		**689.0285**	**40.7204**	**0.0000**	**1,544.1572**

9.0 Operational Offroad

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

10.0 Vegetation

Houghton and 99 - Const Phase 1

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	384.00	1000sqft	44.80	384,000.00	0
Regional Shopping Center	85.30	1000sqft	7.80	85,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual acreage divided equally between the 6 phases

Construction Phase - Construction Schedule Estimated for this Phase

Trips and VMT -

Grading -

Architectural Coating -

Vehicle Trips - Construction Run Only

Consumer Products - Construction Run Only

Area Coating -

Landscape Equipment - Construction Run Only

Energy Use - Construction Run Only

Water And Wastewater - Construction Run Only

Solid Waste - Construction Run Only

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	75.00	25.00
tblConstructionPhase	NumDays	1,110.00	232.00
tblConstructionPhase	NumDays	110.00	21.00
tblConstructionPhase	NumDays	75.00	13.00
tblConstructionPhase	NumDays	40.00	8.00
tblConstructionPhase	PhaseEndDate	1/2/2017	9/29/2017
tblConstructionPhase	PhaseEndDate	10/2/2017	9/29/2017
tblConstructionPhase	PhaseEndDate	10/18/2017	11/28/2016
tblConstructionPhase	PhaseStartDate	11/29/2016	8/28/2017
tblConstructionPhase	PhaseStartDate	11/11/2016	11/10/2016
tblConstructionPhase	PhaseStartDate	9/30/2017	11/10/2016

tblEnergyUse	LightingElect	3.11	0.00
tblEnergyUse	LightingElect	4.22	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	T24E	2.39	0.00
tblEnergyUse	T24E	2.61	0.00
tblEnergyUse	T24NG	17.92	0.00
tblEnergyUse	T24NG	9.07	0.00
tblLandUse	LotAcreage	8.82	44.80
tblLandUse	LotAcreage	1.96	7.80
tblProjectCharacteristics	OperationalYear	2014	2024
tblSolidWaste	SolidWasteGenerationRate	476.16	0.00
tblSolidWaste	SolidWasteGenerationRate	89.56	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	42.94	0.00
tblWater	IndoorWaterUseRate	88,800,000.00	0.00
tblWater	IndoorWaterUseRate	6,318,386.08	0.00
tblWater	OutdoorWaterUseRate	3,872,559.21	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.1964	1.8384	1.5030	2.1900e-003	0.2039	0.0968	0.3007	0.0885	0.0897	0.1782	0.0000	195.0264	195.0264	0.0399	0.0000	195.8646
2017	3.7108	3.3466	3.5614	6.3900e-003	0.2016	0.1882	0.3898	0.0546	0.1766	0.2312	0.0000	536.2824	536.2824	0.0659	0.0000	537.6670
Total	**3.9072**	**5.1849**	**5.0644**	**8.5800e-003**	**0.4055**	**0.2849**	**0.6904**	**0.1430**	**0.2663**	**0.4094**	**0.0000**	**731.3088**	**731.3088**	**0.1058**	**0.0000**	**733.5316**

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					
2016	0.1964	1.8384	1.5030	2.1900e-003	0.1043	0.0968	0.2010	0.0412	0.0897	0.1309	0.0000	195.0262	195.0262	0.0399	0.0000	195.8644
2017	3.7108	3.3466	3.5614	6.3900e-003	0.2016	0.1882	0.3898	0.0546	0.1766	0.2312	0.0000	536.2821	536.2821	0.0659	0.0000	537.6667
Total	**3.9072**	**5.1849**	**5.0644**	**8.5800e-003**	**0.3059**	**0.2849**	**0.5908**	**0.0958**	**0.2663**	**0.3621**	**0.0000**	**731.3084**	**731.3084**	**0.1058**	**0.0000**	**733.5311**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**24.57**	**0.00**	**14.43**	**33.05**	**0.00**	**11.54**	**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	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/1/2016	10/12/2016	5	8	
2	Grading	Grading	10/13/2016	11/10/2016	5	21	
3	Building Construction	Building Construction	11/10/2016	9/29/2017	5	232	
4	Paving	Paving	11/10/2016	11/28/2016	5	13	
5	Architectural Coating	Architectural Coating	8/28/2017	9/29/2017	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 52.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 703,950; Non-Residential Outdoor: 234,650 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	189.00	77.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	38.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2016

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					0.0723	0.0000	0.0723	0.0397	0.0000	0.0397	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.2185	0.1644	1.6000e-004		0.0118	0.0118		0.0108	0.0108	0.0000	14.7508	14.7508	4.4500e-003	0.0000	14.8443
Total	**0.0203**	**0.2185**	**0.1644**	**1.6000e-004**	**0.0723**	**0.0118**	**0.0840**	**0.0397**	**0.0108**	**0.0505**	**0.0000**	**14.7508**	**14.7508**	**4.4500e-003**	**0.0000**	**14.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	2.6000e-004	3.3000e-004	3.2600e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5575	0.5575	3.0000e-005	0.0000	0.5581
Total	**2.6000e-004**	**3.3000e-004**	**3.2600e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5575**	**0.5575**	**3.0000e-005**	**0.0000**	**0.5581**

3.2 Site Preparation - 2016

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					0.0282	0.0000	0.0282	0.0155	0.0000	0.0155	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.2185	0.1644	1.6000e-004		0.0118	0.0118		0.0108	0.0108	0.0000	14.7508	14.7508	4.4500e-003	0.0000	14.8443
Total	**0.0203**	**0.2185**	**0.1644**	**1.6000e-004**	**0.0282**	**0.0118**	**0.0399**	**0.0155**	**0.0108**	**0.0263**	**0.0000**	**14.7508**	**14.7508**	**4.4500e-003**	**0.0000**	**14.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	2.6000e-004	3.3000e-004	3.2600e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5575	0.5575	3.0000e-005	0.0000	0.5581
Total	**2.6000e-004**	**3.3000e-004**	**3.2600e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5575**	**0.5575**	**3.0000e-005**	**0.0000**	**0.5581**

3.3 Grading - 2016

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					0.0911	0.0000	0.0911	0.0378	0.0000	0.0378	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0680	0.7855	0.5159	6.5000e-004		0.0376	0.0376		0.0346	0.0346	0.0000	61.1055	61.1055	0.0184	0.0000	61.4926
Total	**0.0680**	**0.7855**	**0.5159**	**6.5000e-004**	**0.0911**	**0.0376**	**0.1287**	**0.0378**	**0.0346**	**0.0724**	**0.0000**	**61.1055**	**61.1055**	**0.0184**	**0.0000**	**61.4926**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	9.6000e-004	9.5200e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.6259	1.6259	8.0000e-005	0.0000	1.6277
Total	**7.7000e-004**	**9.6000e-004**	**9.5200e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7100e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.6259**	**1.6259**	**8.0000e-005**	**0.0000**	**1.6277**

3.3 Grading - 2016

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					0.0355	0.0000	0.0355	0.0147	0.0000	0.0147	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0680	0.7855	0.5159	6.5000e-004		0.0376	0.0376		0.0346	0.0346	0.0000	61.1054	61.1054	0.0184	0.0000	61.4925
Total	**0.0680**	**0.7855**	**0.5159**	**6.5000e-004**	**0.0355**	**0.0376**	**0.0732**	**0.0147**	**0.0346**	**0.0494**	**0.0000**	**61.1054**	**61.1054**	**0.0184**	**0.0000**	**61.4925**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	9.6000e-004	9.5200e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.6259	1.6259	8.0000e-005	0.0000	1.6277
Total	**7.7000e-004**	**9.6000e-004**	**9.5200e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7100e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.6259**	**1.6259**	**8.0000e-005**	**0.0000**	**1.6277**

3.4 Building Construction - 2016

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	0.0630	0.5274	0.3424	5.0000e-004		0.0364	0.0364		0.0342	0.0342	0.0000	44.7984	44.7984	0.0111	0.0000	45.0317
Total	**0.0630**	**0.5274**	**0.3424**	**5.0000e-004**		**0.0364**	**0.0364**		**0.0342**	**0.0342**	**0.0000**	**44.7984**	**44.7984**	**0.0111**	**0.0000**	**45.0317**

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	0.0173	0.1437	0.2082	3.4000e-004	9.3500e-003	2.5200e-003	0.0119	2.6800e-003	2.3200e-003	5.0000e-003	0.0000	30.7024	30.7024	2.7000e-004	0.0000	30.7080
Worker	0.0128	0.0160	0.1586	3.6000e-004	0.0282	2.2000e-004	0.0284	7.4800e-003	2.0000e-004	7.6900e-003	0.0000	27.0719	27.0719	1.3900e-003	0.0000	27.1011
Total	**0.0301**	**0.1597**	**0.3667**	**7.0000e-004**	**0.0375**	**2.7400e-003**	**0.0403**	**0.0102**	**2.5200e-003**	**0.0127**	**0.0000**	**57.7743**	**57.7743**	**1.6600e-003**	**0.0000**	**57.8090**

3.4 Building Construction - 2016

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	0.0630	0.5274	0.3424	5.0000e-004		0.0364	0.0364		0.0342	0.0342	0.0000	44.7984	44.7984	0.0111	0.0000	45.0317
Total	**0.0630**	**0.5274**	**0.3424**	**5.0000e-004**		**0.0364**	**0.0364**		**0.0342**	**0.0342**	**0.0000**	**44.7984**	**44.7984**	**0.0111**	**0.0000**	**45.0317**

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	0.0173	0.1437	0.2082	3.4000e-004	9.3500e-003	2.5200e-003	0.0119	2.6800e-003	2.3200e-003	5.0000e-003	0.0000	30.7024	30.7024	2.7000e-004	0.0000	30.7080
Worker	0.0128	0.0160	0.1586	3.6000e-004	0.0282	2.2000e-004	0.0284	7.4800e-003	2.0000e-004	7.6900e-003	0.0000	27.0719	27.0719	1.3900e-003	0.0000	27.1011
Total	**0.0301**	**0.1597**	**0.3667**	**7.0000e-004**	**0.0375**	**2.7400e-003**	**0.0403**	**0.0102**	**2.5200e-003**	**0.0127**	**0.0000**	**57.7743**	**57.7743**	**1.6600e-003**	**0.0000**	**57.8090**

3.4 Building Construction - 2017

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	0.3025	2.5746	1.7676	2.6100e-003		0.1737	0.1737		0.1631	0.1631	0.0000	233.4921	233.4921	0.0575	0.0000	234.6989
Total	**0.3025**	**2.5746**	**1.7676**	**2.6100e-003**		**0.1737**	**0.1737**		**0.1631**	**0.1631**	**0.0000**	**233.4921**	**233.4921**	**0.0575**	**0.0000**	**234.6989**

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	0.0804	0.6679	1.0183	1.7800e-003	0.0493	0.0112	0.0605	0.0141	0.0103	0.0244	0.0000	159.0591	159.0591	1.3000e-003	0.0000	159.0863
Worker	0.0593	0.0748	0.7333	1.9100e-003	0.1485	1.1300e-003	0.1496	0.0394	1.0400e-003	0.0405	0.0000	137.0080	137.0080	6.6600e-003	0.0000	137.1479
Total	**0.1398**	**0.7428**	**1.7516**	**3.6900e-003**	**0.1978**	**0.0123**	**0.2101**	**0.0536**	**0.0113**	**0.0649**	**0.0000**	**296.0671**	**296.0671**	**7.9600e-003**	**0.0000**	**296.2342**

3.4 Building Construction - 2017

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	0.3025	2.5746	1.7676	2.6100e-003		0.1737	0.1737		0.1631	0.1631	0.0000	233.4919	233.4919	0.0575	0.0000	234.6987
Total	**0.3025**	**2.5746**	**1.7676**	**2.6100e-003**		**0.1737**	**0.1737**		**0.1631**	**0.1631**	**0.0000**	**233.4919**	**233.4919**	**0.0575**	**0.0000**	**234.6987**

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	0.0804	0.6679	1.0183	1.7800e-003	0.0493	0.0112	0.0605	0.0141	0.0103	0.0244	0.0000	159.0591	159.0591	1.3000e-003	0.0000	159.0863
Worker	0.0593	0.0748	0.7333	1.9100e-003	0.1485	1.1300e-003	0.1496	0.0394	1.0400e-003	0.0405	0.0000	137.0080	137.0080	6.6600e-003	0.0000	137.1479
Total	**0.1398**	**0.7428**	**1.7516**	**3.6900e-003**	**0.1978**	**0.0123**	**0.2101**	**0.0536**	**0.0113**	**0.0649**	**0.0000**	**296.0671**	**296.0671**	**7.9600e-003**	**0.0000**	**296.2342**

3.5 Paving - 2016

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	0.0136	0.1455	0.0963	1.4000e-004		8.2000e-003	8.2000e-003		7.5400e-003	7.5400e-003	0.0000	13.6590	13.6590	4.1200e-003	0.0000	13.7455
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1455**	**0.0963**	**1.4000e-004**		**8.2000e-003**	**8.2000e-003**		**7.5400e-003**	**7.5400e-003**	**0.0000**	**13.6590**	**13.6590**	**4.1200e-003**	**0.0000**	**13.7455**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	4.5000e-004	4.4200e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7549	0.7549	4.0000e-005	0.0000	0.7557
Total	**3.6000e-004**	**4.5000e-004**	**4.4200e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.7549**	**0.7549**	**4.0000e-005**	**0.0000**	**0.7557**

3.5 Paving - 2016

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	0.0136	0.1455	0.0963	1.4000e-004		8.2000e-003	8.2000e-003		7.5400e-003	7.5400e-003	0.0000	13.6590	13.6590	4.1200e-003	0.0000	13.7455
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1455**	**0.0963**	**1.4000e-004**		**8.2000e-003**	**8.2000e-003**		**7.5400e-003**	**7.5400e-003**	**0.0000**	**13.6590**	**13.6590**	**4.1200e-003**	**0.0000**	**13.7455**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	4.5000e-004	4.4200e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.7549	0.7549	4.0000e-005	0.0000	0.7557
Total	**3.6000e-004**	**4.5000e-004**	**4.4200e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.7549**	**0.7549**	**4.0000e-005**	**0.0000**	**0.7557**

3.6 Architectural Coating - 2017

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	3.2628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1500e-003	0.0273	0.0234	4.0000e-005		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	3.1916	3.1916	3.4000e-004	0.0000	3.1986
Total	**3.2670**	**0.0273**	**0.0234**	**4.0000e-005**		**2.1700e-003**	**2.1700e-003**		**2.1700e-003**	**2.1700e-003**	**0.0000**	**3.1916**	**3.1916**	**3.4000e-004**	**0.0000**	**3.1986**

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	1.5300e-003	1.9300e-003	0.0189	5.0000e-005	3.8300e-003	3.0000e-005	3.8600e-003	1.0200e-003	3.0000e-005	1.0400e-003	0.0000	3.5316	3.5316	1.7000e-004	0.0000	3.5352
Total	**1.5300e-003**	**1.9300e-003**	**0.0189**	**5.0000e-005**	**3.8300e-003**	**3.0000e-005**	**3.8600e-003**	**1.0200e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**3.5316**	**3.5316**	**1.7000e-004**	**0.0000**	**3.5352**

3.6 Architectural Coating - 2017

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	3.2628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1500e-003	0.0273	0.0234	4.0000e-005		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	3.1916	3.1916	3.4000e-004	0.0000	3.1986
Total	**3.2670**	**0.0273**	**0.0234**	**4.0000e-005**		**2.1700e-003**	**2.1700e-003**		**2.1700e-003**	**2.1700e-003**	**0.0000**	**3.1916**	**3.1916**	**3.4000e-004**	**0.0000**	**3.1986**

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	1.5300e-003	1.9300e-003	0.0189	5.0000e-005	3.8300e-003	3.0000e-005	3.8600e-003	1.0200e-003	3.0000e-005	1.0400e-003	0.0000	3.5316	3.5316	1.7000e-004	0.0000	3.5352
Total	**1.5300e-003**	**1.9300e-003**	**0.0189**	**5.0000e-005**	**3.8300e-003**	**3.0000e-005**	**3.8600e-003**	**1.0200e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**3.5316**	**3.5316**	**1.7000e-004**	**0.0000**	**3.5352**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.353802	0.053998	0.135319	0.180908	0.057126	0.010421	0.023395	0.172085	0.001498	0.001845	0.006054	0.001012	0.002535

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	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
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	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
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					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**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					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**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Vegetation

Houghton and 99 - Const Phase 2

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	384.00	1000sqft	44.80	384,000.00	0
Regional Shopping Center	85.30	1000sqft	7.80	85,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual acreage divided equally between the 6 phases

Construction Phase - Construction Schedule Estimated for this Phase

Vehicle Trips - Construction Run Only

Consumer Products - Construction Run Only

Area Coating -

Landscape Equipment - Construction Run Only

Energy Use - Construction Run Only

Water And Wastewater - Construction Run Only

Solid Waste - Construction Run Only

Construction Off-road Equipment Mitigation -

Grading -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	75.00	25.00
tblConstructionPhase	NumDays	1,110.00	234.00
tblConstructionPhase	NumDays	110.00	21.00
tblConstructionPhase	NumDays	75.00	13.00
tblConstructionPhase	NumDays	40.00	8.00
tblConstructionPhase	PhaseEndDate	3/30/2018	12/31/2018
tblConstructionPhase	PhaseEndDate	1/1/2019	12/31/2018
tblConstructionPhase	PhaseEndDate	2/8/2018	2/7/2018
tblConstructionPhase	PhaseEndDate	1/17/2019	2/23/2018
tblConstructionPhase	PhaseStartDate	2/24/2018	11/27/2018
tblConstructionPhase	PhaseStartDate	2/8/2018	2/7/2018
tblConstructionPhase	PhaseStartDate	1/11/2018	1/10/2018
tblConstructionPhase	PhaseStartDate	1/1/2019	2/7/2018

tblEnergyUse	LightingElect	3.11	0.00
tblEnergyUse	LightingElect	4.22	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	T24E	2.39	0.00
tblEnergyUse	T24E	2.61	0.00
tblEnergyUse	T24NG	17.92	0.00
tblEnergyUse	T24NG	9.07	0.00
tblLandUse	LotAcreage	8.82	44.80
tblLandUse	LotAcreage	1.96	7.80
tblProjectCharacteristics	OperationalYear	2014	2024
tblSolidWaste	SolidWasteGenerationRate	476.16	0.00
tblSolidWaste	SolidWasteGenerationRate	89.56	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	42.94	0.00
tblWater	IndoorWaterUseRate	88,800,000.00	0.00
tblWater	IndoorWaterUseRate	6,318,386.08	0.00
tblWater	OutdoorWaterUseRate	3,872,559.21	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	3.8163	4.4680	4.7203	8.6300e-003	0.4076	0.2352	0.6428	0.1436	0.2201	0.3637	0.0000	718.2760	718.2760	0.1042	0.0000	720.4645
Total	**3.8163**	**4.4680**	**4.7203**	**8.6300e-003**	**0.4076**	**0.2352**	**0.6428**	**0.1436**	**0.2201**	**0.3637**	**0.0000**	**718.2760**	**718.2760**	**0.1042**	**0.0000**	**720.4645**

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					
2018	3.8163	4.4680	4.7203	8.6300e-003	0.3079	0.2352	0.5431	0.0963	0.2201	0.3164	0.0000	718.2755	718.2755	0.1042	0.0000	720.4640
Total	**3.8163**	**4.4680**	**4.7203**	**8.6300e-003**	**0.3079**	**0.2352**	**0.5431**	**0.0963**	**0.2201**	**0.3164**	**0.0000**	**718.2755**	**718.2755**	**0.1042**	**0.0000**	**720.4640**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**24.45**	**0.00**	**15.50**	**32.92**	**0.00**	**13.00**	**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	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2018	1/10/2018	5	8	
2	Grading	Grading	1/10/2018	2/7/2018	5	21	
3	Building Construction	Building Construction	2/7/2018	12/31/2018	5	234	
4	Paving	Paving	2/7/2018	2/23/2018	5	13	
5	Architectural Coating	Architectural Coating	11/27/2018	12/31/2018	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 52.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 703,950; Non-Residential Outdoor: 234,650 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	189.00	77.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	38.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2018

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					0.0723	0.0000	0.0723	0.0397	0.0000	0.0397	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1824	0.1449	1.6000e-004		9.4600e-003	9.4600e-003		8.7000e-003	8.7000e-003	0.0000	14.2964	14.2964	4.4500e-003	0.0000	14.3899
Total	**0.0172**	**0.1824**	**0.1449**	**1.6000e-004**	**0.0723**	**9.4600e-003**	**0.0817**	**0.0397**	**8.7000e-003**	**0.0484**	**0.0000**	**14.2964**	**14.2964**	**4.4500e-003**	**0.0000**	**14.3899**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	2.6000e-004	2.5300e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5135	0.5135	2.0000e-005	0.0000	0.5140
Total	**2.0000e-004**	**2.6000e-004**	**2.5300e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5135**	**0.5135**	**2.0000e-005**	**0.0000**	**0.5140**

3.2 Site Preparation - 2018

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					0.0282	0.0000	0.0282	0.0155	0.0000	0.0155	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0172	0.1824	0.1449	1.6000e-004		9.4600e-003	9.4600e-003		8.7000e-003	8.7000e-003	0.0000	14.2964	14.2964	4.4500e-003	0.0000	14.3899
Total	**0.0172**	**0.1824**	**0.1449**	**1.6000e-004**	**0.0282**	**9.4600e-003**	**0.0376**	**0.0155**	**8.7000e-003**	**0.0242**	**0.0000**	**14.2964**	**14.2964**	**4.4500e-003**	**0.0000**	**14.3899**

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	2.0000e-004	2.6000e-004	2.5300e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5135	0.5135	2.0000e-005	0.0000	0.5140
Total	**2.0000e-004**	**2.6000e-004**	**2.5300e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5135**	**0.5135**	**2.0000e-005**	**0.0000**	**0.5140**

3.3 Grading - 2018

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					0.0911	0.0000	0.0911	0.0378	0.0000	0.0378	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0555	0.6251	0.4442	6.5000e-004		0.0293	0.0293		0.0269	0.0269	0.0000	59.1797	59.1797	0.0184	0.0000	59.5666
Total	**0.0555**	**0.6251**	**0.4442**	**6.5000e-004**	**0.0911**	**0.0293**	**0.1203**	**0.0378**	**0.0269**	**0.0647**	**0.0000**	**59.1797**	**59.1797**	**0.0184**	**0.0000**	**59.5666**

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	6.0000e-004	7.6000e-004	7.3800e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.4978	1.4978	7.0000e-005	0.0000	1.4992
Total	**6.0000e-004**	**7.6000e-004**	**7.3800e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.4978**	**1.4978**	**7.0000e-005**	**0.0000**	**1.4992**

3.3 Grading - 2018

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					0.0355	0.0000	0.0355	0.0147	0.0000	0.0147	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0555	0.6251	0.4442	6.5000e-004		0.0293	0.0293		0.0269	0.0269	0.0000	59.1796	59.1796	0.0184	0.0000	59.5665
Total	**0.0555**	**0.6251**	**0.4442**	**6.5000e-004**	**0.0355**	**0.0293**	**0.0648**	**0.0147**	**0.0269**	**0.0417**	**0.0000**	**59.1796**	**59.1796**	**0.0184**	**0.0000**	**59.5665**

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	6.0000e-004	7.6000e-004	7.3800e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.4978	1.4978	7.0000e-005	0.0000	1.4992
Total	**6.0000e-004**	**7.6000e-004**	**7.3800e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.4978**	**1.4978**	**7.0000e-005**	**0.0000**	**1.4992**

3.4 Building Construction - 2018

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	0.3122	2.7215	2.0513	3.1400e-003		0.1748	0.1748		0.1644	0.1644	0.0000	277.0205	277.0205	0.0678	0.0000	278.4442
Total	**0.3122**	**2.7215**	**2.0513**	**3.1400e-003**		**0.1748**	**0.1748**		**0.1644**	**0.1644**	**0.0000**	**277.0205**	**277.0205**	**0.0678**	**0.0000**	**278.4442**

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	0.0891	0.7191	1.1557	2.1300e-003	0.0591	0.0123	0.0714	0.0169	0.0113	0.0282	0.0000	187.5390	187.5390	1.5100e-003	0.0000	187.5707
Worker	0.0628	0.0802	0.7767	2.2900e-003	0.1782	1.3200e-003	0.1795	0.0473	1.2200e-003	0.0486	0.0000	157.7146	157.7146	7.3300e-003	0.0000	157.8685
Total	**0.1519**	**0.7993**	**1.9325**	**4.4200e-003**	**0.2373**	**0.0136**	**0.2509**	**0.0643**	**0.0125**	**0.0768**	**0.0000**	**345.2536**	**345.2536**	**8.8400e-003**	**0.0000**	**345.4392**

3.4 Building Construction - 2018

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	0.3122	2.7215	2.0513	3.1400e-003		0.1748	0.1748		0.1644	0.1644	0.0000	277.0202	277.0202	0.0678	0.0000	278.4438
Total	**0.3122**	**2.7215**	**2.0513**	**3.1400e-003**		**0.1748**	**0.1748**		**0.1644**	**0.1644**	**0.0000**	**277.0202**	**277.0202**	**0.0678**	**0.0000**	**278.4438**

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	0.0891	0.7191	1.1557	2.1300e-003	0.0591	0.0123	0.0714	0.0169	0.0113	0.0282	0.0000	187.5390	187.5390	1.5100e-003	0.0000	187.5707
Worker	0.0628	0.0802	0.7767	2.2900e-003	0.1782	1.3200e-003	0.1795	0.0473	1.2200e-003	0.0486	0.0000	157.7146	157.7146	7.3300e-003	0.0000	157.8685
Total	**0.1519**	**0.7993**	**1.9325**	**4.4200e-003**	**0.2373**	**0.0136**	**0.2509**	**0.0643**	**0.0125**	**0.0768**	**0.0000**	**345.2536**	**345.2536**	**8.8400e-003**	**0.0000**	**345.4392**

3.5 Paving - 2018

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	0.0105	0.1116	0.0942	1.5000e-004		6.1000e-003	6.1000e-003		5.6100e-003	5.6100e-003	0.0000	13.2397	13.2397	4.1200e-003	0.0000	13.3262
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0105**	**0.1116**	**0.0942**	**1.5000e-004**		**6.1000e-003**	**6.1000e-003**		**5.6100e-003**	**5.6100e-003**	**0.0000**	**13.2397**	**13.2397**	**4.1200e-003**	**0.0000**	**13.3262**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	3.5000e-004	3.4200e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6954	0.6954	3.0000e-005	0.0000	0.6961
Total	**2.8000e-004**	**3.5000e-004**	**3.4200e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6954**	**0.6954**	**3.0000e-005**	**0.0000**	**0.6961**

3.5 Paving - 2018

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	0.0105	0.1116	0.0942	1.5000e-004		6.1000e-003	6.1000e-003		5.6100e-003	5.6100e-003	0.0000	13.2397	13.2397	4.1200e-003	0.0000	13.3262
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0105**	**0.1116**	**0.0942**	**1.5000e-004**		**6.1000e-003**	**6.1000e-003**		**5.6100e-003**	**5.6100e-003**	**0.0000**	**13.2397**	**13.2397**	**4.1200e-003**	**0.0000**	**13.3262**

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	2.8000e-004	3.5000e-004	3.4200e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6954	0.6954	3.0000e-005	0.0000	0.6961
Total	**2.8000e-004**	**3.5000e-004**	**3.4200e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6954**	**0.6954**	**3.0000e-005**	**0.0000**	**0.6961**

3.6 Architectural Coating - 2018

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	3.2628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7300e-003	0.0251	0.0232	4.0000e-005		1.8800e-003	1.8800e-003		1.8800e-003	1.8800e-003	0.0000	3.1916	3.1916	3.0000e-004	0.0000	3.1979
Total	**3.2665**	**0.0251**	**0.0232**	**4.0000e-005**		**1.8800e-003**	**1.8800e-003**		**1.8800e-003**	**1.8800e-003**	**0.0000**	**3.1916**	**3.1916**	**3.0000e-004**	**0.0000**	**3.1979**

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	1.3500e-003	1.7200e-003	0.0167	5.0000e-005	3.8300e-003	3.0000e-005	3.8600e-003	1.0200e-003	3.0000e-005	1.0400e-003	0.0000	3.3878	3.3878	1.6000e-004	0.0000	3.3911
Total	**1.3500e-003**	**1.7200e-003**	**0.0167**	**5.0000e-005**	**3.8300e-003**	**3.0000e-005**	**3.8600e-003**	**1.0200e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**3.3878**	**3.3878**	**1.6000e-004**	**0.0000**	**3.3911**

3.6 Architectural Coating - 2018

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	3.2628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7300e-003	0.0251	0.0232	4.0000e-005		1.8800e-003	1.8800e-003		1.8800e-003	1.8800e-003	0.0000	3.1916	3.1916	3.0000e-004	0.0000	3.1979
Total	**3.2665**	**0.0251**	**0.0232**	**4.0000e-005**		**1.8800e-003**	**1.8800e-003**		**1.8800e-003**	**1.8800e-003**	**0.0000**	**3.1916**	**3.1916**	**3.0000e-004**	**0.0000**	**3.1979**

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	1.3500e-003	1.7200e-003	0.0167	5.0000e-005	3.8300e-003	3.0000e-005	3.8600e-003	1.0200e-003	3.0000e-005	1.0400e-003	0.0000	3.3878	3.3878	1.6000e-004	0.0000	3.3911
Total	**1.3500e-003**	**1.7200e-003**	**0.0167**	**5.0000e-005**	**3.8300e-003**	**3.0000e-005**	**3.8600e-003**	**1.0200e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**3.3878**	**3.3878**	**1.6000e-004**	**0.0000**	**3.3911**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.353802	0.053998	0.135319	0.180908	0.057126	0.010421	0.023395	0.172085	0.001498	0.001845	0.006054	0.001012	0.002535

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	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
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	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
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					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**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					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**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Vegetation

Houghton and 99 - Const Phase 3

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	384.00	1000sqft	44.80	384,000.00	0
Regional Shopping Center	85.30	1000sqft	7.80	85,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual acreage divided equally between the 6 phases

Construction Phase - Construction Schedule Estimated for this Phase

Vehicle Trips - Construction Run Only

Consumer Products - Construction Run Only

Area Coating -

Landscape Equipment - Construction Run Only

Energy Use - Construction Run Only

Water And Wastewater - Construction Run Only

Solid Waste - Construction Run Only

Construction Off-road Equipment Mitigation -

Grading -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	75.00	25.00
tblConstructionPhase	NumDays	1,110.00	235.00
tblConstructionPhase	NumDays	110.00	21.00
tblConstructionPhase	NumDays	75.00	13.00
tblConstructionPhase	NumDays	40.00	8.00
tblConstructionPhase	PhaseEndDate	9/27/2019	6/30/2020
tblConstructionPhase	PhaseEndDate	7/1/2020	6/30/2020
tblConstructionPhase	PhaseEndDate	8/8/2019	8/7/2019
tblConstructionPhase	PhaseEndDate	7/17/2020	8/23/2019
tblConstructionPhase	PhaseStartDate	8/24/2019	5/27/2020
tblConstructionPhase	PhaseStartDate	8/8/2019	8/7/2019
tblConstructionPhase	PhaseStartDate	7/11/2019	7/10/2019
tblConstructionPhase	PhaseStartDate	7/1/2020	8/7/2019

tblEnergyUse	LightingElect	3.11	0.00
tblEnergyUse	LightingElect	4.22	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	T24E	2.39	0.00
tblEnergyUse	T24E	2.61	0.00
tblEnergyUse	T24NG	17.92	0.00
tblEnergyUse	T24NG	9.07	0.00
tblLandUse	LotAcreage	8.82	44.80
tblLandUse	LotAcreage	1.96	7.80
tblProjectCharacteristics	OperationalYear	2014	2024
tblSolidWaste	SolidWasteGenerationRate	476.16	0.00
tblSolidWaste	SolidWasteGenerationRate	89.56	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	42.94	0.00
tblWater	IndoorWaterUseRate	88,800,000.00	0.00
tblWater	IndoorWaterUseRate	6,318,386.08	0.00
tblWater	OutdoorWaterUseRate	3,872,559.21	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.2623	2.2630	2.3661	4.3800e-003	0.2729	0.1133	0.3862	0.1071	0.1056	0.2128	0.0000	361.7188	361.7188	0.0607	0.0000	362.9942
2020	3.4735	1.6052	2.0581	4.2800e-003	0.1357	0.0800	0.2157	0.0367	0.0752	0.1119	0.0000	337.3123	337.3123	0.0413	0.0000	338.1789
Total	**3.7359**	**3.8682**	**4.4242**	**8.6600e-003**	**0.4086**	**0.1933**	**0.6019**	**0.1439**	**0.1808**	**0.3247**	**0.0000**	**699.0311**	**699.0311**	**0.1020**	**0.0000**	**701.1731**

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					
2019	0.2623	2.2630	2.3661	4.3800e-003	0.1733	0.1133	0.2866	0.0599	0.1056	0.1655	0.0000	361.7186	361.7186	0.0607	0.0000	362.9940
2020	3.4735	1.6052	2.0581	4.2800e-003	0.1357	0.0800	0.2157	0.0367	0.0752	0.1119	0.0000	337.3121	337.3121	0.0413	0.0000	338.1787
Total	**3.7359**	**3.8682**	**4.4242**	**8.6600e-003**	**0.3089**	**0.1933**	**0.5022**	**0.0966**	**0.1808**	**0.2774**	**0.0000**	**699.0307**	**699.0307**	**0.1020**	**0.0000**	**701.1727**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**24.39**	**0.00**	**16.55**	**32.86**	**0.00**	**14.56**	**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	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2019	7/10/2019	5	8	
2	Grading	Grading	7/10/2019	8/7/2019	5	21	
3	Building Construction	Building Construction	8/7/2019	6/30/2020	5	235	
4	Paving	Paving	8/7/2019	8/23/2019	5	13	
5	Architectural Coating	Architectural Coating	5/27/2020	6/30/2020	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 52.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 703,950; Non-Residential Outdoor: 234,650 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	189.00	77.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	38.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2019

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					0.0723	0.0000	0.0723	0.0397	0.0000	0.0397	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0161	0.1700	0.1392	1.6000e-004		8.6000e-003	8.6000e-003		7.9100e-003	7.9100e-003	0.0000	14.0676	14.0676	4.4500e-003	0.0000	14.1611
Total	**0.0161**	**0.1700**	**0.1392**	**1.6000e-004**	**0.0723**	**8.6000e-003**	**0.0809**	**0.0397**	**7.9100e-003**	**0.0476**	**0.0000**	**14.0676**	**14.0676**	**4.4500e-003**	**0.0000**	**14.1611**

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	1.9000e-004	2.4000e-004	2.2900e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4948	0.4948	2.0000e-005	0.0000	0.4953
Total	**1.9000e-004**	**2.4000e-004**	**2.2900e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4948**	**0.4948**	**2.0000e-005**	**0.0000**	**0.4953**

3.2 Site Preparation - 2019

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					0.0282	0.0000	0.0282	0.0155	0.0000	0.0155	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0161	0.1700	0.1392	1.6000e-004		8.6000e-003	8.6000e-003		7.9100e-003	7.9100e-003	0.0000	14.0676	14.0676	4.4500e-003	0.0000	14.1611
Total	**0.0161**	**0.1700**	**0.1392**	**1.6000e-004**	**0.0282**	**8.6000e-003**	**0.0368**	**0.0155**	**7.9100e-003**	**0.0234**	**0.0000**	**14.0676**	**14.0676**	**4.4500e-003**	**0.0000**	**14.1611**

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	1.9000e-004	2.4000e-004	2.2900e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4948	0.4948	2.0000e-005	0.0000	0.4953
Total	**1.9000e-004**	**2.4000e-004**	**2.2900e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4948**	**0.4948**	**2.0000e-005**	**0.0000**	**0.4953**

3.3 Grading - 2019

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					0.0911	0.0000	0.0911	0.0378	0.0000	0.0378	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0514	0.5691	0.4230	6.5000e-004		0.0263	0.0263		0.0242	0.0242	0.0000	58.2129	58.2129	0.0184	0.0000	58.5997
Total	**0.0514**	**0.5691**	**0.4230**	**6.5000e-004**	**0.0911**	**0.0263**	**0.1174**	**0.0378**	**0.0242**	**0.0620**	**0.0000**	**58.2129**	**58.2129**	**0.0184**	**0.0000**	**58.5997**

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	5.4000e-004	6.9000e-004	6.6700e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.4432	1.4432	6.0000e-005	0.0000	1.4446
Total	**5.4000e-004**	**6.9000e-004**	**6.6700e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.4432**	**1.4432**	**6.0000e-005**	**0.0000**	**1.4446**

3.3 Grading - 2019

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					0.0355	0.0000	0.0355	0.0147	0.0000	0.0147	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0514	0.5691	0.4230	6.5000e-004		0.0263	0.0263		0.0242	0.0242	0.0000	58.2129	58.2129	0.0184	0.0000	58.5996
Total	**0.0514**	**0.5691**	**0.4230**	**6.5000e-004**	**0.0355**	**0.0263**	**0.0618**	**0.0147**	**0.0242**	**0.0389**	**0.0000**	**58.2129**	**58.2129**	**0.0184**	**0.0000**	**58.5996**

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	5.4000e-004	6.9000e-004	6.6700e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.4432	1.4432	6.0000e-005	0.0000	1.4446
Total	**5.4000e-004**	**6.9000e-004**	**6.6700e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.4432**	**1.4432**	**6.0000e-005**	**0.0000**	**1.4446**

3.4 Building Construction - 2019

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	0.1235	1.1007	0.8988	1.4100e-003		0.0675	0.0675		0.0634	0.0634	0.0000	122.9145	122.9145	0.0299	0.0000	123.5425
Total	**0.1235**	**1.1007**	**0.8988**	**1.4100e-003**		**0.0675**	**0.0675**		**0.0634**	**0.0634**	**0.0000**	**122.9145**	**122.9145**	**0.0299**	**0.0000**	**123.5425**

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	0.0357	0.2922	0.4844	9.5000e-004	0.0265	5.0700e-003	0.0316	7.6000e-003	4.6600e-003	0.0123	0.0000	82.6975	82.6975	6.5000e-004	0.0000	82.7113
Worker	0.0256	0.0327	0.3152	1.0300e-003	0.0800	5.9000e-004	0.0806	0.0212	5.4000e-004	0.0218	0.0000	68.1925	68.1925	3.0700e-003	0.0000	68.2569
Total	**0.0612**	**0.3249**	**0.7996**	**1.9800e-003**	**0.1065**	**5.6600e-003**	**0.1122**	**0.0288**	**5.2000e-003**	**0.0340**	**0.0000**	**150.8901**	**150.8901**	**3.7200e-003**	**0.0000**	**150.9682**

3.4 Building Construction - 2019

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	0.1235	1.1007	0.8988	1.4100e-003		0.0675	0.0675		0.0634	0.0634	0.0000	122.9143	122.9143	0.0299	0.0000	123.5423
Total	**0.1235**	**1.1007**	**0.8988**	**1.4100e-003**		**0.0675**	**0.0675**		**0.0634**	**0.0634**	**0.0000**	**122.9143**	**122.9143**	**0.0299**	**0.0000**	**123.5423**

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	0.0357	0.2922	0.4844	9.5000e-004	0.0265	5.0700e-003	0.0316	7.6000e-003	4.6600e-003	0.0123	0.0000	82.6975	82.6975	6.5000e-004	0.0000	82.7113
Worker	0.0256	0.0327	0.3152	1.0300e-003	0.0800	5.9000e-004	0.0806	0.0212	5.4000e-004	0.0218	0.0000	68.1925	68.1925	3.0700e-003	0.0000	68.2569
Total	**0.0612**	**0.3249**	**0.7996**	**1.9800e-003**	**0.1065**	**5.6600e-003**	**0.1122**	**0.0288**	**5.2000e-003**	**0.0340**	**0.0000**	**150.8901**	**150.8901**	**3.7200e-003**	**0.0000**	**150.9682**

3.4 Building Construction - 2020

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	0.1372	1.2405	1.0926	1.7400e-003		0.0723	0.0723		0.0680	0.0680	0.0000	149.9224	149.9224	0.0365	0.0000	150.6895
Total	**0.1372**	**1.2405**	**1.0926**	**1.7400e-003**		**0.0723**	**0.0723**		**0.0680**	**0.0680**	**0.0000**	**149.9224**	**149.9224**	**0.0365**	**0.0000**	**150.6895**

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	0.0401	0.3050	0.5696	1.1800e-003	0.0329	5.5000e-003	0.0384	9.4100e-003	5.0600e-003	0.0145	0.0000	100.0269	100.0269	7.7000e-004	0.0000	100.0430
Worker	0.0293	0.0373	0.3592	1.2700e-003	0.0990	7.3000e-004	0.0997	0.0263	6.7000e-004	0.0270	0.0000	81.0381	81.0381	3.5800e-003	0.0000	81.1134
Total	**0.0693**	**0.3423**	**0.9288**	**2.4500e-003**	**0.1319**	**6.2300e-003**	**0.1381**	**0.0357**	**5.7300e-003**	**0.0414**	**0.0000**	**181.0650**	**181.0650**	**4.3500e-003**	**0.0000**	**181.1564**

3.4 Building Construction - 2020

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	0.1372	1.2405	1.0926	1.7400e-003		0.0723	0.0723		0.0680	0.0680	0.0000	149.9223	149.9223	0.0365	0.0000	150.6893
Total	**0.1372**	**1.2405**	**1.0926**	**1.7400e-003**		**0.0723**	**0.0723**		**0.0680**	**0.0680**	**0.0000**	**149.9223**	**149.9223**	**0.0365**	**0.0000**	**150.6893**

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	0.0401	0.3050	0.5696	1.1800e-003	0.0329	5.5000e-003	0.0384	9.4100e-003	5.0600e-003	0.0145	0.0000	100.0269	100.0269	7.7000e-004	0.0000	100.0430
Worker	0.0293	0.0373	0.3592	1.2700e-003	0.0990	7.3000e-004	0.0997	0.0263	6.7000e-004	0.0270	0.0000	81.0381	81.0381	3.5800e-003	0.0000	81.1134
Total	**0.0693**	**0.3423**	**0.9288**	**2.4500e-003**	**0.1319**	**6.2300e-003**	**0.1381**	**0.0357**	**5.7300e-003**	**0.0414**	**0.0000**	**181.0650**	**181.0650**	**4.3500e-003**	**0.0000**	**181.1564**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.2700e-003	0.0971	0.0934	1.5000e-004		5.2600e-003	5.2600e-003		4.8400e-003	4.8400e-003	0.0000	13.0257	13.0257	4.1200e-003	0.0000	13.1122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.2700e-003**	**0.0971**	**0.0934**	**1.5000e-004**		**5.2600e-003**	**5.2600e-003**		**4.8400e-003**	**4.8400e-003**	**0.0000**	**13.0257**	**13.0257**	**4.1200e-003**	**0.0000**	**13.1122**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.2000e-004	3.1000e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6701	0.6701	3.0000e-005	0.0000	0.6707
Total	**2.5000e-004**	**3.2000e-004**	**3.1000e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6701**	**0.6701**	**3.0000e-005**	**0.0000**	**0.6707**

3.5 Paving - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.2700e-003	0.0971	0.0934	1.5000e-004		5.2600e-003	5.2600e-003		4.8400e-003	4.8400e-003	0.0000	13.0256	13.0256	4.1200e-003	0.0000	13.1122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.2700e-003**	**0.0971**	**0.0934**	**1.5000e-004**		**5.2600e-003**	**5.2600e-003**		**4.8400e-003**	**4.8400e-003**	**0.0000**	**13.0256**	**13.0256**	**4.1200e-003**	**0.0000**	**13.1122**

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	2.5000e-004	3.2000e-004	3.1000e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6701	0.6701	3.0000e-005	0.0000	0.6707
Total	**2.5000e-004**	**3.2000e-004**	**3.1000e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6701**	**0.6701**	**3.0000e-005**	**0.0000**	**0.6707**

3.6 Architectural Coating - 2020

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	3.2628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0300e-003	0.0211	0.0229	4.0000e-005		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003	0.0000	3.1916	3.1916	2.5000e-004	0.0000	3.1968
Total	**3.2658**	**0.0211**	**0.0229**	**4.0000e-005**		**1.3900e-003**	**1.3900e-003**		**1.3900e-003**	**1.3900e-003**	**0.0000**	**3.1916**	**3.1916**	**2.5000e-004**	**0.0000**	**3.1968**

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	1.1300e-003	1.4400e-003	0.0139	5.0000e-005	3.8300e-003	3.0000e-005	3.8600e-003	1.0200e-003	3.0000e-005	1.0400e-003	0.0000	3.1333	3.1333	1.4000e-004	0.0000	3.1363
Total	**1.1300e-003**	**1.4400e-003**	**0.0139**	**5.0000e-005**	**3.8300e-003**	**3.0000e-005**	**3.8600e-003**	**1.0200e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**3.1333**	**3.1333**	**1.4000e-004**	**0.0000**	**3.1363**

3.6 Architectural Coating - 2020

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	3.2628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0300e-003	0.0211	0.0229	4.0000e-005		1.3900e-003	1.3900e-003		1.3900e-003	1.3900e-003	0.0000	3.1916	3.1916	2.5000e-004	0.0000	3.1968
Total	**3.2658**	**0.0211**	**0.0229**	**4.0000e-005**		**1.3900e-003**	**1.3900e-003**		**1.3900e-003**	**1.3900e-003**	**0.0000**	**3.1916**	**3.1916**	**2.5000e-004**	**0.0000**	**3.1968**

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	1.1300e-003	1.4400e-003	0.0139	5.0000e-005	3.8300e-003	3.0000e-005	3.8600e-003	1.0200e-003	3.0000e-005	1.0400e-003	0.0000	3.1333	3.1333	1.4000e-004	0.0000	3.1363
Total	**1.1300e-003**	**1.4400e-003**	**0.0139**	**5.0000e-005**	**3.8300e-003**	**3.0000e-005**	**3.8600e-003**	**1.0200e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**3.1333**	**3.1333**	**1.4000e-004**	**0.0000**	**3.1363**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.353802	0.053998	0.135319	0.180908	0.057126	0.010421	0.023395	0.172085	0.001498	0.001845	0.006054	0.001012	0.002535

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	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
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	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
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					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**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					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**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Vegetation

Houghton and 99 - Const Phase 4

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	384.00	1000sqft	44.80	384,000.00	0
Regional Shopping Center	85.30	1000sqft	7.80	85,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual acreage divided equally between the 6 phases

Construction Phase - Construction Schedule Estimated for this Phase

Vehicle Trips - Construction Run Only

Consumer Products - Construction Run Only

Area Coating -

Landscape Equipment - Construction Run Only

Energy Use - Construction Run Only

Water And Wastewater - Construction Run Only

Solid Waste - Construction Run Only

Construction Off-road Equipment Mitigation -

Grading -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	75.00	25.00
tblConstructionPhase	NumDays	1,110.00	234.00
tblConstructionPhase	NumDays	110.00	21.00
tblConstructionPhase	NumDays	75.00	13.00
tblConstructionPhase	NumDays	40.00	8.00
tblConstructionPhase	PhaseEndDate	4/1/2021	12/31/2021
tblConstructionPhase	PhaseEndDate	1/3/2022	12/31/2021
tblConstructionPhase	PhaseEndDate	2/10/2021	2/9/2021
tblConstructionPhase	PhaseEndDate	1/19/2022	2/25/2021
tblConstructionPhase	PhaseStartDate	2/26/2021	11/28/2021
tblConstructionPhase	PhaseStartDate	2/10/2021	2/9/2021
tblConstructionPhase	PhaseStartDate	1/13/2021	1/12/2021
tblConstructionPhase	PhaseStartDate	1/1/2022	2/9/2021

tblEnergyUse	LightingElect	3.11	0.00
tblEnergyUse	LightingElect	4.22	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	T24E	2.39	0.00
tblEnergyUse	T24E	2.61	0.00
tblEnergyUse	T24NG	17.92	0.00
tblEnergyUse	T24NG	9.07	0.00
tblLandUse	LotAcreage	8.82	44.80
tblLandUse	LotAcreage	1.96	7.80
tblProjectCharacteristics	OperationalYear	2014	2024
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblSolidWaste	SolidWasteGenerationRate	476.16	0.00
tblSolidWaste	SolidWasteGenerationRate	89.56	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	42.94	0.00
tblWater	IndoorWaterUseRate	88,800,000.00	0.00
tblWater	IndoorWaterUseRate	6,318,386.08	0.00
tblWater	OutdoorWaterUseRate	3,872,559.21	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	3.6733	3.2475	4.1865	8.6100e-003	0.4076	0.1553	0.5628	0.1436	0.1452	0.2888	0.0000	685.1576	685.1576	0.1000	0.0000	687.2572
Total	**3.6733**	**3.2475**	**4.1865**	**8.6100e-003**	**0.4076**	**0.1553**	**0.5628**	**0.1436**	**0.1452**	**0.2888**	**0.0000**	**685.1576**	**685.1576**	**0.1000**	**0.0000**	**687.2572**

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					
2021	3.6733	3.2475	4.1865	8.6100e-003	0.3079	0.1553	0.4632	0.0963	0.1452	0.2415	0.0000	685.1572	685.1572	0.1000	0.0000	687.2568
Total	**3.6733**	**3.2475**	**4.1865**	**8.6100e-003**	**0.3079**	**0.1553**	**0.4632**	**0.0963**	**0.1452**	**0.2415**	**0.0000**	**685.1572**	**685.1572**	**0.1000**	**0.0000**	**687.2568**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**24.45**	**0.00**	**17.70**	**32.92**	**0.00**	**16.37**	**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	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/12/2021	5	8	
2	Grading	Grading	1/12/2021	2/9/2021	5	21	
3	Building Construction	Building Construction	2/9/2021	12/31/2021	5	234	
4	Paving	Paving	2/9/2021	2/25/2021	5	13	
5	Architectural Coating	Architectural Coating	11/28/2021	12/31/2021	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 52.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 703,950; Non-Residential Outdoor: 234,650 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	189.00	77.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	38.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

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					0.0723	0.0000	0.0723	0.0397	0.0000	0.0397	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0136	0.1400	0.1234	1.6000e-004		6.8000e-003	6.8000e-003		6.2500e-003	6.2500e-003	0.0000	13.7480	13.7480	4.4500e-003	0.0000	13.8414
Total	**0.0136**	**0.1400**	**0.1234**	**1.6000e-004**	**0.0723**	**6.8000e-003**	**0.0791**	**0.0397**	**6.2500e-003**	**0.0460**	**0.0000**	**13.7480**	**13.7480**	**4.4500e-003**	**0.0000**	**13.8414**

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	1.6000e-004	2.0000e-004	1.9700e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4667	0.4667	2.0000e-005	0.0000	0.4672
Total	**1.6000e-004**	**2.0000e-004**	**1.9700e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4667**	**0.4667**	**2.0000e-005**	**0.0000**	**0.4672**

3.2 Site Preparation - 2021

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					0.0282	0.0000	0.0282	0.0155	0.0000	0.0155	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0136	0.1400	0.1234	1.6000e-004		6.8000e-003	6.8000e-003		6.2500e-003	6.2500e-003	0.0000	13.7480	13.7480	4.4500e-003	0.0000	13.8414
Total	**0.0136**	**0.1400**	**0.1234**	**1.6000e-004**	**0.0282**	**6.8000e-003**	**0.0350**	**0.0155**	**6.2500e-003**	**0.0217**	**0.0000**	**13.7480**	**13.7480**	**4.4500e-003**	**0.0000**	**13.8414**

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	1.6000e-004	2.0000e-004	1.9700e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4667	0.4667	2.0000e-005	0.0000	0.4672
Total	**1.6000e-004**	**2.0000e-004**	**1.9700e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4667**	**0.4667**	**2.0000e-005**	**0.0000**	**0.4672**

3.3 Grading - 2021

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					0.0911	0.0000	0.0911	0.0378	0.0000	0.0378	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0440	0.4672	0.3860	6.5000e-004		0.0212	0.0212		0.0195	0.0195	0.0000	56.9537	56.9537	0.0184	0.0000	57.3405
Total	**0.0440**	**0.4672**	**0.3860**	**6.5000e-004**	**0.0911**	**0.0212**	**0.1122**	**0.0378**	**0.0195**	**0.0572**	**0.0000**	**56.9537**	**56.9537**	**0.0184**	**0.0000**	**57.3405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	5.9000e-004	5.7400e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3613	1.3613	6.0000e-005	0.0000	1.3625
Total	**4.7000e-004**	**5.9000e-004**	**5.7400e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3613**	**1.3613**	**6.0000e-005**	**0.0000**	**1.3625**

3.3 Grading - 2021

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					0.0355	0.0000	0.0355	0.0147	0.0000	0.0147	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0440	0.4672	0.3860	6.5000e-004		0.0212	0.0212		0.0195	0.0195	0.0000	56.9536	56.9536	0.0184	0.0000	57.3405
Total	**0.0440**	**0.4672**	**0.3860**	**6.5000e-004**	**0.0355**	**0.0212**	**0.0567**	**0.0147**	**0.0195**	**0.0342**	**0.0000**	**56.9536**	**56.9536**	**0.0184**	**0.0000**	**57.3405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	5.9000e-004	5.7400e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3613	1.3613	6.0000e-005	0.0000	1.3625
Total	**4.7000e-004**	**5.9000e-004**	**5.7400e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3613**	**1.3613**	**6.0000e-005**	**0.0000**	**1.3625**

3.4 Building Construction - 2021

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	0.2215	2.0288	1.9349	3.1400e-003		0.1117	0.1117		0.1051	0.1051	0.0000	269.8924	269.8924	0.0650	0.0000	271.2579
Total	**0.2215**	**2.0288**	**1.9349**	**3.1400e-003**		**0.1117**	**0.1117**		**0.1051**	**0.1051**	**0.0000**	**269.8924**	**269.8924**	**0.0650**	**0.0000**	**271.2579**

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	0.0691	0.4451	0.9987	2.1200e-003	0.0591	8.7200e-003	0.0679	0.0169	8.0200e-003	0.0250	0.0000	179.7484	179.7484	1.3700e-003	0.0000	179.7771
Worker	0.0496	0.0626	0.6042	2.2800e-003	0.1782	1.3200e-003	0.1795	0.0473	1.2200e-003	0.0486	0.0000	143.3459	143.3459	6.1500e-003	0.0000	143.4751
Total	**0.1187**	**0.5077**	**1.6028**	**4.4000e-003**	**0.2373**	**0.0100**	**0.2474**	**0.0643**	**9.2400e-003**	**0.0735**	**0.0000**	**323.0943**	**323.0943**	**7.5200e-003**	**0.0000**	**323.2521**

3.4 Building Construction - 2021

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	0.2215	2.0288	1.9349	3.1400e-003		0.1117	0.1117		0.1051	0.1051	0.0000	269.8921	269.8921	0.0650	0.0000	271.2575
Total	**0.2215**	**2.0288**	**1.9349**	**3.1400e-003**		**0.1117**	**0.1117**		**0.1051**	**0.1051**	**0.0000**	**269.8921**	**269.8921**	**0.0650**	**0.0000**	**271.2575**

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	0.0691	0.4451	0.9987	2.1200e-003	0.0591	8.7200e-003	0.0679	0.0169	8.0200e-003	0.0250	0.0000	179.7484	179.7484	1.3700e-003	0.0000	179.7771
Worker	0.0496	0.0626	0.6042	2.2800e-003	0.1782	1.3200e-003	0.1795	0.0473	1.2200e-003	0.0486	0.0000	143.3459	143.3459	6.1500e-003	0.0000	143.4751
Total	**0.1187**	**0.5077**	**1.6028**	**4.4000e-003**	**0.2373**	**0.0100**	**0.2474**	**0.0643**	**9.2400e-003**	**0.0735**	**0.0000**	**323.0943**	**323.0943**	**7.5200e-003**	**0.0000**	**323.2521**

3.5 Paving - 2021

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	8.0000e-003	0.0823	0.0933	1.5000e-004		4.3200e-003	4.3200e-003		3.9800e-003	3.9800e-003	0.0000	12.7384	12.7384	4.1200e-003	0.0000	12.8249
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.0000e-003**	**0.0823**	**0.0933**	**1.5000e-004**		**4.3200e-003**	**4.3200e-003**		**3.9800e-003**	**3.9800e-003**	**0.0000**	**12.7384**	**12.7384**	**4.1200e-003**	**0.0000**	**12.8249**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	2.8000e-004	2.6600e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6320	0.6320	3.0000e-005	0.0000	0.6326
Total	**2.2000e-004**	**2.8000e-004**	**2.6600e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6320**	**0.6320**	**3.0000e-005**	**0.0000**	**0.6326**

3.5 Paving - 2021

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	8.0000e-003	0.0823	0.0933	1.5000e-004		4.3200e-003	4.3200e-003		3.9800e-003	3.9800e-003	0.0000	12.7384	12.7384	4.1200e-003	0.0000	12.8249
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.0000e-003**	**0.0823**	**0.0933**	**1.5000e-004**		**4.3200e-003**	**4.3200e-003**		**3.9800e-003**	**3.9800e-003**	**0.0000**	**12.7384**	**12.7384**	**4.1200e-003**	**0.0000**	**12.8249**

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	2.2000e-004	2.8000e-004	2.6600e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6320	0.6320	3.0000e-005	0.0000	0.6326
Total	**2.2000e-004**	**2.8000e-004**	**2.6600e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6320**	**0.6320**	**3.0000e-005**	**0.0000**	**0.6326**

3.6 Architectural Coating - 2021

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	3.2628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7400e-003	0.0191	0.0227	4.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003	0.0000	3.1916	3.1916	2.2000e-004	0.0000	3.1962
Total	**3.2656**	**0.0191**	**0.0227**	**4.0000e-005**		**1.1800e-003**	**1.1800e-003**		**1.1800e-003**	**1.1800e-003**	**0.0000**	**3.1916**	**3.1916**	**2.2000e-004**	**0.0000**	**3.1962**

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	1.0700e-003	1.3400e-003	0.0130	5.0000e-005	3.8300e-003	3.0000e-005	3.8600e-003	1.0200e-003	3.0000e-005	1.0400e-003	0.0000	3.0792	3.0792	1.3000e-004	0.0000	3.0819
Total	**1.0700e-003**	**1.3400e-003**	**0.0130**	**5.0000e-005**	**3.8300e-003**	**3.0000e-005**	**3.8600e-003**	**1.0200e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**3.0792**	**3.0792**	**1.3000e-004**	**0.0000**	**3.0819**

3.6 Architectural Coating - 2021

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	3.2628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7400e-003	0.0191	0.0227	4.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003	0.0000	3.1916	3.1916	2.2000e-004	0.0000	3.1962
Total	**3.2656**	**0.0191**	**0.0227**	**4.0000e-005**		**1.1800e-003**	**1.1800e-003**		**1.1800e-003**	**1.1800e-003**	**0.0000**	**3.1916**	**3.1916**	**2.2000e-004**	**0.0000**	**3.1962**

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	1.0700e-003	1.3400e-003	0.0130	5.0000e-005	3.8300e-003	3.0000e-005	3.8600e-003	1.0200e-003	3.0000e-005	1.0400e-003	0.0000	3.0792	3.0792	1.3000e-004	0.0000	3.0819
Total	**1.0700e-003**	**1.3400e-003**	**0.0130**	**5.0000e-005**	**3.8300e-003**	**3.0000e-005**	**3.8600e-003**	**1.0200e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**3.0792**	**3.0792**	**1.3000e-004**	**0.0000**	**3.0819**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.353802	0.053998	0.135319	0.180908	0.057126	0.010421	0.023395	0.172085	0.001498	0.001845	0.006054	0.001012	0.002535

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	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
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	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
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					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**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					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**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Vegetation

Houghton and 99 - Const Phase 5

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	384.00	1000sqft	44.80	384,000.00	0
Regional Shopping Center	85.30	1000sqft	7.80	85,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual acreage divided equally between the 6 phases

Construction Phase - Construction Schedule Estimated for this Phase

Vehicle Trips - Construction Run Only

Consumer Products - Construction Run Only

Area Coating -

Landscape Equipment - Construction Run Only

Energy Use - Construction Run Only

Water And Wastewater - Construction Run Only

Solid Waste - Construction Run Only

Construction Off-road Equipment Mitigation -

Grading -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	75.00	25.00
tblConstructionPhase	NumDays	1,110.00	234.00
tblConstructionPhase	NumDays	110.00	21.00
tblConstructionPhase	NumDays	75.00	13.00
tblConstructionPhase	NumDays	40.00	8.00
tblConstructionPhase	PhaseEndDate	9/29/2022	6/30/2023
tblConstructionPhase	PhaseEndDate	7/3/2023	6/30/2023
tblConstructionPhase	PhaseEndDate	8/10/2022	8/9/2022
tblConstructionPhase	PhaseEndDate	7/19/2023	8/25/2022
tblConstructionPhase	PhaseStartDate	8/26/2022	5/28/2023
tblConstructionPhase	PhaseStartDate	8/10/2022	8/9/2022
tblConstructionPhase	PhaseStartDate	7/13/2022	7/12/2022
tblConstructionPhase	PhaseStartDate	7/1/2023	8/9/2022

tblEnergyUse	LightingElect	3.11	0.00
tblEnergyUse	LightingElect	4.22	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	T24E	2.39	0.00
tblEnergyUse	T24E	2.61	0.00
tblEnergyUse	T24NG	17.92	0.00
tblEnergyUse	T24NG	9.07	0.00
tblLandUse	LotAcreage	8.82	44.80
tblLandUse	LotAcreage	1.96	7.80
tblProjectCharacteristics	OperationalYear	2014	2024
tblSolidWaste	SolidWasteGenerationRate	476.16	0.00
tblSolidWaste	SolidWasteGenerationRate	89.56	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	42.94	0.00
tblWater	IndoorWaterUseRate	88,800,000.00	0.00
tblWater	IndoorWaterUseRate	6,318,386.08	0.00
tblWater	OutdoorWaterUseRate	3,872,559.21	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1989	1.6147	2.1164	4.3400e-003	0.2719	0.0743	0.3461	0.1069	0.0692	0.1761	0.0000	348.4573	348.4573	0.0591	0.0000	349.6974
2023	3.4273	1.1670	1.8964	4.2700e-003	0.1357	0.0514	0.1870	0.0367	0.0483	0.0850	0.0000	333.0970	333.0970	0.0398	0.0000	333.9333
Total	**3.6262**	**2.7817**	**4.0128**	**8.6100e-003**	**0.4076**	**0.1256**	**0.5332**	**0.1436**	**0.1175**	**0.2611**	**0.0000**	**681.5543**	**681.5543**	**0.0989**	**0.0000**	**683.6307**

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					
2022	0.1989	1.6147	2.1164	4.3400e-003	0.1722	0.0743	0.2465	0.0596	0.0692	0.1288	0.0000	348.4570	348.4570	0.0591	0.0000	349.6972
2023	3.4273	1.1670	1.8964	4.2700e-003	0.1357	0.0514	0.1870	0.0367	0.0483	0.0850	0.0000	333.0969	333.0969	0.0398	0.0000	333.9332
Total	**3.6262**	**2.7817**	**4.0128**	**8.6100e-003**	**0.3079**	**0.1256**	**0.4335**	**0.0963**	**0.1175**	**0.2138**	**0.0000**	**681.5539**	**681.5539**	**0.0989**	**0.0000**	**683.6303**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**24.45**	**0.00**	**18.69**	**32.92**	**0.00**	**18.11**	**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	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2022	7/12/2022	5	8	
2	Grading	Grading	7/12/2022	8/9/2022	5	21	
3	Building Construction	Building Construction	8/9/2022	6/30/2023	5	234	
4	Paving	Paving	8/9/2022	8/25/2022	5	13	
5	Architectural Coating	Architectural Coating	5/28/2023	6/30/2023	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 52.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 703,950; Non-Residential Outdoor: 234,650 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38

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
Architectural Coating	1	38.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	189.00	77.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2022

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					0.0723	0.0000	0.0723	0.0397	0.0000	0.0397	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1306	0.1199	1.6000e-004		6.1900e-003	6.1900e-003		5.6900e-003	5.6900e-003	0.0000	13.7593	13.7593	4.4500e-003	0.0000	13.8527
Total	**0.0129**	**0.1306**	**0.1199**	**1.6000e-004**	**0.0723**	**6.1900e-003**	**0.0785**	**0.0397**	**5.6900e-003**	**0.0454**	**0.0000**	**13.7593**	**13.7593**	**4.4500e-003**	**0.0000**	**13.8527**

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	1.5000e-004	1.9000e-004	1.8400e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4596	0.4596	2.0000e-005	0.0000	0.4600
Total	**1.5000e-004**	**1.9000e-004**	**1.8400e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4596**	**0.4596**	**2.0000e-005**	**0.0000**	**0.4600**

3.2 Site Preparation - 2022

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					0.0282	0.0000	0.0282	0.0155	0.0000	0.0155	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1306	0.1199	1.6000e-004		6.1900e-003	6.1900e-003		5.6900e-003	5.6900e-003	0.0000	13.7593	13.7593	4.4500e-003	0.0000	13.8527
Total	**0.0129**	**0.1306**	**0.1199**	**1.6000e-004**	**0.0282**	**6.1900e-003**	**0.0344**	**0.0155**	**5.6900e-003**	**0.0212**	**0.0000**	**13.7593**	**13.7593**	**4.4500e-003**	**0.0000**	**13.8527**

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	1.5000e-004	1.9000e-004	1.8400e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4596	0.4596	2.0000e-005	0.0000	0.4600
Total	**1.5000e-004**	**1.9000e-004**	**1.8400e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4596**	**0.4596**	**2.0000e-005**	**0.0000**	**0.4600**

3.3 Grading - 2022

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					0.0911	0.0000	0.0911	0.0378	0.0000	0.0378	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0395	0.4035	0.3685	6.5000e-004		0.0181	0.0181		0.0167	0.0167	0.0000	57.0074	57.0074	0.0184	0.0000	57.3945
Total	**0.0395**	**0.4035**	**0.3685**	**6.5000e-004**	**0.0911**	**0.0181**	**0.1092**	**0.0378**	**0.0167**	**0.0545**	**0.0000**	**57.0074**	**57.0074**	**0.0184**	**0.0000**	**57.3945**

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	4.4000e-004	5.6000e-004	5.3800e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3404	1.3404	6.0000e-005	0.0000	1.3416
Total	**4.4000e-004**	**5.6000e-004**	**5.3800e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3404**	**1.3404**	**6.0000e-005**	**0.0000**	**1.3416**

3.3 Grading - 2022

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					0.0355	0.0000	0.0355	0.0147	0.0000	0.0147	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0395	0.4035	0.3685	6.5000e-004		0.0181	0.0181		0.0167	0.0167	0.0000	57.0073	57.0073	0.0184	0.0000	57.3945
Total	**0.0395**	**0.4035**	**0.3685**	**6.5000e-004**	**0.0355**	**0.0181**	**0.0537**	**0.0147**	**0.0167**	**0.0314**	**0.0000**	**57.0073**	**57.0073**	**0.0184**	**0.0000**	**57.3945**

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	4.4000e-004	5.6000e-004	5.3800e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3404	1.3404	6.0000e-005	0.0000	1.3416
Total	**4.4000e-004**	**5.6000e-004**	**5.3800e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3404**	**1.3404**	**6.0000e-005**	**0.0000**	**1.3416**

3.4 Building Construction - 2022

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	0.0884	0.8079	0.8490	1.3900e-003		0.0419	0.0419		0.0394	0.0394	0.0000	119.9979	119.9979	0.0287	0.0000	120.6007
Total	**0.0884**	**0.8079**	**0.8490**	**1.3900e-003**		**0.0419**	**0.0419**		**0.0394**	**0.0394**	**0.0000**	**119.9979**	**119.9979**	**0.0287**	**0.0000**	**120.6007**

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	0.0295	0.1746	0.4246	9.4000e-004	0.0263	3.7900e-003	0.0301	7.5300e-003	3.4900e-003	0.0110	0.0000	79.7984	79.7984	6.2000e-004	0.0000	79.8113
Worker	0.0208	0.0261	0.2518	1.0200e-003	0.0792	5.9000e-004	0.0798	0.0210	5.5000e-004	0.0216	0.0000	62.7312	62.7312	2.6200e-003	0.0000	62.7862
Total	**0.0503**	**0.2007**	**0.6764**	**1.9600e-003**	**0.1055**	**4.3800e-003**	**0.1099**	**0.0286**	**4.0400e-003**	**0.0326**	**0.0000**	**142.5296**	**142.5296**	**3.2400e-003**	**0.0000**	**142.5976**

3.4 Building Construction - 2022

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	0.0884	0.8079	0.8490	1.3900e-003		0.0419	0.0419		0.0394	0.0394	0.0000	119.9977	119.9977	0.0287	0.0000	120.6005
Total	**0.0884**	**0.8079**	**0.8490**	**1.3900e-003**		**0.0419**	**0.0419**		**0.0394**	**0.0394**	**0.0000**	**119.9977**	**119.9977**	**0.0287**	**0.0000**	**120.6005**

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	0.0295	0.1746	0.4246	9.4000e-004	0.0263	3.7900e-003	0.0301	7.5300e-003	3.4900e-003	0.0110	0.0000	79.7984	79.7984	6.2000e-004	0.0000	79.8113
Worker	0.0208	0.0261	0.2518	1.0200e-003	0.0792	5.9000e-004	0.0798	0.0210	5.5000e-004	0.0216	0.0000	62.7312	62.7312	2.6200e-003	0.0000	62.7862
Total	**0.0503**	**0.2007**	**0.6764**	**1.9600e-003**	**0.1055**	**4.3800e-003**	**0.1099**	**0.0286**	**4.0400e-003**	**0.0326**	**0.0000**	**142.5296**	**142.5296**	**3.2400e-003**	**0.0000**	**142.5976**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1018	0.9303	1.0536	1.7400e-003		0.0453	0.0453		0.0426	0.0426	0.0000	150.0490	150.0490	0.0356	0.0000	150.7975
Total	**0.1018**	**0.9303**	**1.0536**	**1.7400e-003**		**0.0453**	**0.0453**		**0.0426**	**0.0426**	**0.0000**	**150.0490**	**150.0490**	**0.0356**	**0.0000**	**150.7975**

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	0.0347	0.1885	0.5124	1.1700e-003	0.0329	4.4100e-003	0.0373	9.4100e-003	4.0600e-003	0.0135	0.0000	99.5435	99.5435	7.1000e-004	0.0000	99.5585
Worker	0.0246	0.0307	0.2963	1.2700e-003	0.0990	7.4000e-004	0.0997	0.0263	6.9000e-004	0.0270	0.0000	77.3233	77.3233	3.1600e-003	0.0000	77.3896
Total	**0.0594**	**0.2192**	**0.8087**	**2.4400e-003**	**0.1319**	**5.1500e-003**	**0.1370**	**0.0357**	**4.7500e-003**	**0.0405**	**0.0000**	**176.8668**	**176.8668**	**3.8700e-003**	**0.0000**	**176.9480**

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1018	0.9303	1.0536	1.7400e-003		0.0453	0.0453		0.0426	0.0426	0.0000	150.0488	150.0488	0.0356	0.0000	150.7973
Total	**0.1018**	**0.9303**	**1.0536**	**1.7400e-003**		**0.0453**	**0.0453**		**0.0426**	**0.0426**	**0.0000**	**150.0488**	**150.0488**	**0.0356**	**0.0000**	**150.7973**

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	0.0347	0.1885	0.5124	1.1700e-003	0.0329	4.4100e-003	0.0373	9.4100e-003	4.0600e-003	0.0135	0.0000	99.5435	99.5435	7.1000e-004	0.0000	99.5585
Worker	0.0246	0.0307	0.2963	1.2700e-003	0.0990	7.4000e-004	0.0997	0.0263	6.9000e-004	0.0270	0.0000	77.3233	77.3233	3.1600e-003	0.0000	77.3896
Total	**0.0594**	**0.2192**	**0.8087**	**2.4400e-003**	**0.1319**	**5.1500e-003**	**0.1370**	**0.0357**	**4.7500e-003**	**0.0405**	**0.0000**	**176.8668**	**176.8668**	**3.8700e-003**	**0.0000**	**176.9480**

3.5 Paving - 2022

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	7.0300e-003	0.0709	0.0928	1.5000e-004		3.6200e-003	3.6200e-003		3.3300e-003	3.3300e-003	0.0000	12.7409	12.7409	4.1200e-003	0.0000	12.8275
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.0300e-003**	**0.0709**	**0.0928**	**1.5000e-004**		**3.6200e-003**	**3.6200e-003**		**3.3300e-003**	**3.3300e-003**	**0.0000**	**12.7409**	**12.7409**	**4.1200e-003**	**0.0000**	**12.8275**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	2.6000e-004	2.5000e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6223	0.6223	3.0000e-005	0.0000	0.6229
Total	**2.1000e-004**	**2.6000e-004**	**2.5000e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6223**	**0.6223**	**3.0000e-005**	**0.0000**	**0.6229**

3.5 Paving - 2022

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	7.0300e-003	0.0709	0.0928	1.5000e-004		3.6200e-003	3.6200e-003		3.3300e-003	3.3300e-003	0.0000	12.7409	12.7409	4.1200e-003	0.0000	12.8274
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.0300e-003**	**0.0709**	**0.0928**	**1.5000e-004**		**3.6200e-003**	**3.6200e-003**		**3.3300e-003**	**3.3300e-003**	**0.0000**	**12.7409**	**12.7409**	**4.1200e-003**	**0.0000**	**12.8274**

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	2.1000e-004	2.6000e-004	2.5000e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6223	0.6223	3.0000e-005	0.0000	0.6229
Total	**2.1000e-004**	**2.6000e-004**	**2.5000e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6223**	**0.6223**	**3.0000e-005**	**0.0000**	**0.6229**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.2628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4000e-003	0.0163	0.0226	4.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	3.1916	3.1916	1.9000e-004	0.0000	3.1956
Total	**3.2652**	**0.0163**	**0.0226**	**4.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**	**0.0000**	**3.1916**	**3.1916**	**1.9000e-004**	**0.0000**	**3.1956**

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	9.5000e-004	1.1900e-003	0.0115	5.0000e-005	3.8300e-003	3.0000e-005	3.8600e-003	1.0200e-003	3.0000e-005	1.0400e-003	0.0000	2.9897	2.9897	1.2000e-004	0.0000	2.9923
Total	**9.5000e-004**	**1.1900e-003**	**0.0115**	**5.0000e-005**	**3.8300e-003**	**3.0000e-005**	**3.8600e-003**	**1.0200e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**2.9897**	**2.9897**	**1.2000e-004**	**0.0000**	**2.9923**

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.2628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4000e-003	0.0163	0.0226	4.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	3.1916	3.1916	1.9000e-004	0.0000	3.1956
Total	**3.2652**	**0.0163**	**0.0226**	**4.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.9000e-004**	**8.9000e-004**	**0.0000**	**3.1916**	**3.1916**	**1.9000e-004**	**0.0000**	**3.1956**

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	9.5000e-004	1.1900e-003	0.0115	5.0000e-005	3.8300e-003	3.0000e-005	3.8600e-003	1.0200e-003	3.0000e-005	1.0400e-003	0.0000	2.9897	2.9897	1.2000e-004	0.0000	2.9923
Total	**9.5000e-004**	**1.1900e-003**	**0.0115**	**5.0000e-005**	**3.8300e-003**	**3.0000e-005**	**3.8600e-003**	**1.0200e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**2.9897**	**2.9897**	**1.2000e-004**	**0.0000**	**2.9923**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.353802	0.053998	0.135319	0.180908	0.057126	0.010421	0.023395	0.172085	0.001498	0.001845	0.006054	0.001012	0.002535

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	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
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	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
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					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**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					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**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Vegetation

Houghton and 99 - Const Phase 6

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	384.00	1000sqft	44.80	384,000.00	0
Regional Shopping Center	85.30	1000sqft	7.80	85,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual acreage divided equally between the 6 phases

Construction Phase - Construction Schedule Estimated for this Phase

Vehicle Trips - Construction Run Only

Consumer Products - Construction Run Only

Area Coating -

Landscape Equipment - Construction Run Only

Energy Use - Construction Run Only

Water And Wastewater - Construction Run Only

Solid Waste - Construction Run Only

Construction Off-road Equipment Mitigation -

Grading -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	75.00	25.00
tblConstructionPhase	NumDays	1,110.00	235.00
tblConstructionPhase	NumDays	110.00	21.00
tblConstructionPhase	NumDays	75.00	13.00
tblConstructionPhase	NumDays	40.00	8.00
tblConstructionPhase	PhaseEndDate	3/29/2024	12/31/2024
tblConstructionPhase	PhaseEndDate	1/1/2025	12/31/2024
tblConstructionPhase	PhaseEndDate	2/8/2024	2/7/2024
tblConstructionPhase	PhaseEndDate	1/17/2025	2/23/2024
tblConstructionPhase	PhaseStartDate	2/24/2024	11/27/2024
tblConstructionPhase	PhaseStartDate	2/8/2024	2/7/2024
tblConstructionPhase	PhaseStartDate	1/11/2024	1/10/2024
tblConstructionPhase	PhaseStartDate	1/1/2025	2/7/2024

tblEnergyUse	LightingElect	3.11	0.00
tblEnergyUse	LightingElect	4.22	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	T24E	2.39	0.00
tblEnergyUse	T24E	2.61	0.00
tblEnergyUse	T24NG	17.92	0.00
tblEnergyUse	T24NG	9.07	0.00
tblLandUse	LotAcreage	8.82	44.80
tblLandUse	LotAcreage	1.96	7.80
tblProjectCharacteristics	OperationalYear	2014	2024
tblSolidWaste	SolidWasteGenerationRate	476.16	0.00
tblSolidWaste	SolidWasteGenerationRate	89.56	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	42.94	0.00
tblWater	IndoorWaterUseRate	88,800,000.00	0.00
tblWater	IndoorWaterUseRate	6,318,386.08	0.00
tblWater	OutdoorWaterUseRate	3,872,559.21	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	3.5950	2.4899	3.9045	8.6400e-003	0.4086	0.1048	0.5134	0.1439	0.0980	0.2419	0.0000	681.3326	681.3326	0.0983	0.0000	683.3963
Total	**3.5950**	**2.4899**	**3.9045**	**8.6400e-003**	**0.4086**	**0.1048**	**0.5134**	**0.1439**	**0.0980**	**0.2419**	**0.0000**	**681.3326**	**681.3326**	**0.0983**	**0.0000**	**683.3963**

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					
2024	3.5950	2.4899	3.9045	8.6400e-003	0.3089	0.1048	0.4138	0.0966	0.0980	0.1946	0.0000	681.3322	681.3322	0.0983	0.0000	683.3959
Total	**3.5950**	**2.4899**	**3.9045**	**8.6400e-003**	**0.3089**	**0.1048**	**0.4138**	**0.0966**	**0.0980**	**0.1946**	**0.0000**	**681.3322**	**681.3322**	**0.0983**	**0.0000**	**683.3959**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**24.39**	**0.00**	**19.41**	**32.86**	**0.00**	**19.54**	**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	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2024	1/10/2024	5	8	
2	Grading	Grading	1/10/2024	2/7/2024	5	21	
3	Building Construction	Building Construction	2/7/2024	12/31/2024	5	235	
4	Paving	Paving	2/7/2024	2/23/2024	5	13	
5	Architectural Coating	Architectural Coating	11/27/2024	12/31/2024	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 52.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 703,950; Non-Residential Outdoor: 234,650 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	189.00	77.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	38.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					
Fugitive Dust					0.0723	0.0000	0.0723	0.0397	0.0000	0.0397	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.1102	0.1104	1.6000e-004		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	13.7686	13.7686	4.4500e-003	0.0000	13.8621
Total	**0.0113**	**0.1102**	**0.1104**	**1.6000e-004**	**0.0723**	**5.0000e-003**	**0.0773**	**0.0397**	**4.6000e-003**	**0.0443**	**0.0000**	**13.7686**	**13.7686**	**4.4500e-003**	**0.0000**	**13.8621**

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	1.4000e-004	1.7000e-004	1.6400e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4477	0.4477	2.0000e-005	0.0000	0.4481
Total	**1.4000e-004**	**1.7000e-004**	**1.6400e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4477**	**0.4477**	**2.0000e-005**	**0.0000**	**0.4481**

3.2 Site Preparation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0282	0.0000	0.0282	0.0155	0.0000	0.0155	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.1102	0.1104	1.6000e-004		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	13.7686	13.7686	4.4500e-003	0.0000	13.8621
Total	**0.0113**	**0.1102**	**0.1104**	**1.6000e-004**	**0.0282**	**5.0000e-003**	**0.0332**	**0.0155**	**4.6000e-003**	**0.0201**	**0.0000**	**13.7686**	**13.7686**	**4.4500e-003**	**0.0000**	**13.8621**

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	1.4000e-004	1.7000e-004	1.6400e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4477	0.4477	2.0000e-005	0.0000	0.4481
Total	**1.4000e-004**	**1.7000e-004**	**1.6400e-003**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**5.8000e-004**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4477**	**0.4477**	**2.0000e-005**	**0.0000**	**0.4481**

3.3 Grading - 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					
Fugitive Dust					0.0911	0.0000	0.0911	0.0378	0.0000	0.0378	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0353	0.3380	0.3512	6.5000e-004		0.0150	0.0150		0.0138	0.0138	0.0000	57.0005	57.0005	0.0184	0.0000	57.3876
Total	**0.0353**	**0.3380**	**0.3512**	**6.5000e-004**	**0.0911**	**0.0150**	**0.1060**	**0.0378**	**0.0138**	**0.0515**	**0.0000**	**57.0005**	**57.0005**	**0.0184**	**0.0000**	**57.3876**

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	5.0000e-004	4.8000e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3058	1.3058	5.0000e-005	0.0000	1.3069
Total	**4.0000e-004**	**5.0000e-004**	**4.8000e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3058**	**1.3058**	**5.0000e-005**	**0.0000**	**1.3069**

3.3 Grading - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0355	0.0000	0.0355	0.0147	0.0000	0.0147	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0353	0.3380	0.3512	6.5000e-004		0.0150	0.0150		0.0138	0.0138	0.0000	57.0004	57.0004	0.0184	0.0000	57.3875
Total	**0.0353**	**0.3380**	**0.3512**	**6.5000e-004**	**0.0355**	**0.0150**	**0.0505**	**0.0147**	**0.0138**	**0.0285**	**0.0000**	**57.0004**	**57.0004**	**0.0184**	**0.0000**	**57.3875**

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	5.0000e-004	4.8000e-003	2.0000e-005	1.6900e-003	1.0000e-005	1.7000e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3058	1.3058	5.0000e-005	0.0000	1.3069
Total	**4.0000e-004**	**5.0000e-004**	**4.8000e-003**	**2.0000e-005**	**1.6900e-003**	**1.0000e-005**	**1.7000e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3058**	**1.3058**	**5.0000e-005**	**0.0000**	**1.3069**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1722	1.5719	1.8957	3.1500e-003		0.0717	0.0717		0.0675	0.0675	0.0000	271.2946	271.2946	0.0641	0.0000	272.6397
Total	**0.1722**	**1.5719**	**1.8957**	**3.1500e-003**		**0.0717**	**0.0717**		**0.0675**	**0.0675**	**0.0000**	**271.2946**	**271.2946**	**0.0641**	**0.0000**	**272.6397**

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	0.0610	0.3393	0.9048	2.1200e-003	0.0594	8.0100e-003	0.0674	0.0170	7.3700e-003	0.0244	0.0000	179.9376	179.9376	1.2900e-003	0.0000	179.9647
Worker	0.0422	0.0525	0.5072	2.2900e-003	0.1790	1.3500e-003	0.1803	0.0475	1.2500e-003	0.0488	0.0000	138.0863	138.0863	5.5300e-003	0.0000	138.2024
Total	**0.1033**	**0.3918**	**1.4121**	**4.4100e-003**	**0.2384**	**9.3600e-003**	**0.2477**	**0.0646**	**8.6200e-003**	**0.0732**	**0.0000**	**318.0239**	**318.0239**	**6.8200e-003**	**0.0000**	**318.1670**

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1722	1.5718	1.8957	3.1500e-003		0.0717	0.0717		0.0675	0.0675	0.0000	271.2942	271.2942	0.0641	0.0000	272.6394
Total	**0.1722**	**1.5718**	**1.8957**	**3.1500e-003**		**0.0717**	**0.0717**		**0.0675**	**0.0675**	**0.0000**	**271.2942**	**271.2942**	**0.0641**	**0.0000**	**272.6394**

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	0.0610	0.3393	0.9048	2.1200e-003	0.0594	8.0100e-003	0.0674	0.0170	7.3700e-003	0.0244	0.0000	179.9376	179.9376	1.2900e-003	0.0000	179.9647
Worker	0.0422	0.0525	0.5072	2.2900e-003	0.1790	1.3500e-003	0.1803	0.0475	1.2500e-003	0.0488	0.0000	138.0863	138.0863	5.5300e-003	0.0000	138.2024
Total	**0.1033**	**0.3918**	**1.4121**	**4.4100e-003**	**0.2384**	**9.3600e-003**	**0.2477**	**0.0646**	**8.6200e-003**	**0.0732**	**0.0000**	**318.0239**	**318.0239**	**6.8200e-003**	**0.0000**	**318.1670**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3000e-003	0.0607	0.0931	1.5000e-004		2.9900e-003	2.9900e-003		2.7500e-003	2.7500e-003	0.0000	12.7403	12.7403	4.1200e-003	0.0000	12.8268
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.3000e-003**	**0.0607**	**0.0931**	**1.5000e-004**		**2.9900e-003**	**2.9900e-003**		**2.7500e-003**	**2.7500e-003**	**0.0000**	**12.7403**	**12.7403**	**4.1200e-003**	**0.0000**	**12.8268**

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	1.9000e-004	2.3000e-004	2.2300e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6063	0.6063	2.0000e-005	0.0000	0.6068
Total	**1.9000e-004**	**2.3000e-004**	**2.2300e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6063**	**0.6063**	**2.0000e-005**	**0.0000**	**0.6068**

3.5 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3000e-003	0.0607	0.0931	1.5000e-004		2.9900e-003	2.9900e-003		2.7500e-003	2.7500e-003	0.0000	12.7403	12.7403	4.1200e-003	0.0000	12.8268
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.3000e-003**	**0.0607**	**0.0931**	**1.5000e-004**		**2.9900e-003**	**2.9900e-003**		**2.7500e-003**	**2.7500e-003**	**0.0000**	**12.7403**	**12.7403**	**4.1200e-003**	**0.0000**	**12.8268**

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	1.9000e-004	2.3000e-004	2.2300e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6063	0.6063	2.0000e-005	0.0000	0.6068
Total	**1.9000e-004**	**2.3000e-004**	**2.2300e-003**	**1.0000e-005**	**7.9000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6063**	**0.6063**	**2.0000e-005**	**0.0000**	**0.6068**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.2628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2600e-003	0.0152	0.0226	4.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	3.1916	3.1916	1.8000e-004	0.0000	3.1953
Total	**3.2651**	**0.0152**	**0.0226**	**4.0000e-005**		**7.6000e-004**	**7.6000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**3.1916**	**3.1916**	**1.8000e-004**	**0.0000**	**3.1953**

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	9.0000e-004	1.1200e-003	0.0109	5.0000e-005	3.8300e-003	3.0000e-005	3.8600e-003	1.0200e-003	3.0000e-005	1.0400e-003	0.0000	2.9536	2.9536	1.2000e-004	0.0000	2.9560
Total	**9.0000e-004**	**1.1200e-003**	**0.0109**	**5.0000e-005**	**3.8300e-003**	**3.0000e-005**	**3.8600e-003**	**1.0200e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**2.9536**	**2.9536**	**1.2000e-004**	**0.0000**	**2.9560**

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.2628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2600e-003	0.0152	0.0226	4.0000e-005		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	3.1916	3.1916	1.8000e-004	0.0000	3.1953
Total	**3.2651**	**0.0152**	**0.0226**	**4.0000e-005**		**7.6000e-004**	**7.6000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**3.1916**	**3.1916**	**1.8000e-004**	**0.0000**	**3.1953**

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	9.0000e-004	1.1200e-003	0.0109	5.0000e-005	3.8300e-003	3.0000e-005	3.8600e-003	1.0200e-003	3.0000e-005	1.0400e-003	0.0000	2.9536	2.9536	1.2000e-004	0.0000	2.9560
Total	**9.0000e-004**	**1.1200e-003**	**0.0109**	**5.0000e-005**	**3.8300e-003**	**3.0000e-005**	**3.8600e-003**	**1.0200e-003**	**3.0000e-005**	**1.0400e-003**	**0.0000**	**2.9536**	**2.9536**	**1.2000e-004**	**0.0000**	**2.9560**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.353802	0.053998	0.135319	0.180908	0.057126	0.010421	0.023395	0.172085	0.001498	0.001845	0.006054	0.001012	0.002535

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	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
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	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
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					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**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					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**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Vegetation

Cumulative Projects

CalEEMod v. 2013.2.2 Output Files

Houghton 99 Cumulative TPM 116 parcels

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	116.00	Dwelling Unit	37.66	208,800.00	332

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	7			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Houghton 99 Cumulative TPM 116 parcels

Land Use - Houghton 99 Cumulative TPM 116 parcels

Construction Phase -

Grading -

Energy Use -

Construction Off-road Equipment Mitigation - SJVAPCD standard measures

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2035
tblWoodstoves	NumberCatalytic	37.66	0.00
tblWoodstoves	NumberNoncatalytic	37.66	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.5837	5.9104	4.3740	5.8300e-003	0.6294	0.3135	0.9429	0.2927	0.2908	0.5836	0.0000	526.6359	526.6359	0.1400	0.0000	529.5751
2018	0.3793	3.1804	2.6814	4.4300e-003	0.0545	0.1975	0.2519	0.0147	0.1856	0.2003	0.0000	380.6753	380.6753	0.0777	0.0000	382.3068
2019	0.3348	2.8672	2.5960	4.4300e-003	0.0545	0.1700	0.2244	0.0147	0.1598	0.1745	0.0000	375.2342	375.2342	0.0763	0.0000	376.8361
2020	2.1349	1.5541	1.5598	2.6800e-003	0.0287	0.0872	0.1158	7.7100e-003	0.0817	0.0894	0.0000	224.6202	224.6202	0.0507	0.0000	225.6851
Total	**3.4327**	**13.5121**	**11.2111**	**0.0174**	**0.7670**	**0.7681**	**1.5351**	**0.3298**	**0.7179**	**1.0477**	**0.0000**	**1,507.1655**	**1,507.1655**	**0.3446**	**0.0000**	**1,514.4032**

2.1 Overall Construction

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					
2017	0.5837	5.9104	4.3740	5.8300e-003	0.2657	0.3135	0.5792	0.1196	0.2908	0.4104	0.0000	526.6353	526.6353	0.1400	0.0000	529.5746
2018	0.3793	3.1804	2.6814	4.4300e-003	0.0545	0.1975	0.2519	0.0147	0.1856	0.2003	0.0000	380.6749	380.6749	0.0777	0.0000	382.3065
2019	0.3348	2.8672	2.5960	4.4300e-003	0.0545	0.1700	0.2244	0.0147	0.1598	0.1745	0.0000	375.2338	375.2338	0.0763	0.0000	376.8358
2020	2.1349	1.5541	1.5598	2.6800e-003	0.0287	0.0872	0.1158	7.7100e-003	0.0817	0.0894	0.0000	224.6200	224.6200	0.0507	0.0000	225.6849
Total	**3.4327**	**13.5120**	**11.2111**	**0.0174**	**0.4033**	**0.7681**	**1.1714**	**0.1567**	**0.7179**	**0.8746**	**0.0000**	**1,507.1640**	**1,507.1640**	**0.3446**	**0.0000**	**1,514.4017**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**47.42**	**0.00**	**23.69**	**52.50**	**0.00**	**16.53**	**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	tons/yr										MT/yr					
Area	1.0422	9.9000e-003	0.8586	5.0000e-005		8.2800e-003	8.2800e-003		8.2500e-003	8.2500e-003	0.0000	51.6590	51.6590	2.3000e-003	9.2000e-004	51.9930
Energy	0.0186	0.1587	0.0675	1.0100e-003		0.0128	0.0128		0.0128	0.0128	0.0000	435.9467	435.9467	0.0149	5.7300e-003	438.0359
Mobile	0.6215	2.2537	8.2603	0.0258	1.2467	0.0569	1.3037	0.3359	0.0524	0.3883	0.0000	1,860.2527	1,860.2527	0.0332	0.0000	1,860.9492
Waste						0.0000	0.0000		0.0000	0.0000	27.6311	0.0000	27.6311	1.6330	0.0000	61.9231
Water						0.0000	0.0000		0.0000	0.0000	2.3978	16.7484	19.1462	0.2470	5.9700e-003	26.1851
Total	**1.6823**	**2.4223**	**9.1864**	**0.0269**	**1.2467**	**0.0780**	**1.3248**	**0.3359**	**0.0735**	**0.4094**	**30.0289**	**2,364.6068**	**2,394.6357**	**1.9304**	**0.0126**	**2,439.0863**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0422	9.9000e-003	0.8586	5.0000e-005		8.2800e-003	8.2800e-003		8.2500e-003	8.2500e-003	0.0000	51.6590	51.6590	2.3000e-003	9.2000e-004	51.9930
Energy	0.0186	0.1587	0.0675	1.0100e-003		0.0128	0.0128		0.0128	0.0128	0.0000	435.9467	435.9467	0.0149	5.7300e-003	438.0359
Mobile	0.6215	2.2537	8.2603	0.0258	1.2467	0.0569	1.3037	0.3359	0.0524	0.3883	0.0000	1,860.2527	1,860.2527	0.0332	0.0000	1,860.9492
Waste						0.0000	0.0000		0.0000	0.0000	27.6311	0.0000	27.6311	1.6330	0.0000	61.9231
Water						0.0000	0.0000		0.0000	0.0000	2.3978	16.7484	19.1462	0.2470	5.9600e-003	26.1812
Total	**1.6823**	**2.4223**	**9.1864**	**0.0269**	**1.2467**	**0.0780**	**1.3248**	**0.3359**	**0.0735**	**0.4094**	**30.0289**	**2,364.6068**	**2,394.6357**	**1.9303**	**0.0126**	**2,439.0825**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.08**	**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	1/1/2017	3/10/2017	5	50	
2	Site Preparation	Site Preparation	3/11/2017	4/21/2017	5	30	
3	Grading	Grading	4/22/2017	8/4/2017	5	75	
4	Building Construction	Building Construction	8/5/2017	6/5/2020	5	740	
5	Paving	Paving	6/6/2020	8/21/2020	5	55	
6	Architectural Coating	Architectural Coating	8/22/2020	11/6/2020	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 0

Residential Indoor: 422,820; Residential Outdoor: 140,940; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	42.00	12.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

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	0.1012	1.0674	0.8473	1.0000e-003		0.0531	0.0531		0.0495	0.0495	0.0000	91.5455	91.5455	0.0251	0.0000	92.0729
Total	**0.1012**	**1.0674**	**0.8473**	**1.0000e-003**		**0.0531**	**0.0531**		**0.0495**	**0.0495**	**0.0000**	**91.5455**	**91.5455**	**0.0251**	**0.0000**	**92.0729**

3.2 Demolition - 2017

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	1.2100e-003	1.5200e-003	0.0149	4.0000e-005	3.0200e-003	2.0000e-005	3.0400e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.7881	2.7881	1.4000e-004	0.0000	2.7910
Total	**1.2100e-003**	**1.5200e-003**	**0.0149**	**4.0000e-005**	**3.0200e-003**	**2.0000e-005**	**3.0400e-003**	**8.0000e-004**	**2.0000e-005**	**8.2000e-004**	**0.0000**	**2.7881**	**2.7881**	**1.4000e-004**	**0.0000**	**2.7910**

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	0.1012	1.0674	0.8473	1.0000e-003		0.0531	0.0531		0.0495	0.0495	0.0000	91.5454	91.5454	0.0251	0.0000	92.0728
Total	**0.1012**	**1.0674**	**0.8473**	**1.0000e-003**		**0.0531**	**0.0531**		**0.0495**	**0.0495**	**0.0000**	**91.5454**	**91.5454**	**0.0251**	**0.0000**	**92.0728**

3.2 Demolition - 2017

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	1.2100e-003	1.5200e-003	0.0149	4.0000e-005	3.0200e-003	2.0000e-005	3.0400e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.7881	2.7881	1.4000e-004	0.0000	2.7910
Total	**1.2100e-003**	**1.5200e-003**	**0.0149**	**4.0000e-005**	**3.0200e-003**	**2.0000e-005**	**3.0400e-003**	**8.0000e-004**	**2.0000e-005**	**8.2000e-004**	**0.0000**	**2.7881**	**2.7881**	**1.4000e-004**	**0.0000**	**2.7910**

3.3 Site Preparation - 2017

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					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0726	0.7763	0.5910	5.9000e-004		0.0413	0.0413		0.0380	0.0380	0.0000	54.4731	54.4731	0.0167	0.0000	54.8236
Total	**0.0726**	**0.7763**	**0.5910**	**5.9000e-004**	**0.2710**	**0.0413**	**0.3123**	**0.1490**	**0.0380**	**0.1870**	**0.0000**	**54.4731**	**54.4731**	**0.0167**	**0.0000**	**54.8236**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	1.1000e-003	0.0107	3.0000e-005	2.1800e-003	2.0000e-005	2.1900e-003	5.8000e-004	2.0000e-005	5.9000e-004	0.0000	2.0074	2.0074	1.0000e-004	0.0000	2.0095
Total	**8.7000e-004**	**1.1000e-003**	**0.0107**	**3.0000e-005**	**2.1800e-003**	**2.0000e-005**	**2.1900e-003**	**5.8000e-004**	**2.0000e-005**	**5.9000e-004**	**0.0000**	**2.0074**	**2.0074**	**1.0000e-004**	**0.0000**	**2.0095**

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					0.1057	0.0000	0.1057	0.0581	0.0000	0.0581	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0726	0.7763	0.5910	5.9000e-004		0.0413	0.0413		0.0380	0.0380	0.0000	54.4730	54.4730	0.0167	0.0000	54.8235
Total	**0.0726**	**0.7763**	**0.5910**	**5.9000e-004**	**0.1057**	**0.0413**	**0.1470**	**0.0581**	**0.0380**	**0.0961**	**0.0000**	**54.4730**	**54.4730**	**0.0167**	**0.0000**	**54.8235**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	1.1000e-003	0.0107	3.0000e-005	2.1800e-003	2.0000e-005	2.1900e-003	5.8000e-004	2.0000e-005	5.9000e-004	0.0000	2.0074	2.0074	1.0000e-004	0.0000	2.0095
Total	**8.7000e-004**	**1.1000e-003**	**0.0107**	**3.0000e-005**	**2.1800e-003**	**2.0000e-005**	**2.1900e-003**	**5.8000e-004**	**2.0000e-005**	**5.9000e-004**	**0.0000**	**2.0074**	**2.0074**	**1.0000e-004**	**0.0000**	**2.0095**

3.4 Grading - 2017

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					0.3253	0.0000	0.3253	0.1349	0.0000	0.1349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2287	2.6097	1.7552	2.3100e-003		0.1244	0.1244		0.1144	0.1144	0.0000	214.7772	214.7772	0.0658	0.0000	216.1592
Total	**0.2287**	**2.6097**	**1.7552**	**2.3100e-003**	**0.3253**	**0.1244**	**0.4496**	**0.1349**	**0.1144**	**0.2493**	**0.0000**	**214.7772**	**214.7772**	**0.0658**	**0.0000**	**216.1592**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4200e-003	3.0500e-003	0.0299	8.0000e-005	6.0400e-003	5.0000e-005	6.0900e-003	1.6100e-003	4.0000e-005	1.6500e-003	0.0000	5.5762	5.5762	2.7000e-004	0.0000	5.5819
Total	**2.4200e-003**	**3.0500e-003**	**0.0299**	**8.0000e-005**	**6.0400e-003**	**5.0000e-005**	**6.0900e-003**	**1.6100e-003**	**4.0000e-005**	**1.6500e-003**	**0.0000**	**5.5762**	**5.5762**	**2.7000e-004**	**0.0000**	**5.5819**

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					0.1269	0.0000	0.1269	0.0526	0.0000	0.0526	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2287	2.6097	1.7552	2.3100e-003		0.1244	0.1244		0.1144	0.1144	0.0000	214.7770	214.7770	0.0658	0.0000	216.1589
Total	**0.2287**	**2.6097**	**1.7552**	**2.3100e-003**	**0.1269**	**0.1244**	**0.2512**	**0.0526**	**0.1144**	**0.1670**	**0.0000**	**214.7770**	**214.7770**	**0.0658**	**0.0000**	**216.1589**

3.4 Grading - 2017

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	2.4200e-003	3.0500e-003	0.0299	8.0000e-005	6.0400e-003	5.0000e-005	6.0900e-003	1.6100e-003	4.0000e-005	1.6500e-003	0.0000	5.5762	5.5762	2.7000e-004	0.0000	5.5819
Total	**2.4200e-003**	**3.0500e-003**	**0.0299**	**8.0000e-005**	**6.0400e-003**	**5.0000e-005**	**6.0900e-003**	**1.6100e-003**	**4.0000e-005**	**1.6500e-003**	**0.0000**	**5.5762**	**5.5762**	**2.7000e-004**	**0.0000**	**5.5819**

3.5 Building Construction - 2017

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	0.1629	1.3863	0.9518	1.4100e-003		0.0935	0.0935		0.0878	0.0878	0.0000	125.7265	125.7265	0.0309	0.0000	126.3763
Total	**0.1629**	**1.3863**	**0.9518**	**1.4100e-003**		**0.0935**	**0.0935**		**0.0878**	**0.0878**	**0.0000**	**125.7265**	**125.7265**	**0.0309**	**0.0000**	**126.3763**

3.5 Building Construction - 2017

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	6.7500e-003	0.0561	0.0855	1.5000e-004	4.1400e-003	9.4000e-004	5.0700e-003	1.1800e-003	8.6000e-004	2.0500e-003	0.0000	13.3476	13.3476	1.1000e-004	0.0000	13.3499
Worker	7.1000e-003	8.9500e-003	0.0878	2.3000e-004	0.0178	1.4000e-004	0.0179	4.7200e-003	1.2000e-004	4.8400e-003	0.0000	16.3941	16.3941	8.0000e-004	0.0000	16.4109
Total	**0.0139**	**0.0650**	**0.1732**	**3.8000e-004**	**0.0219**	**1.0800e-003**	**0.0230**	**5.9000e-003**	**9.8000e-004**	**6.8900e-003**	**0.0000**	**29.7417**	**29.7417**	**9.1000e-004**	**0.0000**	**29.7608**

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	0.1629	1.3863	0.9518	1.4100e-003		0.0935	0.0935		0.0878	0.0878	0.0000	125.7264	125.7264	0.0309	0.0000	126.3762
Total	**0.1629**	**1.3863**	**0.9518**	**1.4100e-003**		**0.0935**	**0.0935**		**0.0878**	**0.0878**	**0.0000**	**125.7264**	**125.7264**	**0.0309**	**0.0000**	**126.3762**

3.5 Building Construction - 2017

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	6.7500e-003	0.0561	0.0855	1.5000e-004	4.1400e-003	9.4000e-004	5.0700e-003	1.1800e-003	8.6000e-004	2.0500e-003	0.0000	13.3476	13.3476	1.1000e-004	0.0000	13.3499
Worker	7.1000e-003	8.9500e-003	0.0878	2.3000e-004	0.0178	1.4000e-004	0.0179	4.7200e-003	1.2000e-004	4.8400e-003	0.0000	16.3941	16.3941	8.0000e-004	0.0000	16.4109
Total	**0.0139**	**0.0650**	**0.1732**	**3.8000e-004**	**0.0219**	**1.0800e-003**	**0.0230**	**5.9000e-003**	**9.8000e-004**	**6.8900e-003**	**0.0000**	**29.7417**	**29.7417**	**9.1000e-004**	**0.0000**	**29.7608**

3.5 Building Construction - 2018

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	0.3483	3.0355	2.2880	3.5000e-003		0.1950	0.1950		0.1833	0.1833	0.0000	308.9844	308.9844	0.0756	0.0000	310.5723
Total	**0.3483**	**3.0355**	**2.2880**	**3.5000e-003**		**0.1950**	**0.1950**		**0.1833**	**0.1833**	**0.0000**	**308.9844**	**308.9844**	**0.0756**	**0.0000**	**310.5723**

3.5 Building Construction - 2018

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	0.0155	0.1250	0.2009	3.7000e-004	0.0103	2.1400e-003	0.0124	2.9400e-003	1.9600e-003	4.9100e-003	0.0000	32.5992	32.5992	2.6000e-004	0.0000	32.6047
Worker	0.0156	0.0199	0.1925	5.7000e-004	0.0442	3.3000e-004	0.0445	0.0117	3.0000e-004	0.0120	0.0000	39.0917	39.0917	1.8200e-003	0.0000	39.1298
Total	**0.0310**	**0.1449**	**0.3934**	**9.4000e-004**	**0.0545**	**2.4700e-003**	**0.0569**	**0.0147**	**2.2600e-003**	**0.0170**	**0.0000**	**71.6909**	**71.6909**	**2.0800e-003**	**0.0000**	**71.7345**

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	0.3483	3.0355	2.2880	3.5000e-003		0.1950	0.1950		0.1833	0.1833	0.0000	308.9841	308.9841	0.0756	0.0000	310.5720
Total	**0.3483**	**3.0355**	**2.2880**	**3.5000e-003**		**0.1950**	**0.1950**		**0.1833**	**0.1833**	**0.0000**	**308.9841**	**308.9841**	**0.0756**	**0.0000**	**310.5720**

3.5 Building Construction - 2018

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	0.0155	0.1250	0.2009	3.7000e-004	0.0103	2.1400e-003	0.0124	2.9400e-003	1.9600e-003	4.9100e-003	0.0000	32.5992	32.5992	2.6000e-004	0.0000	32.6047
Worker	0.0156	0.0199	0.1925	5.7000e-004	0.0442	3.3000e-004	0.0445	0.0117	3.0000e-004	0.0120	0.0000	39.0917	39.0917	1.8200e-003	0.0000	39.1298
Total	**0.0310**	**0.1449**	**0.3934**	**9.4000e-004**	**0.0545**	**2.4700e-003**	**0.0569**	**0.0147**	**2.2600e-003**	**0.0170**	**0.0000**	**71.6909**	**71.6909**	**2.0800e-003**	**0.0000**	**71.7345**

3.5 Building Construction - 2019

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	0.3069	2.7359	2.2342	3.5000e-003		0.1677	0.1677		0.1577	0.1577	0.0000	305.5302	305.5302	0.0743	0.0000	307.0913
Total	**0.3069**	**2.7359**	**2.2342**	**3.5000e-003**		**0.1677**	**0.1677**		**0.1577**	**0.1577**	**0.0000**	**305.5302**	**305.5302**	**0.0743**	**0.0000**	**307.0913**

3.5 Building Construction - 2019

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	0.0138	0.1132	0.1876	3.7000e-004	0.0103	1.9600e-003	0.0122	2.9400e-003	1.8000e-003	4.7500e-003	0.0000	32.0357	32.0357	2.5000e-004	0.0000	32.0410
Worker	0.0141	0.0181	0.1741	5.7000e-004	0.0442	3.2000e-004	0.0445	0.0117	3.0000e-004	0.0120	0.0000	37.6682	37.6682	1.6900e-003	0.0000	37.7038
Total	**0.0279**	**0.1313**	**0.3618**	**9.4000e-004**	**0.0545**	**2.2800e-003**	**0.0567**	**0.0147**	**2.1000e-003**	**0.0168**	**0.0000**	**69.7040**	**69.7040**	**1.9400e-003**	**0.0000**	**69.7448**

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	0.3069	2.7359	2.2342	3.5000e-003		0.1677	0.1677		0.1577	0.1577	0.0000	305.5299	305.5299	0.0743	0.0000	307.0909
Total	**0.3069**	**2.7359**	**2.2342**	**3.5000e-003**		**0.1677**	**0.1677**		**0.1577**	**0.1577**	**0.0000**	**305.5299**	**305.5299**	**0.0743**	**0.0000**	**307.0909**

3.5 Building Construction - 2019

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	0.0138	0.1132	0.1876	3.7000e-004	0.0103	1.9600e-003	0.0122	2.9400e-003	1.8000e-003	4.7500e-003	0.0000	32.0357	32.0357	2.5000e-004	0.0000	32.0410
Worker	0.0141	0.0181	0.1741	5.7000e-004	0.0442	3.2000e-004	0.0445	0.0117	3.0000e-004	0.0120	0.0000	37.6682	37.6682	1.6900e-003	0.0000	37.7038
Total	**0.0279**	**0.1313**	**0.3618**	**9.4000e-004**	**0.0545**	**2.2800e-003**	**0.0567**	**0.0147**	**2.1000e-003**	**0.0168**	**0.0000**	**69.7040**	**69.7040**	**1.9400e-003**	**0.0000**	**69.7448**

3.5 Building Construction - 2020

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	0.1193	1.0782	0.9497	1.5100e-003		0.0629	0.0629		0.0591	0.0591	0.0000	130.3172	130.3172	0.0318	0.0000	130.9839
Total	**0.1193**	**1.0782**	**0.9497**	**1.5100e-003**		**0.0629**	**0.0629**		**0.0591**	**0.0591**	**0.0000**	**130.3172**	**130.3172**	**0.0318**	**0.0000**	**130.9839**

3.5 Building Construction - 2020

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	5.4300e-003	0.0413	0.0772	1.6000e-004	4.4500e-003	7.5000e-004	5.2000e-003	1.2700e-003	6.9000e-004	1.9600e-003	0.0000	13.5501	13.5501	1.0000e-004	0.0000	13.5523
Worker	5.6600e-003	7.2000e-003	0.0694	2.5000e-004	0.0191	1.4000e-004	0.0193	5.0800e-003	1.3000e-004	5.2100e-003	0.0000	15.6535	15.6535	6.9000e-004	0.0000	15.6681
Total	**0.0111**	**0.0485**	**0.1465**	**4.1000e-004**	**0.0236**	**8.9000e-004**	**0.0245**	**6.3500e-003**	**8.2000e-004**	**7.1700e-003**	**0.0000**	**29.2036**	**29.2036**	**7.9000e-004**	**0.0000**	**29.2203**

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	0.1193	1.0782	0.9497	1.5100e-003		0.0629	0.0629		0.0591	0.0591	0.0000	130.3170	130.3170	0.0318	0.0000	130.9838
Total	**0.1193**	**1.0782**	**0.9497**	**1.5100e-003**		**0.0629**	**0.0629**		**0.0591**	**0.0591**	**0.0000**	**130.3170**	**130.3170**	**0.0318**	**0.0000**	**130.9838**

3.5 Building Construction - 2020

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	5.4300e-003	0.0413	0.0772	1.6000e-004	4.4500e-003	7.5000e-004	5.2000e-003	1.2700e-003	6.9000e-004	1.9600e-003	0.0000	13.5501	13.5501	1.0000e-004	0.0000	13.5523
Worker	5.6600e-003	7.2000e-003	0.0694	2.5000e-004	0.0191	1.4000e-004	0.0193	5.0800e-003	1.3000e-004	5.2100e-003	0.0000	15.6535	15.6535	6.9000e-004	0.0000	15.6681
Total	**0.0111**	**0.0485**	**0.1465**	**4.1000e-004**	**0.0236**	**8.9000e-004**	**0.0245**	**6.3500e-003**	**8.2000e-004**	**7.1700e-003**	**0.0000**	**29.2036**	**29.2036**	**7.9000e-004**	**0.0000**	**29.2203**

3.6 Paving - 2020

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	0.0366	0.3791	0.3947	6.1000e-004		0.0203	0.0203		0.0187	0.0187	0.0000	53.9057	53.9057	0.0174	0.0000	54.2718
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0366**	**0.3791**	**0.3947**	**6.1000e-004**		**0.0203**	**0.0203**		**0.0187**	**0.0187**	**0.0000**	**53.9057**	**53.9057**	**0.0174**	**0.0000**	**54.2718**

3.6 Paving - 2020

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	9.8000e-004	1.2500e-003	0.0121	4.0000e-005	3.3200e-003	2.0000e-005	3.3500e-003	8.8000e-004	2.0000e-005	9.1000e-004	0.0000	2.7211	2.7211	1.2000e-004	0.0000	2.7236
Total	**9.8000e-004**	**1.2500e-003**	**0.0121**	**4.0000e-005**	**3.3200e-003**	**2.0000e-005**	**3.3500e-003**	**8.8000e-004**	**2.0000e-005**	**9.1000e-004**	**0.0000**	**2.7211**	**2.7211**	**1.2000e-004**	**0.0000**	**2.7236**

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	0.0366	0.3791	0.3947	6.1000e-004		0.0203	0.0203		0.0187	0.0187	0.0000	53.9056	53.9056	0.0174	0.0000	54.2717
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0366**	**0.3791**	**0.3947**	**6.1000e-004**		**0.0203**	**0.0203**		**0.0187**	**0.0187**	**0.0000**	**53.9056**	**53.9056**	**0.0174**	**0.0000**	**54.2717**

3.6 Paving - 2020

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	9.8000e-004	1.2500e-003	0.0121	4.0000e-005	3.3200e-003	2.0000e-005	3.3500e-003	8.8000e-004	2.0000e-005	9.1000e-004	0.0000	2.7211	2.7211	1.2000e-004	0.0000	2.7236
Total	**9.8000e-004**	**1.2500e-003**	**0.0121**	**4.0000e-005**	**3.3200e-003**	**2.0000e-005**	**3.3500e-003**	**8.8000e-004**	**2.0000e-005**	**9.1000e-004**	**0.0000**	**2.7211**	**2.7211**	**1.2000e-004**	**0.0000**	**2.7236**

3.7 Architectural Coating - 2020

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	1.9598					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6600e-003	0.0463	0.0504	8.0000e-005		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003	0.0000	7.0215	7.0215	5.4000e-004	0.0000	7.0329
Total	**1.9664**	**0.0463**	**0.0504**	**8.0000e-005**		**3.0500e-003**	**3.0500e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**7.0215**	**7.0215**	**5.4000e-004**	**0.0000**	**7.0329**

3.7 Architectural Coating - 2020

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	5.2000e-004	6.7000e-004	6.4300e-003	2.0000e-005	1.7700e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4512	1.4512	6.0000e-005	0.0000	1.4526
Total	**5.2000e-004**	**6.7000e-004**	**6.4300e-003**	**2.0000e-005**	**1.7700e-003**	**1.0000e-005**	**1.7900e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.4512**	**1.4512**	**6.0000e-005**	**0.0000**	**1.4526**

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	1.9598					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6600e-003	0.0463	0.0504	8.0000e-005		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003	0.0000	7.0214	7.0214	5.4000e-004	0.0000	7.0329
Total	**1.9664**	**0.0463**	**0.0504**	**8.0000e-005**		**3.0500e-003**	**3.0500e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**7.0214**	**7.0214**	**5.4000e-004**	**0.0000**	**7.0329**

3.7 Architectural Coating - 2020

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	5.2000e-004	6.7000e-004	6.4300e-003	2.0000e-005	1.7700e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.4512	1.4512	6.0000e-005	0.0000	1.4526
Total	**5.2000e-004**	**6.7000e-004**	**6.4300e-003**	**2.0000e-005**	**1.7700e-003**	**1.0000e-005**	**1.7900e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.4512**	**1.4512**	**6.0000e-005**	**0.0000**	**1.4526**

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	0.6215	2.2537	8.2603	0.0258	1.2467	0.0569	1.3037	0.3359	0.0524	0.3883	0.0000	1,860.2527	1,860.2527	0.0332	0.0000	1,860.9492
Unmitigated	0.6215	2.2537	8.2603	0.0258	1.2467	0.0569	1.3037	0.3359	0.0524	0.3883	0.0000	1,860.2527	1,860.2527	0.0332	0.0000	1,860.9492

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,110.12	1,169.28	1017.32	3,214,282	3,214,282
Total	1,110.12	1,169.28	1,017.32	3,214,282	3,214,282

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.355759	0.055439	0.135927	0.179388	0.056975	0.010375	0.023432	0.169902	0.001468	0.001841	0.006095	0.000886	0.002512

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	252.1478	252.1478	0.0114	2.3600e-003	253.1185
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	252.1478	252.1478	0.0114	2.3600e-003	253.1185
NaturalGas Mitigated	0.0186	0.1587	0.0675	1.0100e-003		0.0128	0.0128		0.0128	0.0128	0.0000	183.7989	183.7989	3.5200e-003	3.3700e-003	184.9175
NaturalGas Unmitigated	0.0186	0.1587	0.0675	1.0100e-003		0.0128	0.0128		0.0128	0.0128	0.0000	183.7989	183.7989	3.5200e-003	3.3700e-003	184.9175

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					
Single Family Housing	3.44426e+006	0.0186	0.1587	0.0675	1.0100e-003		0.0128	0.0128		0.0128	0.0128	0.0000	183.7989	183.7989	3.5200e-003	3.3700e-003	184.9175
Total		**0.0186**	**0.1587**	**0.0675**	**1.0100e-003**		**0.0128**	**0.0128**		**0.0128**	**0.0128**	**0.0000**	**183.7989**	**183.7989**	**3.5200e-003**	**3.3700e-003**	**184.9175**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	3.44426e+006	0.0186	0.1587	0.0675	1.0100e-003		0.0128	0.0128		0.0128	0.0128	0.0000	183.7989	183.7989	3.5200e-003	3.3700e-003	184.9175
Total		**0.0186**	**0.1587**	**0.0675**	**1.0100e-003**		**0.0128**	**0.0128**		**0.0128**	**0.0128**	**0.0000**	**183.7989**	**183.7989**	**3.5200e-003**	**3.3700e-003**	**184.9175**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	866751	252.1478	0.0114	2.3600e-003	253.1185
Total		**252.1478**	**0.0114**	**2.3600e-003**	**253.1185**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	866751	252.1478	0.0114	2.3600e-003	253.1185
Total		**252.1478**	**0.0114**	**2.3600e-003**	**253.1185**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0422	9.9000e-003	0.8586	5.0000e-005		8.2800e-003	8.2800e-003		8.2500e-003	8.2500e-003	0.0000	51.6590	51.6590	2.3000e-003	9.2000e-004	51.9930
Unmitigated	1.0422	9.9000e-003	0.8586	5.0000e-005		8.2800e-003	8.2800e-003		8.2500e-003	8.2500e-003	0.0000	51.6590	51.6590	2.3000e-003	9.2000e-004	51.9930

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	0.1960					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8155					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.0800e-003	0.0000	2.8000e-004	0.0000		3.5100e-003	3.5100e-003		3.4700e-003	3.4700e-003	0.0000	50.2521	50.2521	9.6000e-004	9.2000e-004	50.5579
Landscaping	0.0257	9.9000e-003	0.8583	5.0000e-005		4.7800e-003	4.7800e-003		4.7800e-003	4.7800e-003	0.0000	1.4069	1.4069	1.3400e-003	0.0000	1.4351
Total	**1.0422**	**9.9000e-003**	**0.8586**	**5.0000e-005**		**8.2900e-003**	**8.2900e-003**		**8.2500e-003**	**8.2500e-003**	**0.0000**	**51.6590**	**51.6590**	**2.3000e-003**	**9.2000e-004**	**51.9930**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1960					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8155					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.0800e-003	0.0000	2.8000e-004	0.0000		3.5100e-003	3.5100e-003		3.4700e-003	3.4700e-003	0.0000	50.2521	50.2521	9.6000e-004	9.2000e-004	50.5579
Landscaping	0.0257	9.9000e-003	0.8583	5.0000e-005		4.7800e-003	4.7800e-003		4.7800e-003	4.7800e-003	0.0000	1.4069	1.4069	1.3400e-003	0.0000	1.4351
Total	**1.0422**	**9.9000e-003**	**0.8586**	**5.0000e-005**		**8.2900e-003**	**8.2900e-003**		**8.2500e-003**	**8.2500e-003**	**0.0000**	**51.6590**	**51.6590**	**2.3000e-003**	**9.2000e-004**	**51.9930**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	19.1462	0.2470	5.9600e-003	26.1812
Unmitigated	19.1462	0.2470	5.9700e-003	26.1851

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	7.55787 / 4.76474	19.1462	0.2470	5.9700e-003	26.1851
Total		**19.1462**	**0.2470**	**5.9700e-003**	**26.1851**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	7.55787 / 4.76474	19.1462	0.2470	5.9600e-003	26.1812
Total		**19.1462**	**0.2470**	**5.9600e-003**	**26.1812**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	27.6311	1.6330	0.0000	61.9231
Unmitigated	27.6311	1.6330	0.0000	61.9231

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	136.12	27.6311	1.6330	0.0000	61.9231
Total		**27.6311**	**1.6330**	**0.0000**	**61.9231**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	136.12	27.6311	1.6330	0.0000	61.9231
Total		**27.6311**	**1.6330**	**0.0000**	**61.9231**

9.0 Operational Offroad

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

10.0 Vegetation

Houghton 99 Cumulative TTM 10,715 lots

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	10,715.00	Dwelling Unit	3,478.90	19,287,000.00	30645

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	7			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Aggregated tentative tract maps

Land Use -

Construction Off-road Equipment Mitigation - Required measures by SCVAPCD

Construction Phase - Cumulative TTM run of 10,715 du's

Grading - Cumulative TTM run

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	302.00
tblConstructionPhase	NumDays	155,000.00	2,643.00
tblConstructionPhase	NumDays	10,000.00	607.00
tblConstructionPhase	NumDays	15,500.00	368.00
tblConstructionPhase	NumDays	11,000.00	303.00
tblConstructionPhase	NumDays	6,000.00	522.00
tblConstructionPhase	PhaseEndDate	3/9/2035	3/11/2035
tblConstructionPhase	PhaseEndDate	11/12/2032	11/13/2032
tblGrading	AcresOfGrading	920.00	38,750.00
tblProjectCharacteristics	OperationalYear	2014	2035
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblWoodstoves	NumberCatalytic	3,478.90	0.00
tblWoodstoves	NumberNoncatalytic	3,478.90	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.5335	5.5624	4.5194	5.5000e-003	0.0244	0.2765	0.3009	6.4900e-003	0.2575	0.2640	0.0000	498.3692	498.3692	0.1317	0.0000	501.1340
2018	0.4710	4.8170	4.2404	5.5200e-003	0.0245	0.2362	0.2608	6.5100e-003	0.2201	0.2266	0.0000	493.0817	493.0817	0.1314	0.0000	495.8406
2019	0.5009	5.1896	4.4732	5.4900e-003	4.7431	0.2591	5.0022	2.5993	0.2392	2.8384	0.0000	484.5051	484.5051	0.1412	0.0000	487.4705

	ROG	NOx	CO	SO2	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					
2020	0.4943	5.1019	4.4140	5.5000e-003	4.7448	0.2532	4.9980	2.5998	0.2329	2.8327	0.0000	474.6385	474.6385	0.1468	0.0000	477.7214
2021	0.5202	5.4138	4.6466	7.5000e-003	26.4022	0.2497	26.6519	5.4280	0.2297	5.6577	0.0000	648.6116	648.6116	0.2027	0.0000	652.8680
2022	1.0104	6.3329	12.9849	0.0364	23.5536	0.2384	23.7920	3.3367	0.2200	3.5567	0.0000	2,614.7575	2,614.7575	0.2469	0.0000	2,619.9423
2023	2.3219	8.9958	34.8604	0.1150	7.1664	0.2539	7.4202	1.9217	0.2358	2.1575	0.0000	7,858.6935	7,858.6935	0.2871	0.0000	7,864.7235
2024	2.2377	8.8156	33.8376	0.1160	7.2215	0.2454	7.4668	1.9365	0.2277	2.1642	0.0000	7,859.9475	7,859.9475	0.2828	0.0000	7,865.8861
2025	2.1477	8.5516	32.6952	0.1155	7.1939	0.2340	7.4279	1.9291	0.2170	2.1461	0.0000	7,776.8595	7,776.8595	0.2759	0.0000	7,782.6529
2026	2.0702	8.4259	31.6122	0.1152	7.1939	0.2332	7.4271	1.9291	0.2164	2.1454	0.0000	7,710.5490	7,710.5490	0.2697	0.0000	7,716.2132
2027	2.0250	8.3426	30.8908	0.1152	7.1939	0.2337	7.4276	1.9291	0.2168	2.1459	0.0000	7,671.5700	7,671.5700	0.2655	0.0000	7,677.1455
2028	1.9584	8.2296	29.9902	0.1147	7.1664	0.2330	7.3994	1.9217	0.2161	2.1378	0.0000	7,609.3019	7,609.3019	0.2608	0.0000	7,614.7788
2029	1.9055	8.1854	29.2051	0.1151	7.1940	0.2340	7.4280	1.9291	0.2171	2.1462	0.0000	7,610.5225	7,610.5225	0.2584	0.0000	7,615.9482
2030	1.8661	7.5409	28.8103	0.1157	7.1940	0.1849	7.3790	1.9291	0.1720	2.1012	0.0000	7,627.2223	7,627.2223	0.1983	0.0000	7,631.3858
2031	1.8329	7.4903	28.4507	0.1157	7.1940	0.1851	7.3791	1.9291	0.1722	2.1013	0.0000	7,607.9372	7,607.9372	0.1957	0.0000	7,612.0458
2032	1.5927	6.5995	24.7558	0.1011	6.2602	0.1667	6.4269	1.6787	0.1555	1.8342	0.0000	6,646.7375	6,646.7375	0.1702	0.0000	6,650.3114
2033	0.1790	0.9124	2.0667	3.8800e-003	0.0244	0.0422	0.0667	6.4900e-003	0.0422	0.0487	0.0000	324.1748	324.1748	0.0150	0.0000	324.4894
2034	151.2160	0.3793	2.7015	0.0159	1.2180	0.0128	1.2307	0.3235	0.0121	0.3356	0.0000	914.2237	914.2237	0.0319	0.0000	914.8933
2035	30.0010	0.0665	0.5166	3.1300e-003	0.2415	2.0100e-003	0.2435	0.0641	1.8900e-003	0.0660	0.0000	179.0718	179.0718	6.1600e-003	0.0000	179.2011
Total	**204.8843**	**114.9528**	**345.6717**	**1.2279**	**131.9549**	**3.7738**	**135.7287**	**33.4039**	**3.5022**	**36.9061**	**0.0000**	**82,610.7745**	**82,610.7745**	**3.5180**	**0.0000**	**82,684.6516**

2.1 Overall Construction

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					
2017	0.5335	5.5624	4.5194	5.5000e-003	0.0244	0.2765	0.3009	6.4900e-003	0.2575	0.2640	0.0000	498.3686	498.3686	0.1317	0.0000	501.1334
2018	0.4710	4.8170	4.2404	5.5200e-003	0.0245	0.2362	0.2608	6.5100e-003	0.2201	0.2266	0.0000	493.0811	493.0811	0.1314	0.0000	495.8401
2019	0.5009	5.1896	4.4732	5.4900e-003	1.8668	0.2591	2.1259	1.0182	0.2392	1.2574	0.0000	484.5046	484.5046	0.1412	0.0000	487.4700
2020	0.4943	5.1019	4.4140	5.5000e-003	1.8685	0.2532	2.1217	1.0187	0.2329	1.2516	0.0000	474.6380	474.6380	0.1468	0.0000	477.7208
2021	0.5202	5.4138	4.6466	7.5000e-003	10.3162	0.2497	10.5658	2.1221	0.2297	2.3518	0.0000	648.6108	648.6108	0.2027	0.0000	652.8673
2022	1.0104	6.3329	12.9849	0.0364	10.3439	0.2384	10.5823	1.6118	0.2200	1.8318	0.0000	2,614.7568	2,614.7568	0.2469	0.0000	2,619.9415
2023	2.3219	8.9958	34.8604	0.1150	7.1664	0.2539	7.4202	1.9217	0.2358	2.1575	0.0000	7,858.6931	7,858.6931	0.2871	0.0000	7,864.7231
2024	2.2377	8.8156	33.8376	0.1160	7.2215	0.2454	7.4668	1.9365	0.2277	2.1642	0.0000	7,859.9471	7,859.9471	0.2828	0.0000	7,865.8857
2025	2.1477	8.5516	32.6952	0.1155	7.1939	0.2340	7.4279	1.9291	0.2170	2.1461	0.0000	7,776.8591	7,776.8591	0.2759	0.0000	7,782.6525
2026	2.0702	8.4259	31.6122	0.1152	7.1939	0.2332	7.4271	1.9291	0.2164	2.1454	0.0000	7,710.5486	7,710.5486	0.2697	0.0000	7,716.2129
2027	2.0250	8.3426	30.8908	0.1152	7.1939	0.2337	7.4276	1.9291	0.2168	2.1459	0.0000	7,671.5696	7,671.5696	0.2655	0.0000	7,677.1451
2028	1.9584	8.2296	29.9902	0.1147	7.1664	0.2330	7.3994	1.9217	0.2161	2.1378	0.0000	7,609.3015	7,609.3015	0.2608	0.0000	7,614.7784
2029	1.9055	8.1854	29.2051	0.1151	7.1940	0.2340	7.4280	1.9291	0.2171	2.1462	0.0000	7,610.5221	7,610.5221	0.2584	0.0000	7,615.9478
2030	1.8661	7.5409	28.8103	0.1157	7.1940	0.1849	7.3790	1.9291	0.1720	2.1012	0.0000	7,627.2219	7,627.2219	0.1983	0.0000	7,631.3854
2031	1.8329	7.4903	28.4507	0.1157	7.1940	0.1851	7.3791	1.9291	0.1722	2.1013	0.0000	7,607.9368	7,607.9368	0.1957	0.0000	7,612.0454
2032	1.5927	6.5995	24.7558	0.1011	6.2602	0.1667	6.4269	1.6787	0.1555	1.8342	0.0000	6,646.7371	6,646.7371	0.1702	0.0000	6,650.3110

	ROG	NOx	CO	SO2	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					
2033	0.1790	0.9124	2.0667	3.8800e-003	0.0244	0.0422	0.0667	6.4900e-003	0.0422	0.0487	0.0000	324.1744	324.1744	0.0150	0.0000	324.4891
2034	151.2160	0.3793	2.7015	0.0159	1.2180	0.0128	1.2307	0.3235	0.0121	0.3356	0.0000	914.2237	914.2237	0.0319	0.0000	914.8933
2035	30.0010	0.0665	0.5166	3.1300e-003	0.2415	2.0100e-003	0.2435	0.0641	1.8900e-003	0.0660	0.0000	179.0718	179.0718	6.1600e-003	0.0000	179.2010
Total	**204.8843**	**114.9528**	**345.6716**	**1.2279**	**96.9065**	**3.7738**	**100.6803**	**25.2109**	**3.5022**	**28.7131**	**0.0000**	**82,610.7667**	**82,610.7667**	**3.5180**	**0.0000**	**82,684.6438**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**26.56**	**0.00**	**25.82**	**24.53**	**0.00**	**22.20**	**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	tons/yr										MT/yr					
Area	96.2674	0.9147	79.3060	4.2000e-003		0.7653	0.7653		0.7619	0.7619	0.0000	4,771.7773	4,771.7773	0.2127	0.0851	4,802.6246
Energy	1.7155	14.6598	6.2382	0.0936		1.1853	1.1853		1.1853	1.1853	0.0000	40,268.6947	40,268.6947	1.3786	0.5292	40,461.6811
Mobile	64.7837	256.8184	856.4430	3.1221	152.2616	6.8779	159.1394	41.0176	6.3343	47.3519	0.0000	225,259.9833	225,259.9833	3.9469	0.0000	225,342.8684
Waste						0.0000	0.0000		0.0000	0.0000	2,550.4698	0.0000	2,550.4698	150.7285	0.0000	5,715.7672
Water						0.0000	0.0000		0.0000	0.0000	221.4830	1,547.0629	1,768.5459	22.8184	0.5516	2,418.7318
Total	**162.7666**	**272.3929**	**941.9872**	**3.2199**	**152.2616**	**8.8284**	**161.0900**	**41.0176**	**8.2814**	**49.2990**	**2,771.9528**	**271,847.5182**	**274,619.4710**	**179.0850**	**1.1659**	**278,741.6732**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	96.2674	0.9147	79.3060	4.2000e-003		0.7653	0.7653		0.7619	0.7619	0.0000	4,771.7773	4,771.7773	0.2127	0.0851	4,802.6246
Energy	1.7155	14.6598	6.2382	0.0936		1.1853	1.1853		1.1853	1.1853	0.0000	40,268.6947	40,268.6947	1.3786	0.5292	40,461.6811
Mobile	64.7837	256.8184	856.4430	3.1221	152.2616	6.8779	159.1394	41.0176	6.3343	47.3519	0.0000	225,259.9833	225,259.9833	3.9469	0.0000	225,342.8684
Waste						0.0000	0.0000		0.0000	0.0000	2,550.4698	0.0000	2,550.4698	150.7285	0.0000	5,715.7672
Water						0.0000	0.0000		0.0000	0.0000	221.4830	1,547.0629	1,768.5459	22.8142	0.5508	2,418.3785
Total	**162.7666**	**272.3929**	**941.9872**	**3.2199**	**152.2616**	**8.8284**	**161.0900**	**41.0176**	**8.2814**	**49.2990**	**2,771.9528**	**271,847.5182**	**274,619.4710**	**179.0808**	**1.1650**	**278,741.3198**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.07**	**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	1/1/2017	4/30/2019	5	607	
2	Site Preparation	Site Preparation	5/1/2019	4/29/2021	5	522	
3	Grading	Grading	4/30/2021	9/27/2022	5	368	
4	Building Construction	Building Construction	9/28/2022	11/13/2032	5	2643	
5	Paving	Paving	11/14/2032	1/11/2034	5	303	
6	Architectural Coating	Architectural Coating	1/12/2034	3/11/2035	5	302	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 38750

Acres of Paving: 0

Residential Indoor: 39,056,175; Residential Outdoor: 13,018,725; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Building Construction	Welders	1	8.00	46	0.45
Grading	Scrapers	2	8.00	361	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	3,857.00	1,145.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	771.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

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	0.5263	5.5506	4.4061	5.1900e-003		0.2763	0.2763		0.2574	0.2574	0.0000	476.0368	476.0368	0.1306	0.0000	478.7792
Total	**0.5263**	**5.5506**	**4.4061**	**5.1900e-003**		**0.2763**	**0.2763**		**0.2574**	**0.2574**	**0.0000**	**476.0368**	**476.0368**	**0.1306**	**0.0000**	**478.7792**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2100e-003	0.0118	0.1133	3.1000e-004	0.0244	1.8000e-004	0.0246	6.4900e-003	1.6000e-004	6.6500e-003	0.0000	22.3324	22.3324	1.0700e-003	0.0000	22.3547
Total	**7.2100e-003**	**0.0118**	**0.1133**	**3.1000e-004**	**0.0244**	**1.8000e-004**	**0.0246**	**6.4900e-003**	**1.6000e-004**	**6.6500e-003**	**0.0000**	**22.3324**	**22.3324**	**1.0700e-003**	**0.0000**	**22.3547**

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	0.5263	5.5506	4.4061	5.1900e-003		0.2763	0.2763		0.2574	0.2574	0.0000	476.0362	476.0362	0.1306	0.0000	478.7786
Total	**0.5263**	**5.5506**	**4.4061**	**5.1900e-003**		**0.2763**	**0.2763**		**0.2574**	**0.2574**	**0.0000**	**476.0362**	**476.0362**	**0.1306**	**0.0000**	**478.7786**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2100e-003	0.0118	0.1133	3.1000e-004	0.0244	1.8000e-004	0.0246	6.4900e-003	1.6000e-004	6.6500e-003	0.0000	22.3324	22.3324	1.0700e-003	0.0000	22.3547
Total	**7.2100e-003**	**0.0118**	**0.1133**	**3.1000e-004**	**0.0244**	**1.8000e-004**	**0.0246**	**6.4900e-003**	**1.6000e-004**	**6.6500e-003**	**0.0000**	**22.3324**	**22.3324**	**1.0700e-003**	**0.0000**	**22.3547**

3.2 Demolition - 2018

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	0.4647	4.8064	4.1401	5.2100e-003		0.2361	0.2361		0.2200	0.2200	0.0000	471.5767	471.5767	0.1304	0.0000	474.3151
Total	**0.4647**	**4.8064**	**4.1401**	**5.2100e-003**		**0.2361**	**0.2361**		**0.2200**	**0.2200**	**0.0000**	**471.5767**	**471.5767**	**0.1304**	**0.0000**	**474.3151**

3.2 Demolition - 2018

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	6.3000e-003	0.0106	0.1003	3.1000e-004	0.0245	1.7000e-004	0.0247	6.5100e-003	1.6000e-004	6.6700e-003	0.0000	21.5050	21.5050	9.8000e-004	0.0000	21.5256
Total	**6.3000e-003**	**0.0106**	**0.1003**	**3.1000e-004**	**0.0245**	**1.7000e-004**	**0.0247**	**6.5100e-003**	**1.6000e-004**	**6.6700e-003**	**0.0000**	**21.5050**	**21.5050**	**9.8000e-004**	**0.0000**	**21.5256**

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	0.4647	4.8064	4.1401	5.2100e-003		0.2361	0.2361		0.2200	0.2200	0.0000	471.5761	471.5761	0.1304	0.0000	474.3145
Total	**0.4647**	**4.8064**	**4.1401**	**5.2100e-003**		**0.2361**	**0.2361**		**0.2200**	**0.2200**	**0.0000**	**471.5761**	**471.5761**	**0.1304**	**0.0000**	**474.3145**

3.2 Demolition - 2018

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	6.3000e-003	0.0106	0.1003	3.1000e-004	0.0245	1.7000e-004	0.0247	6.5100e-003	1.6000e-004	6.6700e-003	0.0000	21.5050	21.5050	9.8000e-004	0.0000	21.5256
Total	**6.3000e-003**	**0.0106**	**0.1003**	**3.1000e-004**	**0.0245**	**1.7000e-004**	**0.0247**	**6.5100e-003**	**1.6000e-004**	**6.6700e-003**	**0.0000**	**21.5050**	**21.5050**	**9.8000e-004**	**0.0000**	**21.5256**

3.2 Demolition - 2019

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	0.1429	1.4595	1.3246	1.7200e-003		0.0707	0.0707		0.0659	0.0659	0.0000	153.2752	153.2752	0.0428	0.0000	154.1742
Total	**0.1429**	**1.4595**	**1.3246**	**1.7200e-003**		**0.0707**	**0.0707**		**0.0659**	**0.0659**	**0.0000**	**153.2752**	**153.2752**	**0.0428**	**0.0000**	**154.1742**

3.2 Demolition - 2019

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	1.8700e-003	3.1700e-003	0.0299	1.0000e-004	8.0800e-003	6.0000e-005	8.1400e-003	2.1500e-003	5.0000e-005	2.2000e-003	0.0000	6.8279	6.8279	3.0000e-004	0.0000	6.8343
Total	**1.8700e-003**	**3.1700e-003**	**0.0299**	**1.0000e-004**	**8.0800e-003**	**6.0000e-005**	**8.1400e-003**	**2.1500e-003**	**5.0000e-005**	**2.2000e-003**	**0.0000**	**6.8279**	**6.8279**	**3.0000e-004**	**0.0000**	**6.8343**

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	0.1429	1.4595	1.3246	1.7200e-003		0.0707	0.0707		0.0659	0.0659	0.0000	153.2750	153.2750	0.0428	0.0000	154.1740
Total	**0.1429**	**1.4595**	**1.3246**	**1.7200e-003**		**0.0707**	**0.0707**		**0.0659**	**0.0659**	**0.0000**	**153.2750**	**153.2750**	**0.0428**	**0.0000**	**154.1740**

3.2 Demolition - 2019

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	1.8700e-003	3.1700e-003	0.0299	1.0000e-004	8.0800e-003	6.0000e-005	8.1400e-003	2.1500e-003	5.0000e-005	2.2000e-003	0.0000	6.8279	6.8279	3.0000e-004	0.0000	6.8343
Total	**1.8700e-003**	**3.1700e-003**	**0.0299**	**1.0000e-004**	**8.0800e-003**	**6.0000e-005**	**8.1400e-003**	**2.1500e-003**	**5.0000e-005**	**2.2000e-003**	**0.0000**	**6.8279**	**6.8279**	**3.0000e-004**	**0.0000**	**6.8343**

3.3 Site Preparation - 2019

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					4.7153	0.0000	4.7153	2.5919	0.0000	2.5919	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3517	3.7192	3.0458	3.4200e-003		0.1882	0.1882		0.1731	0.1731	0.0000	307.7291	307.7291	0.0974	0.0000	309.7737
Total	**0.3517**	**3.7192**	**3.0458**	**3.4200e-003**	**4.7153**	**0.1882**	**4.9035**	**2.5919**	**0.1731**	**2.7650**	**0.0000**	**307.7291**	**307.7291**	**0.0974**	**0.0000**	**309.7737**

3.3 Site Preparation - 2019

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	4.5700e-003	7.7500e-003	0.0730	2.5000e-004	0.0197	1.4000e-004	0.0199	5.2400e-003	1.3000e-004	5.3700e-003	0.0000	16.6728	16.6728	7.4000e-004	0.0000	16.6883
Total	**4.5700e-003**	**7.7500e-003**	**0.0730**	**2.5000e-004**	**0.0197**	**1.4000e-004**	**0.0199**	**5.2400e-003**	**1.3000e-004**	**5.3700e-003**	**0.0000**	**16.6728**	**16.6728**	**7.4000e-004**	**0.0000**	**16.6883**

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					1.8390	0.0000	1.8390	1.0108	0.0000	1.0108	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3517	3.7192	3.0458	3.4200e-003		0.1882	0.1882		0.1731	0.1731	0.0000	307.7288	307.7288	0.0974	0.0000	309.7734
Total	**0.3517**	**3.7192**	**3.0458**	**3.4200e-003**	**1.8390**	**0.1882**	**2.0271**	**1.0108**	**0.1731**	**1.1840**	**0.0000**	**307.7288**	**307.7288**	**0.0974**	**0.0000**	**309.7734**

3.3 Site Preparation - 2019

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	4.5700e-003	7.7500e-003	0.0730	2.5000e-004	0.0197	1.4000e-004	0.0199	5.2400e-003	1.3000e-004	5.3700e-003	0.0000	16.6728	16.6728	7.4000e-004	0.0000	16.6883
Total	**4.5700e-003**	**7.7500e-003**	**0.0730**	**2.5000e-004**	**0.0197**	**1.4000e-004**	**0.0199**	**5.2400e-003**	**1.3000e-004**	**5.3700e-003**	**0.0000**	**16.6728**	**16.6728**	**7.4000e-004**	**0.0000**	**16.6883**

3.3 Site Preparation - 2020

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					4.7153	0.0000	4.7153	2.5919	0.0000	2.5919	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4880	5.0912	4.3134	5.1300e-003		0.2529	0.2529		0.2327	0.2327	0.0000	450.6793	450.6793	0.1458	0.0000	453.7402
Total	**0.4880**	**5.0912**	**4.3134**	**5.1300e-003**	**4.7153**	**0.2529**	**4.9682**	**2.5919**	**0.2327**	**2.8246**	**0.0000**	**450.6793**	**450.6793**	**0.1458**	**0.0000**	**453.7402**

3.3 Site Preparation - 2020

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	6.3000e-003	0.0107	0.1006	3.8000e-004	0.0295	2.1000e-004	0.0298	7.8500e-003	1.9000e-004	8.0400e-003	0.0000	23.9592	23.9592	1.0400e-003	0.0000	23.9811
Total	**6.3000e-003**	**0.0107**	**0.1006**	**3.8000e-004**	**0.0295**	**2.1000e-004**	**0.0298**	**7.8500e-003**	**1.9000e-004**	**8.0400e-003**	**0.0000**	**23.9592**	**23.9592**	**1.0400e-003**	**0.0000**	**23.9811**

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					1.8390	0.0000	1.8390	1.0108	0.0000	1.0108	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4880	5.0912	4.3134	5.1300e-003		0.2529	0.2529		0.2327	0.2327	0.0000	450.6788	450.6788	0.1458	0.0000	453.7397
Total	**0.4880**	**5.0912**	**4.3134**	**5.1300e-003**	**1.8390**	**0.2529**	**2.0919**	**1.0108**	**0.2327**	**1.2436**	**0.0000**	**450.6788**	**450.6788**	**0.1458**	**0.0000**	**453.7397**

3.3 Site Preparation - 2020

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	6.3000e-003	0.0107	0.1006	3.8000e-004	0.0295	2.1000e-004	0.0298	7.8500e-003	1.9000e-004	8.0400e-003	0.0000	23.9592	23.9592	1.0400e-003	0.0000	23.9811
Total	**6.3000e-003**	**0.0107**	**0.1006**	**3.8000e-004**	**0.0295**	**2.1000e-004**	**0.0298**	**7.8500e-003**	**1.9000e-004**	**8.0400e-003**	**0.0000**	**23.9592**	**23.9592**	**1.0400e-003**	**0.0000**	**23.9811**

3.3 Site Preparation - 2021

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					4.7153	0.0000	4.7153	2.5919	0.0000	2.5919	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1447	1.4877	1.3111	1.6600e-003		0.0722	0.0722		0.0665	0.0665	0.0000	146.0728	146.0728	0.0472	0.0000	147.0649
Total	**0.1447**	**1.4877**	**1.3111**	**1.6600e-003**	**4.7153**	**0.0722**	**4.7875**	**2.5919**	**0.0665**	**2.6584**	**0.0000**	**146.0728**	**146.0728**	**0.0472**	**0.0000**	**147.0649**

3.3 Site Preparation - 2021

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	1.9200e-003	3.2400e-003	0.0305	1.2000e-004	9.5900e-003	7.0000e-005	9.6500e-003	2.5500e-003	6.0000e-005	2.6100e-003	0.0000	7.6386	7.6386	3.2000e-004	0.0000	7.6454
Total	**1.9200e-003**	**3.2400e-003**	**0.0305**	**1.2000e-004**	**9.5900e-003**	**7.0000e-005**	**9.6500e-003**	**2.5500e-003**	**6.0000e-005**	**2.6100e-003**	**0.0000**	**7.6386**	**7.6386**	**3.2000e-004**	**0.0000**	**7.6454**

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					1.8390	0.0000	1.8390	1.0108	0.0000	1.0108	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1447	1.4877	1.3111	1.6600e-003		0.0722	0.0722		0.0665	0.0665	0.0000	146.0726	146.0726	0.0472	0.0000	147.0647
Total	**0.1447**	**1.4877**	**1.3111**	**1.6600e-003**	**1.8390**	**0.0722**	**1.9112**	**1.0108**	**0.0665**	**1.0773**	**0.0000**	**146.0726**	**146.0726**	**0.0472**	**0.0000**	**147.0647**

3.3 Site Preparation - 2021

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	1.9200e-003	3.2400e-003	0.0305	1.2000e-004	9.5900e-003	7.0000e-005	9.6500e-003	2.5500e-003	6.0000e-005	2.6100e-003	0.0000	7.6386	7.6386	3.2000e-004	0.0000	7.6454
Total	**1.9200e-003**	**3.2400e-003**	**0.0305**	**1.2000e-004**	**9.5900e-003**	**7.0000e-005**	**9.6500e-003**	**2.5500e-003**	**6.0000e-005**	**2.6100e-003**	**0.0000**	**7.6386**	**7.6386**	**3.2000e-004**	**0.0000**	**7.6454**

3.4 Grading - 2021

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					21.6553	0.0000	21.6553	2.8277	0.0000	2.8277	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3691	3.9154	3.2347	5.4300e-003		0.1772	0.1772		0.1631	0.1631	0.0000	477.3263	477.3263	0.1544	0.0000	480.5682
Total	**0.3691**	**3.9154**	**3.2347**	**5.4300e-003**	**21.6553**	**0.1772**	**21.8325**	**2.8277**	**0.1631**	**2.9908**	**0.0000**	**477.3263**	**477.3263**	**0.1544**	**0.0000**	**480.5682**

3.4 Grading - 2021

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	4.4200e-003	7.4500e-003	0.0702	2.8000e-004	0.0221	1.5000e-004	0.0222	5.8600e-003	1.4000e-004	6.0000e-003	0.0000	17.5738	17.5738	7.4000e-004	0.0000	17.5895
Total	**4.4200e-003**	**7.4500e-003**	**0.0702**	**2.8000e-004**	**0.0221**	**1.5000e-004**	**0.0222**	**5.8600e-003**	**1.4000e-004**	**6.0000e-003**	**0.0000**	**17.5738**	**17.5738**	**7.4000e-004**	**0.0000**	**17.5895**

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					8.4456	0.0000	8.4456	1.1028	0.0000	1.1028	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3691	3.9154	3.2347	5.4300e-003		0.1772	0.1772		0.1631	0.1631	0.0000	477.3257	477.3257	0.1544	0.0000	480.5677
Total	**0.3691**	**3.9154**	**3.2347**	**5.4300e-003**	**8.4456**	**0.1772**	**8.6228**	**1.1028**	**0.1631**	**1.2659**	**0.0000**	**477.3257**	**477.3257**	**0.1544**	**0.0000**	**480.5677**

3.4 Grading - 2021

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	4.4200e-003	7.4500e-003	0.0702	2.8000e-004	0.0221	1.5000e-004	0.0222	5.8600e-003	1.4000e-004	6.0000e-003	0.0000	17.5738	17.5738	7.4000e-004	0.0000	17.5895
Total	**4.4200e-003**	**7.4500e-003**	**0.0702**	**2.8000e-004**	**0.0221**	**1.5000e-004**	**0.0222**	**5.8600e-003**	**1.4000e-004**	**6.0000e-003**	**0.0000**	**17.5738**	**17.5738**	**7.4000e-004**	**0.0000**	**17.5895**

3.4 Grading - 2022

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					21.6553	0.0000	21.6553	2.8277	0.0000	2.8277	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3614	3.6892	3.3692	5.9300e-003		0.1658	0.1658		0.1526	0.1526	0.0000	521.2101	521.2101	0.1686	0.0000	524.7501
Total	**0.3614**	**3.6892**	**3.3692**	**5.9300e-003**	**21.6553**	**0.1658**	**21.8211**	**2.8277**	**0.1526**	**2.9803**	**0.0000**	**521.2101**	**521.2101**	**0.1686**	**0.0000**	**524.7501**

3.4 Grading - 2022

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	4.5500e-003	7.6300e-003	0.0719	3.1000e-004	0.0241	1.7000e-004	0.0242	6.3900e-003	1.6000e-004	6.5500e-003	0.0000	18.8773	18.8773	7.8000e-004	0.0000	18.8937
Total	**4.5500e-003**	**7.6300e-003**	**0.0719**	**3.1000e-004**	**0.0241**	**1.7000e-004**	**0.0242**	**6.3900e-003**	**1.6000e-004**	**6.5500e-003**	**0.0000**	**18.8773**	**18.8773**	**7.8000e-004**	**0.0000**	**18.8937**

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					8.4456	0.0000	8.4456	1.1028	0.0000	1.1028	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3614	3.6892	3.3692	5.9300e-003		0.1658	0.1658		0.1526	0.1526	0.0000	521.2095	521.2095	0.1686	0.0000	524.7495
Total	**0.3614**	**3.6892**	**3.3692**	**5.9300e-003**	**8.4456**	**0.1658**	**8.6114**	**1.1028**	**0.1526**	**1.2554**	**0.0000**	**521.2095**	**521.2095**	**0.1686**	**0.0000**	**524.7495**

3.4 Grading - 2022

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	4.5500e-003	7.6300e-003	0.0719	3.1000e-004	0.0241	1.7000e-004	0.0242	6.3900e-003	1.6000e-004	6.5500e-003	0.0000	18.8773	18.8773	7.8000e-004	0.0000	18.8937
Total	**4.5500e-003**	**7.6300e-003**	**0.0719**	**3.1000e-004**	**0.0241**	**1.7000e-004**	**0.0242**	**6.3900e-003**	**1.6000e-004**	**6.5500e-003**	**0.0000**	**18.8773**	**18.8773**	**7.8000e-004**	**0.0000**	**18.8937**

3.5 Building Construction - 2022

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	0.0578	0.5282	0.5551	9.1000e-004		0.0274	0.0274		0.0258	0.0258	0.0000	78.4601	78.4601	0.0188	0.0000	78.8543
Total	**0.0578**	**0.5282**	**0.5551**	**9.1000e-004**		**0.0274**	**0.0274**		**0.0258**	**0.0258**	**0.0000**	**78.4601**	**78.4601**	**0.0188**	**0.0000**	**78.8543**

3.5 Building Construction - 2022

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	0.2763	1.5869	4.0764	8.3300e-003	0.2312	0.0335	0.2647	0.0662	0.0308	0.0970	0.0000	706.8700	706.8700	5.5500e-003	0.0000	706.9866
Worker	0.3105	0.5210	4.9123	0.0209	1.6431	0.0115	1.6546	0.4364	0.0107	0.4470	0.0000	1,289.3400	1,289.3400	0.0532	0.0000	1,290.4576
Total	**0.5867**	**2.1078**	**8.9887**	**0.0292**	**1.8743**	**0.0450**	**1.9193**	**0.5026**	**0.0415**	**0.5441**	**0.0000**	**1,996.2100**	**1,996.2100**	**0.0588**	**0.0000**	**1,997.4442**

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	0.0578	0.5282	0.5551	9.1000e-004		0.0274	0.0274		0.0258	0.0258	0.0000	78.4600	78.4600	0.0188	0.0000	78.8542
Total	**0.0578**	**0.5282**	**0.5551**	**9.1000e-004**		**0.0274**	**0.0274**		**0.0258**	**0.0258**	**0.0000**	**78.4600**	**78.4600**	**0.0188**	**0.0000**	**78.8542**

3.5 Building Construction - 2022

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	0.2763	1.5869	4.0764	8.3300e-003	0.2312	0.0335	0.2647	0.0662	0.0308	0.0970	0.0000	706.8700	706.8700	5.5500e-003	0.0000	706.9866
Worker	0.3105	0.5210	4.9123	0.0209	1.6431	0.0115	1.6546	0.4364	0.0107	0.4470	0.0000	1,289.3400	1,289.3400	0.0532	0.0000	1,290.4576
Total	**0.5867**	**2.1078**	**8.9887**	**0.0292**	**1.8743**	**0.0450**	**1.9193**	**0.5026**	**0.0415**	**0.5441**	**0.0000**	**1,996.2100**	**1,996.2100**	**0.0588**	**0.0000**	**1,997.4442**

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	0.2036	1.8606	2.1072	3.4900e-003		0.0906	0.0906		0.0852	0.0852	0.0000	300.0980	300.0980	0.0713	0.0000	301.5949
Total	**0.2036**	**1.8606**	**2.1072**	**3.4900e-003**		**0.0906**	**0.0906**		**0.0852**	**0.0852**	**0.0000**	**300.0980**	**300.0980**	**0.0713**	**0.0000**	**301.5949**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.9957	5.2567	15.0606	0.0318	0.8839	0.1191	1.0030	0.2532	0.1096	0.3628	0.0000	2,697.2802	2,697.2802	0.0197	0.0000	2,697.6933
Worker	1.1226	1.8785	17.6926	0.0798	6.2825	0.0442	6.3267	1.6685	0.0410	1.7095	0.0000	4,861.3153	4,861.3153	0.1962	0.0000	4,865.4353
Total	**2.1183**	**7.1351**	**32.7532**	**0.1116**	**7.1664**	**0.1633**	**7.3297**	**1.9217**	**0.1506**	**2.0723**	**0.0000**	**7,558.5955**	**7,558.5955**	**0.2159**	**0.0000**	**7,563.1286**

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	0.2036	1.8606	2.1072	3.4900e-003		0.0906	0.0906		0.0852	0.0852	0.0000	300.0976	300.0976	0.0713	0.0000	301.5946
Total	**0.2036**	**1.8606**	**2.1072**	**3.4900e-003**		**0.0906**	**0.0906**		**0.0852**	**0.0852**	**0.0000**	**300.0976**	**300.0976**	**0.0713**	**0.0000**	**301.5946**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.9957	5.2567	15.0606	0.0318	0.8839	0.1191	1.0030	0.2532	0.1096	0.3628	0.0000	2,697.2802	2,697.2802	0.0197	0.0000	2,697.6933
Worker	1.1226	1.8785	17.6926	0.0798	6.2825	0.0442	6.3267	1.6685	0.0410	1.7095	0.0000	4,861.3153	4,861.3153	0.1962	0.0000	4,865.4353
Total	**2.1183**	**7.1351**	**32.7532**	**0.1116**	**7.1664**	**0.1633**	**7.3297**	**1.9217**	**0.1506**	**2.0723**	**0.0000**	**7,558.5955**	**7,558.5955**	**0.2159**	**0.0000**	**7,563.1286**

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	0.1920	1.7524	2.1135	3.5200e-003		0.0800	0.0800		0.0752	0.0752	0.0000	302.4646	302.4646	0.0714	0.0000	303.9643
Total	**0.1920**	**1.7524**	**2.1135**	**3.5200e-003**		**0.0800**	**0.0800**		**0.0752**	**0.0752**	**0.0000**	**302.4646**	**302.4646**	**0.0714**	**0.0000**	**303.9643**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.9750	5.2744	14.8231	0.0320	0.8907	0.1205	1.0112	0.2552	0.1109	0.3660	0.0000	2,717.9329	2,717.9329	0.0199	0.0000	2,718.3503
Worker	1.0707	1.7887	16.9011	0.0804	6.3308	0.0449	6.3757	1.6813	0.0416	1.7229	0.0000	4,839.5500	4,839.5500	0.1915	0.0000	4,843.5715
Total	**2.0457**	**7.0631**	**31.7242**	**0.1124**	**7.2215**	**0.1654**	**7.3869**	**1.9365**	**0.1525**	**2.0890**	**0.0000**	**7,557.4829**	**7,557.4829**	**0.2114**	**0.0000**	**7,561.9218**

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	0.1920	1.7524	2.1135	3.5200e-003		0.0800	0.0800		0.0752	0.0752	0.0000	302.4642	302.4642	0.0714	0.0000	303.9639
Total	**0.1920**	**1.7524**	**2.1135**	**3.5200e-003**		**0.0800**	**0.0800**		**0.0752**	**0.0752**	**0.0000**	**302.4642**	**302.4642**	**0.0714**	**0.0000**	**303.9639**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.9750	5.2744	14.8231	0.0320	0.8907	0.1205	1.0112	0.2552	0.1109	0.3660	0.0000	2,717.9329	2,717.9329	0.0199	0.0000	2,718.3503
Worker	1.0707	1.7887	16.9011	0.0804	6.3308	0.0449	6.3757	1.6813	0.0416	1.7229	0.0000	4,839.5500	4,839.5500	0.1915	0.0000	4,843.5715
Total	**2.0457**	**7.0631**	**31.7242**	**0.1124**	**7.2215**	**0.1654**	**7.3869**	**1.9365**	**0.1525**	**2.0890**	**0.0000**	**7,557.4829**	**7,557.4829**	**0.2114**	**0.0000**	**7,561.9218**

3.5 Building Construction - 2025

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

3.5 Building Construction - 2025

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	0.9524	5.2349	14.5176	0.0319	0.8873	0.1205	1.0078	0.2542	0.1108	0.3650	0.0000	2,707.5625	2,707.5625	0.0198	0.0000	2,707.9792
Worker	1.0177	1.6972	16.0829	0.0801	6.3066	0.0450	6.3516	1.6749	0.0417	1.7166	0.0000	4,767.8951	4,767.8951	0.1853	0.0000	4,771.7863
Total	**1.9701**	**6.9321**	**30.6004**	**0.1120**	**7.1939**	**0.1655**	**7.3594**	**1.9291**	**0.1526**	**2.0817**	**0.0000**	**7,475.4576**	**7,475.4576**	**0.2051**	**0.0000**	**7,479.7655**

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

3.5 Building Construction - 2025

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	0.9524	5.2349	14.5176	0.0319	0.8873	0.1205	1.0078	0.2542	0.1108	0.3650	0.0000	2,707.5625	2,707.5625	0.0198	0.0000	2,707.9792
Worker	1.0177	1.6972	16.0829	0.0801	6.3066	0.0450	6.3516	1.6749	0.0417	1.7166	0.0000	4,767.8951	4,767.8951	0.1853	0.0000	4,771.7863
Total	**1.9701**	**6.9321**	**30.6004**	**0.1120**	**7.1939**	**0.1655**	**7.3594**	**1.9291**	**0.1526**	**2.0817**	**0.0000**	**7,475.4576**	**7,475.4576**	**0.2051**	**0.0000**	**7,479.7655**

3.5 Building Construction - 2026

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

3.5 Building Construction - 2026

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	0.9220	5.1865	14.0793	0.0319	0.8873	0.1196	1.0069	0.2542	0.1101	0.3643	0.0000	2,707.2833	2,707.2833	0.0197	0.0000	2,707.6979
Worker	0.9706	1.6200	15.4382	0.0798	6.3066	0.0451	6.3517	1.6749	0.0418	1.7167	0.0000	4,701.8638	4,701.8638	0.1792	0.0000	4,705.6279
Total	**1.8925**	**6.8065**	**29.5174**	**0.1117**	**7.1939**	**0.1647**	**7.3586**	**1.9291**	**0.1519**	**2.0810**	**0.0000**	**7,409.1471**	**7,409.1471**	**0.1990**	**0.0000**	**7,413.3258**

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

3.5 Building Construction - 2026

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	0.9220	5.1865	14.0793	0.0319	0.8873	0.1196	1.0069	0.2542	0.1101	0.3643	0.0000	2,707.2833	2,707.2833	0.0197	0.0000	2,707.6979
Worker	0.9706	1.6200	15.4382	0.0798	6.3066	0.0451	6.3517	1.6749	0.0418	1.7167	0.0000	4,701.8638	4,701.8638	0.1792	0.0000	4,705.6279
Total	**1.8925**	**6.8065**	**29.5174**	**0.1117**	**7.1939**	**0.1647**	**7.3586**	**1.9291**	**0.1519**	**2.0810**	**0.0000**	**7,409.1471**	**7,409.1471**	**0.1990**	**0.0000**	**7,413.3258**

3.5 Building Construction - 2027

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

3.5 Building Construction - 2027

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	0.9176	5.1678	13.9262	0.0319	0.8873	0.1198	1.0071	0.2542	0.1102	0.3644	0.0000	2,707.3734	2,707.3734	0.0198	0.0000	2,707.7884
Worker	0.9297	1.5553	14.8698	0.0798	6.3066	0.0454	6.3520	1.6749	0.0421	1.7170	0.0000	4,662.7947	4,662.7947	0.1750	0.0000	4,666.4697
Total	**1.8474**	**6.7231**	**28.7961**	**0.1117**	**7.1939**	**0.1652**	**7.3591**	**1.9291**	**0.1523**	**2.0814**	**0.0000**	**7,370.1681**	**7,370.1681**	**0.1948**	**0.0000**	**7,374.2581**

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

3.5 Building Construction - 2027

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	0.9176	5.1678	13.9262	0.0319	0.8873	0.1198	1.0071	0.2542	0.1102	0.3644	0.0000	2,707.3734	2,707.3734	0.0198	0.0000	2,707.7884
Worker	0.9297	1.5553	14.8698	0.0798	6.3066	0.0454	6.3520	1.6749	0.0421	1.7170	0.0000	4,662.7947	4,662.7947	0.1750	0.0000	4,666.4697
Total	**1.8474**	**6.7231**	**28.7961**	**0.1117**	**7.1939**	**0.1652**	**7.3591**	**1.9291**	**0.1523**	**2.0814**	**0.0000**	**7,370.1681**	**7,370.1681**	**0.1948**	**0.0000**	**7,374.2581**

3.5 Building Construction - 2028

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	0.1770	1.6133	2.0867	3.4900e-003		0.0683	0.0683		0.0642	0.0642	0.0000	300.2471	300.2471	0.0705	0.0000	301.7269
Total	**0.1770**	**1.6133**	**2.0867**	**3.4900e-003**		**0.0683**	**0.0683**		**0.0642**	**0.0642**	**0.0000**	**300.2471**	**300.2471**	**0.0705**	**0.0000**	**301.7269**

3.5 Building Construction - 2028

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	0.8916	5.1236	13.5703	0.0318	0.8839	0.1192	1.0031	0.2532	0.1097	0.3629	0.0000	2,697.0901	2,697.0901	0.0197	0.0000	2,697.5032
Worker	0.8898	1.4928	14.3332	0.0795	6.2825	0.0455	6.3280	1.6685	0.0422	1.7107	0.0000	4,611.9647	4,611.9647	0.1707	0.0000	4,615.5487
Total	**1.7814**	**6.6163**	**27.9035**	**0.1112**	**7.1664**	**0.1647**	**7.3311**	**1.9217**	**0.1519**	**2.0736**	**0.0000**	**7,309.0548**	**7,309.0548**	**0.1903**	**0.0000**	**7,313.0518**

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	0.1770	1.6133	2.0867	3.4900e-003		0.0683	0.0683		0.0642	0.0642	0.0000	300.2467	300.2467	0.0705	0.0000	301.7266
Total	**0.1770**	**1.6133**	**2.0867**	**3.4900e-003**		**0.0683**	**0.0683**		**0.0642**	**0.0642**	**0.0000**	**300.2467**	**300.2467**	**0.0705**	**0.0000**	**301.7266**

3.5 Building Construction - 2028

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	0.8916	5.1236	13.5703	0.0318	0.8839	0.1192	1.0031	0.2532	0.1097	0.3629	0.0000	2,697.0901	2,697.0901	0.0197	0.0000	2,697.5032
Worker	0.8898	1.4928	14.3332	0.0795	6.2825	0.0455	6.3280	1.6685	0.0422	1.7107	0.0000	4,611.9647	4,611.9647	0.1707	0.0000	4,615.5487
Total	**1.7814**	**6.6163**	**27.9035**	**0.1112**	**7.1664**	**0.1647**	**7.3311**	**1.9217**	**0.1519**	**2.0736**	**0.0000**	**7,309.0548**	**7,309.0548**	**0.1903**	**0.0000**	**7,313.0518**

3.5 Building Construction - 2029

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4019	301.4019	0.0707	0.0000	302.8874
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4019**	**301.4019**	**0.0707**	**0.0000**	**302.8874**

3.5 Building Construction - 2029

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	0.8700	5.1210	13.1740	0.0319	0.8874	0.1196	1.0070	0.2542	0.1101	0.3643	0.0000	2,707.4733	2,707.4733	0.0198	0.0000	2,707.8880
Worker	0.8578	1.4450	13.9364	0.0798	6.3066	0.0459	6.3525	1.6749	0.0426	1.7175	0.0000	4,601.6473	4,601.6473	0.1679	0.0000	4,605.1728
Total	**1.7278**	**6.5660**	**27.1104**	**0.1116**	**7.1940**	**0.1655**	**7.3595**	**1.9291**	**0.1526**	**2.0817**	**0.0000**	**7,309.1206**	**7,309.1206**	**0.1876**	**0.0000**	**7,313.0608**

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	0.1777	1.6195	2.0948	3.5000e-003		0.0685	0.0685		0.0645	0.0645	0.0000	301.4015	301.4015	0.0707	0.0000	302.8871
Total	**0.1777**	**1.6195**	**2.0948**	**3.5000e-003**		**0.0685**	**0.0685**		**0.0645**	**0.0645**	**0.0000**	**301.4015**	**301.4015**	**0.0707**	**0.0000**	**302.8871**

3.5 Building Construction - 2029

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	0.8700	5.1210	13.1740	0.0319	0.8874	0.1196	1.0070	0.2542	0.1101	0.3643	0.0000	2,707.4733	2,707.4733	0.0198	0.0000	2,707.8880
Worker	0.8578	1.4450	13.9364	0.0798	6.3066	0.0459	6.3525	1.6749	0.0426	1.7175	0.0000	4,601.6473	4,601.6473	0.1679	0.0000	4,605.1728
Total	**1.7278**	**6.5660**	**27.1104**	**0.1116**	**7.1940**	**0.1655**	**7.3595**	**1.9291**	**0.1526**	**2.0817**	**0.0000**	**7,309.1206**	**7,309.1206**	**0.1876**	**0.0000**	**7,313.0608**

3.5 Building Construction - 2030

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	0.1702	1.0333	2.1051	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.5281	341.5281	0.0137	0.0000	341.8160
Total	**0.1702**	**1.0333**	**2.1051**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.5281**	**341.5281**	**0.0137**	**0.0000**	**341.8160**

3.5 Building Construction - 2030

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	0.8706	5.1106	13.1513	0.0319	0.8874	0.1196	1.0070	0.2542	0.1101	0.3643	0.0000	2,707.5386	2,707.5386	0.0198	0.0000	2,707.9534
Worker	0.8252	1.3970	13.5539	0.0798	6.3066	0.0460	6.3527	1.6749	0.0427	1.7176	0.0000	4,578.1556	4,578.1556	0.1648	0.0000	4,581.6164
Total	**1.6959**	**6.5076**	**26.7052**	**0.1116**	**7.1940**	**0.1657**	**7.3597**	**1.9291**	**0.1528**	**2.0819**	**0.0000**	**7,285.6941**	**7,285.6941**	**0.1846**	**0.0000**	**7,289.5698**

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	0.1702	1.0333	2.1051	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.5277	341.5277	0.0137	0.0000	341.8156
Total	**0.1702**	**1.0333**	**2.1051**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.5277**	**341.5277**	**0.0137**	**0.0000**	**341.8156**

3.5 Building Construction - 2030

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	0.8706	5.1106	13.1513	0.0319	0.8874	0.1196	1.0070	0.2542	0.1101	0.3643	0.0000	2,707.5386	2,707.5386	0.0198	0.0000	2,707.9534
Worker	0.8252	1.3970	13.5539	0.0798	6.3066	0.0460	6.3527	1.6749	0.0427	1.7176	0.0000	4,578.1556	4,578.1556	0.1648	0.0000	4,581.6164
Total	**1.6959**	**6.5076**	**26.7052**	**0.1116**	**7.1940**	**0.1657**	**7.3597**	**1.9291**	**0.1528**	**2.0819**	**0.0000**	**7,285.6941**	**7,285.6941**	**0.1846**	**0.0000**	**7,289.5698**

3.5 Building Construction - 2031

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	0.1702	1.0333	2.1051	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.5281	341.5281	0.0137	0.0000	341.8160
Total	**0.1702**	**1.0333**	**2.1051**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.5281**	**341.5281**	**0.0137**	**0.0000**	**341.8160**

3.5 Building Construction - 2031

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	0.8666	5.1029	13.1225	0.0319	0.8874	0.1197	1.0071	0.2542	0.1101	0.3644	0.0000	2,707.6087	2,707.6087	0.0198	0.0000	2,708.0237
Worker	0.7961	1.3541	13.2231	0.0798	6.3066	0.0461	6.3528	1.6749	0.0428	1.7177	0.0000	4,558.8004	4,558.8004	0.1622	0.0000	4,562.2061
Total	**1.6627**	**6.4570**	**26.3455**	**0.1116**	**7.1940**	**0.1658**	**7.3599**	**1.9291**	**0.1529**	**2.0820**	**0.0000**	**7,266.4091**	**7,266.4091**	**0.1819**	**0.0000**	**7,270.2298**

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	0.1702	1.0333	2.1051	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.5277	341.5277	0.0137	0.0000	341.8156
Total	**0.1702**	**1.0333**	**2.1051**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.5277**	**341.5277**	**0.0137**	**0.0000**	**341.8156**

3.5 Building Construction - 2031

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	0.8666	5.1029	13.1225	0.0319	0.8874	0.1197	1.0071	0.2542	0.1101	0.3644	0.0000	2,707.6087	2,707.6087	0.0198	0.0000	2,708.0237
Worker	0.7961	1.3541	13.2231	0.0798	6.3066	0.0461	6.3528	1.6749	0.0428	1.7177	0.0000	4,558.8004	4,558.8004	0.1622	0.0000	4,562.2061
Total	**1.6627**	**6.4570**	**26.3455**	**0.1116**	**7.1940**	**0.1658**	**7.3599**	**1.9291**	**0.1529**	**2.0820**	**0.0000**	**7,266.4091**	**7,266.4091**	**0.1819**	**0.0000**	**7,270.2298**

3.5 Building Construction - 2032

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	0.1480	0.8987	1.8309	3.5000e-003		0.0168	0.0168		0.0168	0.0168	0.0000	297.0379	297.0379	0.0119	0.0000	297.2883
Total	**0.1480**	**0.8987**	**1.8309**	**3.5000e-003**		**0.0168**	**0.0168**		**0.0168**	**0.0168**	**0.0000**	**297.0379**	**297.0379**	**0.0119**	**0.0000**	**297.2883**

3.5 Building Construction - 2032

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	0.7509	4.4324	11.3903	0.0277	0.7718	0.1042	0.8760	0.2211	0.0958	0.3170	0.0000	2,355.0469	2,355.0469	0.0172	0.0000	2,355.4080
Worker	0.6696	1.1456	11.2563	0.0694	5.4851	0.0401	5.5252	1.4567	0.0372	1.4939	0.0000	3,951.0069	3,951.0069	0.1391	0.0000	3,953.9269
Total	**1.4205**	**5.5780**	**22.6465**	**0.0971**	**6.2569**	**0.1443**	**6.4012**	**1.6778**	**0.1331**	**1.8109**	**0.0000**	**6,306.0538**	**6,306.0538**	**0.1562**	**0.0000**	**6,309.3349**

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	0.1480	0.8987	1.8309	3.5000e-003		0.0168	0.0168		0.0168	0.0168	0.0000	297.0375	297.0375	0.0119	0.0000	297.2879
Total	**0.1480**	**0.8987**	**1.8309**	**3.5000e-003**		**0.0168**	**0.0168**		**0.0168**	**0.0168**	**0.0000**	**297.0375**	**297.0375**	**0.0119**	**0.0000**	**297.2879**

3.5 Building Construction - 2032

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	0.7509	4.4324	11.3903	0.0277	0.7718	0.1042	0.8760	0.2211	0.0958	0.3170	0.0000	2,355.0469	2,355.0469	0.0172	0.0000	2,355.4080
Worker	0.6696	1.1456	11.2563	0.0694	5.4851	0.0401	5.5252	1.4567	0.0372	1.4939	0.0000	3,951.0069	3,951.0069	0.1391	0.0000	3,953.9269
Total	**1.4205**	**5.5780**	**22.6465**	**0.0971**	**6.2569**	**0.1443**	**6.4012**	**1.6778**	**0.1331**	**1.8109**	**0.0000**	**6,306.0538**	**6,306.0538**	**0.1562**	**0.0000**	**6,309.3349**

3.6 Paving - 2032

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	0.0237	0.1222	0.2716	4.8000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	41.2767	41.2767	1.9300e-003	0.0000	41.3173
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0237**	**0.1222**	**0.2716**	**4.8000e-004**		**5.6600e-003**	**5.6600e-003**		**5.6600e-003**	**5.6600e-003**	**0.0000**	**41.2767**	**41.2767**	**1.9300e-003**	**0.0000**	**41.3173**

3.6 Paving - 2032

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	6.9000e-004	6.7500e-003	4.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.3691	2.3691	8.0000e-005	0.0000	2.3709
Total	**4.0000e-004**	**6.9000e-004**	**6.7500e-003**	**4.0000e-005**	**3.2900e-003**	**2.0000e-005**	**3.3100e-003**	**8.7000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**2.3691**	**2.3691**	**8.0000e-005**	**0.0000**	**2.3709**

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	0.0237	0.1222	0.2716	4.8000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	41.2766	41.2766	1.9300e-003	0.0000	41.3173
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0237**	**0.1222**	**0.2716**	**4.8000e-004**		**5.6600e-003**	**5.6600e-003**		**5.6600e-003**	**5.6600e-003**	**0.0000**	**41.2766**	**41.2766**	**1.9300e-003**	**0.0000**	**41.3173**

3.6 Paving - 2032

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	6.9000e-004	6.7500e-003	4.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.3691	2.3691	8.0000e-005	0.0000	2.3709
Total	**4.0000e-004**	**6.9000e-004**	**6.7500e-003**	**4.0000e-005**	**3.2900e-003**	**2.0000e-005**	**3.3100e-003**	**8.7000e-004**	**2.0000e-005**	**9.0000e-004**	**0.0000**	**2.3691**	**2.3691**	**8.0000e-005**	**0.0000**	**2.3709**

3.6 Paving - 2033

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	0.1761	0.9074	2.0175	3.5700e-003		0.0420	0.0420		0.0420	0.0420	0.0000	306.6269	306.6269	0.0144	0.0000	306.9287
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1761**	**0.9074**	**2.0175**	**3.5700e-003**		**0.0420**	**0.0420**		**0.0420**	**0.0420**	**0.0000**	**306.6269**	**306.6269**	**0.0144**	**0.0000**	**306.9287**

3.6 Paving - 2033

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8900e-003	4.9800e-003	0.0492	3.1000e-004	0.0244	1.8000e-004	0.0246	6.4900e-003	1.7000e-004	6.6500e-003	0.0000	17.5479	17.5479	6.1000e-004	0.0000	17.5607
Total	**2.8900e-003**	**4.9800e-003**	**0.0492**	**3.1000e-004**	**0.0244**	**1.8000e-004**	**0.0246**	**6.4900e-003**	**1.7000e-004**	**6.6500e-003**	**0.0000**	**17.5479**	**17.5479**	**6.1000e-004**	**0.0000**	**17.5607**

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	0.1761	0.9074	2.0175	3.5700e-003		0.0420	0.0420		0.0420	0.0420	0.0000	306.6265	306.6265	0.0144	0.0000	306.9283
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1761**	**0.9074**	**2.0175**	**3.5700e-003**		**0.0420**	**0.0420**		**0.0420**	**0.0420**	**0.0000**	**306.6265**	**306.6265**	**0.0144**	**0.0000**	**306.9283**

3.6 Paving - 2033

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	2.8900e-003	4.9800e-003	0.0492	3.1000e-004	0.0244	1.8000e-004	0.0246	6.4900e-003	1.7000e-004	6.6500e-003	0.0000	17.5479	17.5479	6.1000e-004	0.0000	17.5607
Total	**2.8900e-003**	**4.9800e-003**	**0.0492**	**3.1000e-004**	**0.0244**	**1.8000e-004**	**0.0246**	**6.4900e-003**	**1.7000e-004**	**6.6500e-003**	**0.0000**	**17.5479**	**17.5479**	**6.1000e-004**	**0.0000**	**17.5607**

3.6 Paving - 2034

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	5.4200e-003	0.0279	0.0621	1.1000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	9.4347	9.4347	4.4000e-004	0.0000	9.4440
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4200e-003**	**0.0279**	**0.0621**	**1.1000e-004**		**1.2900e-003**	**1.2900e-003**		**1.2900e-003**	**1.2900e-003**	**0.0000**	**9.4347**	**9.4347**	**4.4000e-004**	**0.0000**	**9.4440**

3.6 Paving - 2034

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	9.0000e-005	1.5000e-004	1.4900e-003	1.0000e-005	7.5000e-004	1.0000e-005	7.6000e-004	2.0000e-004	1.0000e-005	2.0000e-004	0.0000	0.5386	0.5386	2.0000e-005	0.0000	0.5390
Total	**9.0000e-005**	**1.5000e-004**	**1.4900e-003**	**1.0000e-005**	**7.5000e-004**	**1.0000e-005**	**7.6000e-004**	**2.0000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.5386**	**0.5386**	**2.0000e-005**	**0.0000**	**0.5390**

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	5.4200e-003	0.0279	0.0621	1.1000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	9.4347	9.4347	4.4000e-004	0.0000	9.4440
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4200e-003**	**0.0279**	**0.0621**	**1.1000e-004**		**1.2900e-003**	**1.2900e-003**		**1.2900e-003**	**1.2900e-003**	**0.0000**	**9.4347**	**9.4347**	**4.4000e-004**	**0.0000**	**9.4440**

3.6 Paving - 2034

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	9.0000e-005	1.5000e-004	1.4900e-003	1.0000e-005	7.5000e-004	1.0000e-005	7.6000e-004	2.0000e-004	1.0000e-005	2.0000e-004	0.0000	0.5386	0.5386	2.0000e-005	0.0000	0.5390
Total	**9.0000e-005**	**1.5000e-004**	**1.4900e-003**	**1.0000e-005**	**7.5000e-004**	**1.0000e-005**	**7.6000e-004**	**2.0000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.5386**	**0.5386**	**2.0000e-005**	**0.0000**	**0.5390**

3.7 Architectural Coating - 2034

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	151.0543					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0165	0.1079	0.2265	3.7000e-004		2.5600e-003	2.5600e-003		2.5600e-003	2.5600e-003	0.0000	32.1710	32.1710	1.3000e-003	0.0000	32.1983
Total	**151.0708**	**0.1079**	**0.2265**	**3.7000e-004**		**2.5600e-003**	**2.5600e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**32.1710**	**32.1710**	**1.3000e-003**	**0.0000**	**32.1983**

3.7 Architectural Coating - 2034

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	0.1397	0.2433	2.4114	0.0154	1.2172	8.9100e-003	1.2261	0.3233	8.2600e-003	0.3315	0.0000	872.0795	872.0795	0.0301	0.0000	872.7120
Total	**0.1397**	**0.2433**	**2.4114**	**0.0154**	**1.2172**	**8.9100e-003**	**1.2261**	**0.3233**	**8.2600e-003**	**0.3315**	**0.0000**	**872.0795**	**872.0795**	**0.0301**	**0.0000**	**872.7120**

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	151.0543					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0165	0.1079	0.2265	3.7000e-004		2.5600e-003	2.5600e-003		2.5600e-003	2.5600e-003	0.0000	32.1710	32.1710	1.3000e-003	0.0000	32.1983
Total	**151.0708**	**0.1079**	**0.2265**	**3.7000e-004**		**2.5600e-003**	**2.5600e-003**		**2.5600e-003**	**2.5600e-003**	**0.0000**	**32.1710**	**32.1710**	**1.3000e-003**	**0.0000**	**32.1983**

3.7 Architectural Coating - 2034

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	0.1397	0.2433	2.4114	0.0154	1.2172	8.9100e-003	1.2261	0.3233	8.2600e-003	0.3315	0.0000	872.0795	872.0795	0.0301	0.0000	872.7120
Total	**0.1397**	**0.2433**	**2.4114**	**0.0154**	**1.2172**	**8.9100e-003**	**1.2261**	**0.3233**	**8.2600e-003**	**0.3315**	**0.0000**	**872.0795**	**872.0795**	**0.0301**	**0.0000**	**872.7120**

3.7 Architectural Coating - 2035

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	29.9711					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9500e-003	0.0189	0.0449	7.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	6.3831	6.3831	2.4000e-004	0.0000	6.3881
Total	**29.9740**	**0.0189**	**0.0449**	**7.0000e-005**		**2.5000e-004**	**2.5000e-004**		**2.5000e-004**	**2.5000e-004**	**0.0000**	**6.3831**	**6.3831**	**2.4000e-004**	**0.0000**	**6.3881**

3.7 Architectural Coating - 2035

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	0.0270	0.0476	0.4718	3.0500e-003	0.2415	1.7700e-003	0.2433	0.0641	1.6400e-003	0.0658	0.0000	172.6887	172.6887	5.9200e-003	0.0000	172.8130
Total	**0.0270**	**0.0476**	**0.4718**	**3.0500e-003**	**0.2415**	**1.7700e-003**	**0.2433**	**0.0641**	**1.6400e-003**	**0.0658**	**0.0000**	**172.6887**	**172.6887**	**5.9200e-003**	**0.0000**	**172.8130**

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	29.9711					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9500e-003	0.0189	0.0449	7.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	6.3831	6.3831	2.4000e-004	0.0000	6.3881
Total	**29.9740**	**0.0189**	**0.0449**	**7.0000e-005**		**2.5000e-004**	**2.5000e-004**		**2.5000e-004**	**2.5000e-004**	**0.0000**	**6.3831**	**6.3831**	**2.4000e-004**	**0.0000**	**6.3881**

3.7 Architectural Coating - 2035

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	0.0270	0.0476	0.4718	3.0500e-003	0.2415	1.7700e-003	0.2433	0.0641	1.6400e-003	0.0658	0.0000	172.6887	172.6887	5.9200e-003	0.0000	172.8130
Total	**0.0270**	**0.0476**	**0.4718**	**3.0500e-003**	**0.2415**	**1.7700e-003**	**0.2433**	**0.0641**	**1.6400e-003**	**0.0658**	**0.0000**	**172.6887**	**172.6887**	**5.9200e-003**	**0.0000**	**172.8130**

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	64.7837	256.8184	856.4430	3.1221	152.2616	6.8779	159.1394	41.0176	6.3343	47.3519	0.0000	225,259.9833	225,259.9833	3.9469	0.0000	225,342.8684
Unmitigated	64.7837	256.8184	856.4430	3.1221	152.2616	6.8779	159.1394	41.0176	6.3343	47.3519	0.0000	225,259.9833	225,259.9833	3.9469	0.0000	225,342.8684

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	102,542.55	108,007.20	93970.55	392,556,021	392,556,021
Total	102,542.55	108,007.20	93,970.55	392,556,021	392,556,021

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	16.80	7.10	7.90	46.40	16.40	37.20	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.355759	0.055439	0.135927	0.179388	0.056975	0.010375	0.023432	0.169902	0.001468	0.001841	0.006095	0.000886	0.002512

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	23,291.0623	23,291.0623	1.0532	0.2179	23,380.7257
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	23,291.0623	23,291.0623	1.0532	0.2179	23,380.7257
NaturalGas Mitigated	1.7155	14.6598	6.2382	0.0936		1.1853	1.1853		1.1853	1.1853	0.0000	16,977.6324	16,977.6324	0.3254	0.3113	17,080.9554
NaturalGas Unmitigated	1.7155	14.6598	6.2382	0.0936		1.1853	1.1853		1.1853	1.1853	0.0000	16,977.6324	16,977.6324	0.3254	0.3113	17,080.9554

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					
Single Family Housing	3.18149e+008	1.7155	14.6598	6.2382	0.0936		1.1853	1.1853		1.1853	1.1853	0.0000	16,977.6324	16,977.6324	0.3254	0.3113	17,080.9554
Total		**1.7155**	**14.6598**	**6.2382**	**0.0936**		**1.1853**	**1.1853**		**1.1853**	**1.1853**	**0.0000**	**16,977.6324**	**16,977.6324**	**0.3254**	**0.3113**	**17,080.9554**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	3.18149e+008	1.7155	14.6598	6.2382	0.0936		1.1853	1.1853		1.1853	1.1853	0.0000	16,977.6324	16,977.6324	0.3254	0.3113	17,080.9554
Total		**1.7155**	**14.6598**	**6.2382**	**0.0936**		**1.1853**	**1.1853**		**1.1853**	**1.1853**	**0.0000**	**16,977.6324**	**16,977.6324**	**0.3254**	**0.3113**	**17,080.9554**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	8.00624e+007	23,291.0623	1.0532	0.2179	23,380.7257
Total		**23,291.0623**	**1.0532**	**0.2179**	**23,380.7257**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	8.00624e+007	23,291.0623	1.0532	0.2179	23,380.7257
Total		**23,291.0623**	**1.0532**	**0.2179**	**23,380.7257**

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	96.2674	0.9147	79.3060	4.2000e-003		0.7653	0.7653		0.7619	0.7619	0.0000	4,771.7773	4,771.7773	0.2127	0.0851	4,802.6246
Unmitigated	96.2674	0.9147	79.3060	4.2000e-003		0.7653	0.7653		0.7619	0.7619	0.0000	4,771.7773	4,771.7773	0.2127	0.0851	4,802.6246

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	18.1025					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	75.3254					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.4690	2.0000e-005	0.0256	0.0000		0.3241	0.3241		0.3207	0.3207	0.0000	4,641.8172	4,641.8172	0.0890	0.0851	4,670.0666
Landscaping	2.3705	0.9147	79.2805	4.2000e-003		0.4412	0.4412		0.4412	0.4412	0.0000	129.9600	129.9600	0.1237	0.0000	132.5580
Total	**96.2674**	**0.9147**	**79.3060**	**4.2000e-003**		**0.7653**	**0.7653**		**0.7619**	**0.7619**	**0.0000**	**4,771.7773**	**4,771.7773**	**0.2127**	**0.0851**	**4,802.6246**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	18.1025					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	75.3254					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.4690	2.0000e-005	0.0256	0.0000		0.3241	0.3241		0.3207	0.3207	0.0000	4,641.8172	4,641.8172	0.0890	0.0851	4,670.0666
Landscaping	2.3705	0.9147	79.2805	4.2000e-003		0.4412	0.4412		0.4412	0.4412	0.0000	129.9600	129.9600	0.1237	0.0000	132.5580
Total	**96.2674**	**0.9147**	**79.3060**	**4.2000e-003**		**0.7653**	**0.7653**		**0.7619**	**0.7619**	**0.0000**	**4,771.7773**	**4,771.7773**	**0.2127**	**0.0851**	**4,802.6246**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1,768.5459	22.8142	0.5508	2,418.3785
Unmitigated	1,768.5459	22.8184	0.5516	2,418.7318

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	698.125 / 440.123	1,768.5459	22.8184	0.5516	2,418.7318
Total		**1,768.5459**	**22.8184**	**0.5516**	**2,418.7318**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	698.125 / 440.123	1,768.5459	22.8142	0.5508	2,418.3785
Total		**1,768.5459**	**22.8142**	**0.5508**	**2,418.3785**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2,550.4698	150.7285	0.0000	5,715.7672
Unmitigated	2,550.4698	150.7285	0.0000	5,715.7672

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	12564.5	2,550.4698	150.7285	0.0000	5,715.7672
Total		**2,550.4698**	**150.7285**	**0.0000**	**5,715.7672**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	12564.5	2,550.4698	150.7285	0.0000	5,715.7672
Total		**2,550.4698**	**150.7285**	**0.0000**	**5,715.7672**

9.0 Operational Offroad

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

10.0 Vegetation

Houghton 99 Cumulative SPR applications

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	3
Condo/Townhouse	57.00	Dwelling Unit	3.56	57,000.00	163
Office Park	41.74	1000sqft	0.96	41,736.00	0
Unrefrigerated Warehouse-No Rail	28.39	1000sqft	0.65	28,391.00	0
Fast Food Restaurant with Drive Thru	3.63	1000sqft	0.08	3,626.00	0
Place of Worship	33.88	1000sqft	0.78	33,881.00	0
Regional Shopping Center	786.37	1000sqft	18.05	786,370.00	0
Automobile Care Center	26.27	1000sqft	0.60	26,271.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	7			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Houghton 99 Cumulative SPR applications

Land Use - Houghton 99 Cumulative SPR applications

Construction Phase -

Grading -

Energy Use -

Construction Off-road Equipment Mitigation - SJVAPCD standard measures

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2035
tblWoodstoves	NumberCatalytic	0.32	37.66
tblWoodstoves	NumberCatalytic	3.56	0.00
tblWoodstoves	NumberNoncatalytic	0.32	37.66
tblWoodstoves	NumberNoncatalytic	3.56	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.7472	5.9778	6.5493	0.0114	0.6161	0.2916	0.9077	0.2140	0.2719	0.4859	0.0000	965.1186	965.1186	0.1187	0.0000	967.6112
2018	7.4259	3.4350	4.5402	9.0300e-003	0.3380	0.1622	0.5002	0.0917	0.1520	0.2437	0.0000	735.4182	735.4182	0.0698	0.0000	736.8835
Total	**8.1731**	**9.4128**	**11.0895**	**0.0205**	**0.9541**	**0.4538**	**1.4079**	**0.3057**	**0.4238**	**0.7295**	**0.0000**	**1,700.5367**	**1,700.5367**	**0.1885**	**0.0000**	**1,704.4947**

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					
2017	0.7472	5.9778	6.5493	0.0114	0.4684	0.2916	0.7600	0.1453	0.2719	0.4172	0.0000	965.1181	965.1181	0.1187	0.0000	967.6107
2018	7.4259	3.4350	4.5402	9.0300e-003	0.3380	0.1622	0.5002	0.0917	0.1520	0.2437	0.0000	735.4179	735.4179	0.0698	0.0000	736.8832
Total	**8.1731**	**9.4128**	**11.0895**	**0.0205**	**0.8064**	**0.4538**	**1.2602**	**0.2370**	**0.4238**	**0.6608**	**0.0000**	**1,700.5360**	**1,700.5360**	**0.1885**	**0.0000**	**1,704.4939**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**15.48**	**0.00**	**10.49**	**22.47**	**0.00**	**9.41**	**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	tons/yr										MT/yr					
Area	5.3024	0.1187	7.4077	0.0228		1.1412	1.1412		1.1412	1.1412	152.2490	25.8459	178.0949	0.7129	4.6000e-004	193.2091
Energy	0.0454	0.4105	0.3325	2.4700e-003		0.0313	0.0313		0.0313	0.0313	0.0000	3,409.0817	3,409.0817	0.1425	0.0359	3,423.2095
Mobile	17.5477	53.2874	235.3792	0.5234	24.6687	1.1614	25.8301	6.6455	1.0698	7.7153	0.0000	37,719.5326	37,719.5326	0.7053	0.0000	37,734.3447
Waste						0.0000	0.0000		0.0000	0.0000	254.5365	0.0000	254.5365	15.0427	0.0000	570.4326
Water						0.0000	0.0000		0.0000	0.0000	25.5848	173.6519	199.2367	2.6357	0.0637	274.3240
Total	**22.8955**	**53.8166**	**243.1194**	**0.5487**	**24.6687**	**2.3339**	**27.0026**	**6.6455**	**2.2423**	**8.8878**	**432.3702**	**41,328.1121**	**41,760.4823**	**19.2391**	**0.1001**	**42,195.5200**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.3024	0.1187	7.4077	0.0228		1.1412	1.1412		1.1412	1.1412	152.2490	25.8459	178.0949	0.7129	4.6000e-004	193.2091
Energy	0.0454	0.4105	0.3325	2.4700e-003		0.0313	0.0313		0.0313	0.0313	0.0000	3,409.0817	3,409.0817	0.1425	0.0359	3,423.2095
Mobile	17.5477	53.2874	235.3792	0.5234	24.6687	1.1614	25.8301	6.6455	1.0698	7.7153	0.0000	37,719.5326	37,719.5326	0.7053	0.0000	37,734.3447
Waste						0.0000	0.0000		0.0000	0.0000	254.5365	0.0000	254.5365	15.0427	0.0000	570.4326
Water						0.0000	0.0000		0.0000	0.0000	25.5848	173.6519	199.2367	2.6352	0.0636	274.2831
Total	**22.8955**	**53.8166**	**243.1194**	**0.5487**	**24.6687**	**2.3339**	**27.0026**	**6.6455**	**2.2423**	**8.8878**	**432.3702**	**41,328.1121**	**41,760.4823**	**19.2386**	**0.1000**	**42,195.4791**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.10**	**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	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	2/10/2017	5	10	
3	Grading	Grading	2/11/2017	3/31/2017	5	35	
4	Building Construction	Building Construction	4/1/2017	8/31/2018	5	370	
5	Paving	Paving	9/1/2018	9/28/2018	5	20	
6	Architectural Coating	Architectural Coating	9/29/2018	10/26/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 87.5

Acres of Paving: 0

Residential Indoor: 119,070; Residential Outdoor: 39,690; Non-Residential Indoor: 1,380,413; Non-Residential Outdoor: 460,138 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	342.00	157.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	68.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

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	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8292
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**		**0.0213**	**0.0213**		**0.0198**	**0.0198**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8292**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	6.1000e-004	5.9700e-003	2.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1153	1.1153	5.0000e-005	0.0000	1.1164
Total	**4.8000e-004**	**6.1000e-004**	**5.9700e-003**	**2.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.1153**	**1.1153**	**5.0000e-005**	**0.0000**	**1.1164**

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	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8291
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**		**0.0213**	**0.0213**		**0.0198**	**0.0198**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8291**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	6.1000e-004	5.9700e-003	2.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1153	1.1153	5.0000e-005	0.0000	1.1164
Total	**4.8000e-004**	**6.1000e-004**	**5.9700e-003**	**2.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.1153**	**1.1153**	**5.0000e-005**	**0.0000**	**1.1164**

3.3 Site Preparation - 2017

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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0242	0.2588	0.1970	2.0000e-004		0.0138	0.0138		0.0127	0.0127	0.0000	18.1577	18.1577	5.5600e-003	0.0000	18.2745
Total	**0.0242**	**0.2588**	**0.1970**	**2.0000e-004**	**0.0903**	**0.0138**	**0.1041**	**0.0497**	**0.0127**	**0.0623**	**0.0000**	**18.1577**	**18.1577**	**5.5600e-003**	**0.0000**	**18.2745**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.9000e-004	3.7000e-004	3.5800e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6692	0.6692	3.0000e-005	0.0000	0.6698
Total	**2.9000e-004**	**3.7000e-004**	**3.5800e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6692**	**0.6692**	**3.0000e-005**	**0.0000**	**0.6698**

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					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0242	0.2588	0.1970	2.0000e-004		0.0138	0.0138		0.0127	0.0127	0.0000	18.1577	18.1577	5.5600e-003	0.0000	18.2745
Total	**0.0242**	**0.2588**	**0.1970**	**2.0000e-004**	**0.0352**	**0.0138**	**0.0490**	**0.0194**	**0.0127**	**0.0320**	**0.0000**	**18.1577**	**18.1577**	**5.5600e-003**	**0.0000**	**18.2745**

3.3 Site Preparation - 2017

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	3.7000e-004	3.5800e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6692	0.6692	3.0000e-005	0.0000	0.6698
Total	**2.9000e-004**	**3.7000e-004**	**3.5800e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6692**	**0.6692**	**3.0000e-005**	**0.0000**	**0.6698**

3.4 Grading - 2017

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					0.1518	0.0000	0.1518	0.0629	0.0000	0.0629	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1067	1.2179	0.8191	1.0800e-003		0.0581	0.0581		0.0534	0.0534	0.0000	100.2294	100.2294	0.0307	0.0000	100.8743
Total	**0.1067**	**1.2179**	**0.8191**	**1.0800e-003**	**0.1518**	**0.0581**	**0.2098**	**0.0629**	**0.0534**	**0.1164**	**0.0000**	**100.2294**	**100.2294**	**0.0307**	**0.0000**	**100.8743**

3.4 Grading - 2017

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	1.1300e-003	1.4200e-003	0.0139	4.0000e-005	2.8200e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6022	2.6022	1.3000e-004	0.0000	2.6049
Total	**1.1300e-003**	**1.4200e-003**	**0.0139**	**4.0000e-005**	**2.8200e-003**	**2.0000e-005**	**2.8400e-003**	**7.5000e-004**	**2.0000e-005**	**7.7000e-004**	**0.0000**	**2.6022**	**2.6022**	**1.3000e-004**	**0.0000**	**2.6049**

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					0.0592	0.0000	0.0592	0.0246	0.0000	0.0246	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1067	1.2179	0.8191	1.0800e-003		0.0581	0.0581		0.0534	0.0534	0.0000	100.2292	100.2292	0.0307	0.0000	100.8742
Total	**0.1067**	**1.2179**	**0.8191**	**1.0800e-003**	**0.0592**	**0.0581**	**0.1173**	**0.0246**	**0.0534**	**0.0780**	**0.0000**	**100.2292**	**100.2292**	**0.0307**	**0.0000**	**100.8742**

3.4 Grading - 2017

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	1.1300e-003	1.4200e-003	0.0139	4.0000e-005	2.8200e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6022	2.6022	1.3000e-004	0.0000	2.6049
Total	**1.1300e-003**	**1.4200e-003**	**0.0139**	**4.0000e-005**	**2.8200e-003**	**2.0000e-005**	**2.8400e-003**	**7.5000e-004**	**2.0000e-005**	**7.7000e-004**	**0.0000**	**2.6022**	**2.6022**	**1.3000e-004**	**0.0000**	**2.6049**

3.5 Building Construction - 2017

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	0.3025	2.5746	1.7676	2.6100e-003		0.1737	0.1737		0.1631	0.1631	0.0000	233.4921	233.4921	0.0575	0.0000	234.6989
Total	**0.3025**	**2.5746**	**1.7676**	**2.6100e-003**		**0.1737**	**0.1737**		**0.1631**	**0.1631**	**0.0000**	**233.4921**	**233.4921**	**0.0575**	**0.0000**	**234.6989**

3.5 Building Construction - 2017

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	0.1640	1.3619	2.0763	3.6300e-003	0.1005	0.0228	0.1233	0.0288	0.0209	0.0497	0.0000	324.3152	324.3152	2.6400e-003	0.0000	324.3707
Worker	0.1074	0.1354	1.3269	3.4600e-003	0.2687	2.0400e-003	0.2708	0.0714	1.8800e-003	0.0733	0.0000	247.9193	247.9193	0.0121	0.0000	248.1724
Total	**0.2714**	**1.4973**	**3.4032**	**7.0900e-003**	**0.3692**	**0.0248**	**0.3940**	**0.1002**	**0.0228**	**0.1230**	**0.0000**	**572.2345**	**572.2345**	**0.0147**	**0.0000**	**572.5432**

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	0.3025	2.5746	1.7676	2.6100e-003		0.1737	0.1737		0.1631	0.1631	0.0000	233.4919	233.4919	0.0575	0.0000	234.6987
Total	**0.3025**	**2.5746**	**1.7676**	**2.6100e-003**		**0.1737**	**0.1737**		**0.1631**	**0.1631**	**0.0000**	**233.4919**	**233.4919**	**0.0575**	**0.0000**	**234.6987**

3.5 Building Construction - 2017

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	0.1640	1.3619	2.0763	3.6300e-003	0.1005	0.0228	0.1233	0.0288	0.0209	0.0497	0.0000	324.3152	324.3152	2.6400e-003	0.0000	324.3707
Worker	0.1074	0.1354	1.3269	3.4600e-003	0.2687	2.0400e-003	0.2708	0.0714	1.8800e-003	0.0733	0.0000	247.9193	247.9193	0.0121	0.0000	248.1724
Total	**0.2714**	**1.4973**	**3.4032**	**7.0900e-003**	**0.3692**	**0.0248**	**0.3940**	**0.1002**	**0.0228**	**0.1230**	**0.0000**	**572.2345**	**572.2345**	**0.0147**	**0.0000**	**572.5432**

3.5 Building Construction - 2018

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	0.2335	2.0353	1.5341	2.3500e-003		0.1308	0.1308		0.1229	0.1229	0.0000	207.1735	207.1735	0.0507	0.0000	208.2382
Total	**0.2335**	**2.0353**	**1.5341**	**2.3500e-003**		**0.1308**	**0.1308**		**0.1229**	**0.1229**	**0.0000**	**207.1735**	**207.1735**	**0.0507**	**0.0000**	**208.2382**

3.5 Building Construction - 2018

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	0.1359	1.0965	1.7623	3.2500e-003	0.0902	0.0187	0.1089	0.0258	0.0172	0.0431	0.0000	285.9715	285.9715	2.3000e-003	0.0000	286.0199
Worker	0.0849	0.1085	1.0511	3.0900e-003	0.2411	1.7900e-003	0.2429	0.0641	1.6500e-003	0.0657	0.0000	213.4315	213.4315	9.9200e-003	0.0000	213.6397
Total	**0.2208**	**1.2050**	**2.8135**	**6.3400e-003**	**0.3313**	**0.0205**	**0.3518**	**0.0899**	**0.0189**	**0.1088**	**0.0000**	**499.4029**	**499.4029**	**0.0122**	**0.0000**	**499.6596**

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	0.2335	2.0353	1.5341	2.3500e-003		0.1308	0.1308		0.1229	0.1229	0.0000	207.1732	207.1732	0.0507	0.0000	208.2379
Total	**0.2335**	**2.0353**	**1.5341**	**2.3500e-003**		**0.1308**	**0.1308**		**0.1229**	**0.1229**	**0.0000**	**207.1732**	**207.1732**	**0.0507**	**0.0000**	**208.2379**

3.5 Building Construction - 2018

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	0.1359	1.0965	1.7623	3.2500e-003	0.0902	0.0187	0.1089	0.0258	0.0172	0.0431	0.0000	285.9715	285.9715	2.3000e-003	0.0000	286.0199
Worker	0.0849	0.1085	1.0511	3.0900e-003	0.2411	1.7900e-003	0.2429	0.0641	1.6500e-003	0.0657	0.0000	213.4315	213.4315	9.9200e-003	0.0000	213.6397
Total	**0.2208**	**1.2050**	**2.8135**	**6.3400e-003**	**0.3313**	**0.0205**	**0.3518**	**0.0899**	**0.0189**	**0.1088**	**0.0000**	**499.4029**	**499.4029**	**0.0122**	**0.0000**	**499.6596**

3.6 Paving - 2018

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	0.0161	0.1716	0.1449	2.2000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0161**	**0.1716**	**0.1449**	**2.2000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

3.6 Paving - 2018

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	4.3000e-004	5.4000e-004	5.2700e-003	2.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0698	1.0698	5.0000e-005	0.0000	1.0709
Total	**4.3000e-004**	**5.4000e-004**	**5.2700e-003**	**2.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0698**	**1.0698**	**5.0000e-005**	**0.0000**	**1.0709**

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	0.0161	0.1716	0.1449	2.2000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	20.3687	20.3687	6.3400e-003	0.0000	20.5019
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0161**	**0.1716**	**0.1449**	**2.2000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**20.3687**	**20.3687**	**6.3400e-003**	**0.0000**	**20.5019**

3.6 Paving - 2018

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	4.3000e-004	5.4000e-004	5.2700e-003	2.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0698	1.0698	5.0000e-005	0.0000	1.0709
Total	**4.3000e-004**	**5.4000e-004**	**5.2700e-003**	**2.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0698**	**1.0698**	**5.0000e-005**	**0.0000**	**1.0709**

3.7 Architectural Coating - 2018

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	6.9501					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0185	3.0000e-005		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	2.5533	2.5533	2.4000e-004	0.0000	2.5584
Total	**6.9531**	**0.0201**	**0.0185**	**3.0000e-005**		**1.5100e-003**	**1.5100e-003**		**1.5100e-003**	**1.5100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.4000e-004**	**0.0000**	**2.5584**

3.7 Architectural Coating - 2018

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	1.9300e-003	2.4700e-003	0.0239	7.0000e-005	5.4800e-003	4.0000e-005	5.5200e-003	1.4600e-003	4.0000e-005	1.4900e-003	0.0000	4.8499	4.8499	2.3000e-004	0.0000	4.8546
Total	**1.9300e-003**	**2.4700e-003**	**0.0239**	**7.0000e-005**	**5.4800e-003**	**4.0000e-005**	**5.5200e-003**	**1.4600e-003**	**4.0000e-005**	**1.4900e-003**	**0.0000**	**4.8499**	**4.8499**	**2.3000e-004**	**0.0000**	**4.8546**

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	6.9501					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0185	3.0000e-005		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	2.5533	2.5533	2.4000e-004	0.0000	2.5584
Total	**6.9531**	**0.0201**	**0.0185**	**3.0000e-005**		**1.5100e-003**	**1.5100e-003**		**1.5100e-003**	**1.5100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.4000e-004**	**0.0000**	**2.5584**

3.7 Architectural Coating - 2018

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	1.9300e-003	2.4700e-003	0.0239	7.0000e-005	5.4800e-003	4.0000e-005	5.5200e-003	1.4600e-003	4.0000e-005	1.4900e-003	0.0000	4.8499	4.8499	2.3000e-004	0.0000	4.8546
Total	**1.9300e-003**	**2.4700e-003**	**0.0239**	**7.0000e-005**	**5.4800e-003**	**4.0000e-005**	**5.5200e-003**	**1.4600e-003**	**4.0000e-005**	**1.4900e-003**	**0.0000**	**4.8499**	**4.8499**	**2.3000e-004**	**0.0000**	**4.8546**

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					
Unmitigated	17.5477	53.2874	235.3792	0.5234	24.6687	1.1614	25.8301	6.6455	1.0698	7.7153	0.0000	37,719.5326	37,719.5326	0.7053	0.0000	37,734.3447
Mitigated	17.5477	53.2874	235.3792	0.5234	24.6687	1.1614	25.8301	6.6455	1.0698	7.7153	0.0000	37,719.5326	37,719.5326	0.7053	0.0000	37,734.3447

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	9.57	10.08	8.77	27,709	27,709
Automobile Care Center	1,628.80	1,628.80	1628.80	1,622,590	1,622,590
Condo/Townhouse	375.63	408.12	345.99	1,093,525	1,093,525
Fast Food Restaurant with Drive Thru	1,798.93	2,618.08	1967.90	1,812,676	1,812,676
Office Park	476.63	68.45	31.72	889,106	889,106
Place of Worship	308.66	351.35	1241.06	837,984	837,984
Regional Shopping Center	33,766.73	39,294.91	19847.98	57,101,763	57,101,763
Unrefrigerated Warehouse-No Rail	73.53	73.53	73.53	214,680	214,680
Total	38,438.47	44,453.32	25,145.76	63,600,034	63,600,034

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
Automobile Care Center	9.50	7.30	7.30	33.00	48.00	19.00	21	51	28
Condo/Townhouse	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Office Park	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.355759	0.055439	0.135927	0.179388	0.056975	0.010375	0.023432	0.169902	0.001468	0.001841	0.006095	0.000886	0.002512

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
NaturalGas Mitigated	0.0454	0.4105	0.3325	2.4700e-003		0.0313	0.0313		0.0313	0.0313	0.0000	448.9490	448.9490	8.6000e-003	8.2300e-003	451.6812
NaturalGas Unmitigated	0.0454	0.4105	0.3325	2.4700e-003		0.0313	0.0313		0.0313	0.0313	0.0000	448.9490	448.9490	8.6000e-003	8.2300e-003	451.6812
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,960.1327	2,960.1327	0.1339	0.0277	2,971.5283
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,960.1327	2,960.1327	0.1339	0.0277	2,971.5283

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					
Automobile Care Center	464209	2.5000e-003	0.0228	0.0191	1.4000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	24.7719	24.7719	4.7000e-004	4.5000e-004	24.9227
Condo/Townhouse	614316	3.3100e-003	0.0283	0.0121	1.8000e-004		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	32.7822	32.7822	6.3000e-004	6.0000e-004	32.9817
Fast Food Restaurant with Drive Thru	362673	1.9600e-003	0.0178	0.0149	1.1000e-004		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	19.3536	19.3536	3.7000e-004	3.5000e-004	19.4714
Office Park	1.6252e+006	8.7600e-003	0.0797	0.0669	4.8000e-004		6.0500e-003	6.0500e-003		6.0500e-003	6.0500e-003	0.0000	86.7269	86.7269	1.6600e-003	1.5900e-003	87.2547
Place of Worship	598677	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9477	31.9477	6.1000e-004	5.9000e-004	32.1421
Regional Shopping Center	4.71822e+006	0.0254	0.2313	0.1943	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	251.7822	251.7822	4.8300e-003	4.6200e-003	253.3145
Single Family Housing	29691.9	1.6000e-004	1.3700e-003	5.8000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5845	1.5845	3.0000e-005	3.0000e-005	1.5941
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0454**	**0.4105**	**0.3325**	**2.4900e-003**		**0.0313**	**0.0313**		**0.0313**	**0.0313**	**0.0000**	**448.9490**	**448.9490**	**8.6000e-003**	**8.2300e-003**	**451.6812**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	614316	3.3100e-003	0.0283	0.0121	1.8000e-004		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	32.7822	32.7822	6.3000e-004	6.0000e-004	32.9817
Fast Food Restaurant with Drive Thru	362673	1.9600e-003	0.0178	0.0149	1.1000e-004		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	19.3536	19.3536	3.7000e-004	3.5000e-004	19.4714
Office Park	1.6252e+006	8.7600e-003	0.0797	0.0669	4.8000e-004		6.0500e-003	6.0500e-003		6.0500e-003	6.0500e-003	0.0000	86.7269	86.7269	1.6600e-003	1.5900e-003	87.2547
Place of Worship	598677	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9477	31.9477	6.1000e-004	5.9000e-004	32.1421
Regional Shopping Center	4.71822e+006	0.0254	0.2313	0.1943	1.3900e-003		0.0176	0.0176		0.0176	0.0176	0.0000	251.7822	251.7822	4.8300e-003	4.6200e-003	253.3145
Single Family Housing	29691.9	1.6000e-004	1.3700e-003	5.8000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5845	1.5845	3.0000e-005	3.0000e-005	1.5941
Unrefrigerated Warehouse-No Rail	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
Automobile Care Center	464209	2.5000e-003	0.0228	0.0191	1.4000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	24.7719	24.7719	4.7000e-004	4.5000e-004	24.9227
Total		**0.0454**	**0.4105**	**0.3325**	**2.4900e-003**		**0.0313**	**0.0313**		**0.0313**	**0.0313**	**0.0000**	**448.9490**	**448.9490**	**8.6000e-003**	**8.2300e-003**	**451.6812**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	69355.4	20.1763	9.1000e-004	1.9000e-004	20.2540
Condo/Townhouse	260460	75.7707	3.4300e-003	7.1000e-004	76.0624
Fast Food Restaurant with Drive Thru	130065	37.8373	1.7100e-003	3.5000e-004	37.9830
Office Park	598912	174.2303	7.8800e-003	1.6300e-003	174.9010
Place of Worship	89445.8	26.0208	1.1800e-003	2.4000e-004	26.1210
Regional Shopping Center	9.01966e+006	2,623.9237	0.1187	0.0246	2,634.0250
Single Family Housing	7471.99	2.1737	1.0000e-004	2.0000e-005	2.1821
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**2,960.1327**	**0.1339**	**0.0277**	**2,971.5283**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	69355.4	20.1763	9.1000e-004	1.9000e-004	20.2540
Condo/Townhouse	260460	75.7707	3.4300e-003	7.1000e-004	76.0624
Fast Food Restaurant with Drive Thru	130065	37.8373	1.7100e-003	3.5000e-004	37.9830
Office Park	598912	174.2303	7.8800e-003	1.6300e-003	174.9010
Place of Worship	89445.8	26.0208	1.1800e-003	2.4000e-004	26.1210
Regional Shopping Center	9.01966e+006	2,623.9237	0.1187	0.0246	2,634.0250
Single Family Housing	7471.99	2.1737	1.0000e-004	2.0000e-005	2.1821
Unrefrigerated Warehouse-No Rail	0	0.0000	0.0000	0.0000	0.0000
Total		**2,960.1327**	**0.1339**	**0.0277**	**2,971.5283**

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					
Unmitigated	5.3024	0.1187	7.4077	0.0228		1.1412	1.1412		1.1412	1.1412	152.2490	25.8459	178.0949	0.7129	4.6000e-004	193.2091
Mitigated	5.3024	0.1187	7.4077	0.0228		1.1412	1.1412		1.1412	1.1412	152.2490	25.8459	178.0949	0.7129	4.6000e-004	193.2091

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	0.6950					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.8238					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.7700	0.1137	6.9701	0.0227		1.1388	1.1388		1.1388	1.1388	152.2490	25.1260	177.3750	0.7122	4.6000e-004	192.4743
Landscaping	0.0136	5.0300e-003	0.4376	2.0000e-005		2.4200e-003	2.4200e-003		2.4200e-003	2.4200e-003	0.0000	0.7199	0.7199	7.1000e-004	0.0000	0.7349
Total	**5.3024**	**0.1187**	**7.4077**	**0.0228**		**1.1412**	**1.1412**		**1.1412**	**1.1412**	**152.2490**	**25.8459**	**178.0949**	**0.7129**	**4.6000e-004**	**193.2092**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6950					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.8238					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.7700	0.1137	6.9701	0.0227		1.1388	1.1388		1.1388	1.1388	152.2490	25.1260	177.3750	0.7122	4.6000e-004	192.4743
Landscaping	0.0136	5.0300e-003	0.4376	2.0000e-005		2.4200e-003	2.4200e-003		2.4200e-003	2.4200e-003	0.0000	0.7199	0.7199	7.1000e-004	0.0000	0.7349
Total	**5.3024**	**0.1187**	**7.4077**	**0.0228**		**1.1412**	**1.1412**		**1.1412**	**1.1412**	**152.2490**	**25.8459**	**178.0949**	**0.7129**	**4.6000e-004**	**193.2092**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	199.2367	2.6357	0.0637	274.3240
Mitigated	199.2367	2.6352	0.0636	274.2831

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	2.47151 / 1.5148	6.2169	0.0808	1.9500e-003	8.5185
Condo/Townhouse	3.71378 / 2.3413	9.4080	0.1214	2.9300e-003	12.8668
Fast Food Restaurant with Drive Thru	1.10183 / 0.0703294	2.1556	0.0360	8.6000e-004	3.1793
Office Park	7.41861 / 4.54689	18.6610	0.2425	5.8600e-003	25.5696
Place of Worship	1.06007 / 1.65806	3.6932	0.0347	8.5000e-004	4.6844
Regional Shopping Center	58.2484 / 35.7006	146.5197	1.9038	0.0460	200.7642
Single Family Housing	0.065154 / 0.0410754	0.1651	2.1300e-003	5.0000e-005	0.2257
Unrefrigerated Warehouse-No Rail	6.56519 / 0	12.4172	0.2144	5.1500e-003	18.5154
Total		**199.2367**	**2.6356**	**0.0637**	**274.3240**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	2.47151 / 1.5148	6.2169	0.0808	1.9500e-003	8.5173
Condo/Townhouse	3.71378 / 2.3413	9.4080	0.1214	2.9300e-003	12.8649
Fast Food Restaurant with Drive Thru	1.10183 / 0.0703294	2.1556	0.0360	8.6000e-004	3.1787
Office Park	7.41861 / 4.54689	18.6610	0.2424	5.8500e-003	25.5659
Place of Worship	1.06007 / 1.65806	3.6932	0.0347	8.5000e-004	4.6838
Regional Shopping Center	58.2484 / 35.7006	146.5197	1.9035	0.0459	200.7347
Single Family Housing	0.065154 / 0.0410754	0.1651	2.1300e-003	5.0000e-005	0.2257
Unrefrigerated Warehouse-No Rail	6.56519 / 0	12.4172	0.2144	5.1400e-003	18.5121
Total		**199.2367**	**2.6352**	**0.0636**	**274.2831**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	254.5365	15.0427	0.0000	570.4326
Unmitigated	254.5365	15.0427	0.0000	570.4326

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	100.35	20.3701	1.2038	0.0000	45.6508
Condo/Townhouse	26.22	5.3224	0.3146	0.0000	11.9279
Fast Food Restaurant with Drive Thru	41.81	8.4871	0.5016	0.0000	19.0200
Office Park	38.82	7.8801	0.4657	0.0000	17.6598
Place of Worship	193.12	39.2016	2.3168	0.0000	87.8534
Regional Shopping Center	825.69	167.6076	9.9053	0.0000	375.6195
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.5596
Unrefrigerated Warehouse-No Rail	26.69	5.4178	0.3202	0.0000	12.1417
Total		**254.5365**	**15.0427**	**0.0000**	**570.4326**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	100.35	20.3701	1.2038	0.0000	45.6508
Condo/Townhouse	26.22	5.3224	0.3146	0.0000	11.9279
Fast Food Restaurant with Drive Thru	41.81	8.4871	0.5016	0.0000	19.0200
Office Park	38.82	7.8801	0.4657	0.0000	17.6598
Place of Worship	193.12	39.2016	2.3168	0.0000	87.8534
Regional Shopping Center	825.69	167.6076	9.9053	0.0000	375.6195
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.5596
Unrefrigerated Warehouse-No Rail	26.69	5.4178	0.3202	0.0000	12.1417
Total		**254.5365**	**15.0427**	**0.0000**	**570.4326**

9.0 Operational Offroad

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

10.0 Vegetation

GHG BAU

CalEEMod v. 2013.2.2 Output Files

Houghton and 99 GHG BAU

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	2,304.00	1000sqft	269.00	2,304,000.00	0
Regional Shopping Center	511.83	1000sqft	47.00	511,830.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual acreage used

Construction Phase - Operational Run Only

Vehicle Trips - Trips rates based on Project Traffic Study

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	400.00	0.00
tblLandUse	LotAcreage	52.89	269.00
tblLandUse	LotAcreage	11.75	47.00
tblProjectCharacteristics	OperationalYear	2014	2005
tblVehicleTrips	ST_TR	1.32	7.14
tblVehicleTrips	ST_TR	49.97	38.35
tblVehicleTrips	SU_TR	0.68	7.14
tblVehicleTrips	SU_TR	25.24	38.35
tblVehicleTrips	WD_TR	6.97	7.14
tblVehicleTrips	WD_TR	42.94	38.35

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	0.0503	0.0503	2.3000e-004	0.0000	0.0552
Energy											0.0000	10,814.0822	10,814.0822	0.4114	0.1279	10,862.3766
Mobile											0.0000	71,691.8656	71,691.8656	5.2584	0.0000	71,802.2909
Waste											689.0285	0.0000	689.0285	40.7204	0.0000	1,544.1572
Water											181.0608	922.0305	1,103.0913	18.6384	0.4477	1,633.2945
Total											**870.0892**	**83,428.0286**	**84,298.1179**	**65.0287**	**0.5757**	**85,842.1744**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	0.0503	0.0503	2.3000e-004	0.0000	0.0552
Energy											0.0000	10,814.0822	10,814.0822	0.4114	0.1279	10,862.3766
Mobile											0.0000	71,691.8656	71,691.8656	5.2584	0.0000	71,802.2909
Waste											689.0285	0.0000	689.0285	40.7204	0.0000	1,544.1572
Water											181.0608	922.0305	1,103.0913	18.6350	0.4470	1,633.0056
Total											**870.0892**	**83,428.0286**	**84,298.1179**	**65.0253**	**0.5750**	**85,841.8855**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.12**	**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	1/1/2017	12/30/2016	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	3	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	2	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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											0.0000	71,691.8656	71,691.8656	5.2584	0.0000	71,802.2909
Unmitigated											0.0000	71,691.8656	71,691.8656	5.2584	0.0000	71,802.2909

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	16,450.56	16,450.56	16450.56	48,027,593	48,027,593
Regional Shopping Center	19,628.68	19,628.68	19628.68	34,415,060	34,415,060
Total	36,079.24	36,079.24	36,079.24	82,442,653	82,442,653

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.324160	0.091760	0.174273	0.118138	0.030243	0.008768	0.022172	0.215130	0.000795	0.001076	0.008692	0.002032	0.002761

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
NaturalGas Mitigated											0.0000	2,979.9388	2,979.9388	0.0571	0.0546	2,998.0742
NaturalGas Unmitigated											0.0000	2,979.9388	2,979.9388	0.0571	0.0546	2,998.0742
Electricity Mitigated											0.0000	7,834.1434	7,834.1434	0.3542	0.0733	7,864.3024
Electricity Unmitigated											0.0000	7,834.1434	7,834.1434	0.3542	0.0733	7,864.3024

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	5.0135e+007											0.0000	2,675.3967	2,675.3967	0.0513	0.0491	2,691.6787
Regional Shopping Center	5.7069e+006											0.0000	304.5422	304.5422	5.8400e-003	5.5800e-003	306.3956
Total												**0.0000**	**2,979.9388**	**2,979.9388**	**0.0571**	**0.0546**	**2,998.0742**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	5.0135e+007											0.0000	2,675.3967	2,675.3967	0.0513	0.0491	2,691.6787
Regional Shopping Center	5.7069e+006											0.0000	304.5422	304.5422	5.8400e-003	5.5800e-003	306.3956
Total												**0.0000**	**2,979.9388**	**2,979.9388**	**0.0571**	**0.0546**	**2,998.0742**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	2.22566e+007	6,474.7118	0.2928	0.0606	6,499.6374
Regional Shopping Center	4.67301e+006	1,359.4316	0.0615	0.0127	1,364.6650
Total		**7,834.1434**	**0.3542**	**0.0733**	**7,864.3024**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	2.22566e+007	6,474.7118	0.2928	0.0606	6,499.6374
Regional Shopping Center	4.67301e+006	1,359.4316	0.0615	0.0127	1,364.6650
Total		**7,834.1434**	**0.3542**	**0.0733**	**7,864.3024**

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											0.0000	0.0503	0.0503	2.3000e-004	0.0000	0.0552
Unmitigated											0.0000	0.0503	0.0503	2.3000e-004	0.0000	0.0552

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											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	0.0503	0.0503	2.3000e-004	0.0000	0.0552
Total											**0.0000**	**0.0503**	**0.0503**	**2.3000e-004**	**0.0000**	**0.0552**

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											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	0.0503	0.0503	2.3000e-004	0.0000	0.0552
Total											**0.0000**	**0.0503**	**0.0503**	**2.3000e-004**	**0.0000**	**0.0552**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Unmitigated	1,103.0913	18.6384	0.4477	1,633.2945
Mitigated	1,103.0913	18.6350	0.4470	1,633.0056

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	532.8 / 0	1,007.7250	17.3992	0.4178	1,502.6217
Regional Shopping Center	37.9125 / 23.2367	95.3663	1.2392	0.0300	130.6728
Total		**1,103.0913**	**18.6384**	**0.4477**	**1,633.2945**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	532.8 / 0	1,007.7250	17.3961	0.4171	1,502.3520
Regional Shopping Center	37.9125 / 23.2367	95.3663	1.2389	0.0299	130.6536
Total		**1,103.0913**	**18.6350**	**0.4470**	**1,633.0056**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	689.0285	40.7204	0.0000	1,544.1572
Unmitigated	689.0285	40.7204	0.0000	1,544.1572

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	2856.96	579.9371	34.2733	0.0000	1,299.6763
Regional Shopping Center	537.42	109.0914	6.4471	0.0000	244.4809
Total		**689.0285**	**40.7204**	**0.0000**	**1,544.1572**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	2856.96	579.9371	34.2733	0.0000	1,299.6763
Regional Shopping Center	537.42	109.0914	6.4471	0.0000	244.4809
Total		**689.0285**	**40.7204**	**0.0000**	**1,544.1572**

9.0 Operational Offroad

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

10.0 Vegetation

ATTACHMENT F

Ambient Air Quality Analysis

- AAQA Emissions
- Summary Results
- AERMOD Modeling Files (Electronic)

AAQA Emissions

Houghton 99

CalEEMod Emissions

Source (AERMOD Source ID)	NOx Emissions (lbs/yr)	CO Emissions (lbs/yr)	SOx Emissions (lbs/yr)	PM10 Emissions (lbs/yr)	PM2.5 Emissions (lbs/yr)
Area (PAREA1)	0.46	51	0	0.18	0.18
Energy (PAREA1)	5474.8	4598.8	32.8	416	416
Mobile (PAREA1)	127839.4	550959	1178.4	58302	17441

CalEEMod Mobile Emissions Adjusted to On-site Travel Only

On-site Travel (Per Trip): 0.75 miles
Total Travel (Per Trip): 8.09 miles
On-site Travel / Total Travel: 9.27%

Source	NOx Emissions (lbs/yr)	CO Emissions (lbs/yr)	SOx Emissions (lbs/yr)	PM10 Emissions (lbs/yr)	PM2.5 Emissions (lbs/yr)
Mobile (PAREA1)	11856.12	51097.20	109.29	5407.06	1617.52

AERMOD PAREA Source Emissions

Source	NOx Emissions (lbs/yr)	CO Emissions (lbs/yr)	SOx Emissions (lbs/yr)	PM10 Emissions (lbs/yr)	PM2.5 Emissions (lbs/yr)
PAREA1	17331.38	55747.00	142.09	5823.24	2033.70

Post-Processor Emissions

Source	NOx 1hr (g/sec)	NOx Annual (g/sec)	CO 1hr (g/sec)	CO 8hr (g/sec)	SOx 1hr (g/sec)	SOx 3hr (g/sec)	SOx 24hr (g/sec)	SOx Annual (g/sec)	PM10 24hr (g/sec)	PM10 Annual (g/sec)	PM2.5 24hr (g/sec)	PM2.5 Annual (g/sec)
PAREA1	2.49E-01	2.49E-01	8.01E-01	8.01E-01	2.04E-03	2.04E-03	2.04E-03	2.04E-03	8.37E-02	8.37E-02	2.92E-02	2.92E-02

Summary Results

AAQA for Houghton 99
All Values are in ug/m^3

	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
PAREA1	4.40E+01	3.08E+00	1.42E+02	5.16E+01	3.61E-01	1.52E-01	7.95E-02	2.53E-02	3.26E+00	1.04E+00	1.14E+00	3.61E-01
Background	5.98E+01	2.46E+01	1.48E+03	6.17E+02	3.05E+01	2.75E+01	6.77E+00	1.44E+00	1.04E+02	5.64E+01	8.32E+01	1.79E+01
Facility Totals	1.04E+02	2.77E+01	1.62E+03	6.69E+02	3.09E+01	2.76E+01	6.85E+00	1.47E+00	1.07E+02	5.75E+01	8.43E+01	1.83E+01
AAQS	188.68	100	23000	10000	196	1300	105	80	50	20	35	12
	Pass	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Fail**	**Fail**	**Fail**	**Fail**

Project Significance Level (ug/m^3)

NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
8	**1**	**2000**	**500**	**0**	**25**	**5**	**1**	**10.4**	**2.08**	**2.5**	**0.63**
								Pass	**Pass**	**Pass**	**Pass**

AAQA Emission (g/sec)

Device	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
PAREA1	2.49E-01	2.49E-01	8.01E-01	8.01E-01	2.04E-03	2.04E-03	2.04E-03	2.04E-03	8.37E-02	8.37E-02	2.92E-02	2.92E-02

AERMOD Modeling Files

(Electronic Files)

ATTACHMENT G

Health Risk Assessment

- HRA Emissions
- AERMOD and HARP2 Modeling Files (Electronic)

HRA Emissions

Onsite Diesel Combustion:

	Max lbs/hr	lbs/yr	Onsite RT Distance (Miles)
1) SLINE1 - M-1 PD 30 ac	8.6464E-05	0.757424951	0.416
2) STCK1 - M-1 PD 30 ac (idling)	0.01009	6.8649	
3) SLINE2 - M-2 PD 159 ac	0.00188468	16.50979927	1.71
4) STCK2 - M-2 PD 159 ac (idling)	0.29258	36.3770	
5) SLINE3 - M-1 PD 80 ac	0.000342079	2.996614057	0.617
6) STCK3 - M-1 PD 80 ac (idling)	0.07314	18.3034	

*Note: Since specifics about the project site were not known at the time this assessment was completed the number of trucks were estimated by using the fleet mix percentage for heavy-duty trucks from CalEEMod (17.2%) and the traffic study's average daily trips for the industrial portion for the project (16,455).

EMFAC2014 (v1.0.7) Emission Rates
Region Type: County
Region: Kern
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Region	CalYr	VehClass	MdlYr	Speed	Fuel	PM10_RUNEX
Kern	2024	T7 Single	Aggregated	15	DSL	0.007182142

On-Site Truck Idle Emissions - EMFAC2011
2024 Operations
EMFAC IDLING EMISSIONS:

					PM10 (g/hr-veh)
2024	HHDT	D	SJV	a	0.108337119

1) SLINE1 - M-1 PD 30 ac	0.416 Miles	2211 Trucks/week
	PM10_RUNEX	
g/RT	0.002988275	Max Hr Delivery (8.6464E-05
lbs/RT	6.58791E-06	Max Annual Deliv 0.757424951
lbs/week	0.014565864	
lbs/yr	0.757424951	
Tons/yr	0.000378712	

2) STCK1 - M-1 PD 30 ac (idling)			
Max Vehicles/hr:	13	Max Hour	4.58 g/hr
Minutes/Truck:	15		0.01009 lb/hr
Total Hours/year:	8,760	Annual Idling	3113.93 g/yr
Max Idle Time/hr:	3.25		6.8649 lb/yr
Trucks/week	2211		

3) SLINE2 - M-2 PD 159 ac	1.71 Miles	11716 Trucks/week
	PM10_RUNEX	
g/RT	0.012292271	
lbs/RT	2.70994E-05	Max Hr Delivery (0.00188468
lbs/week	0.31749614	Max Annual Deliv 16.50979927
lbs/yr	16.50979927	
tons/yr	0.0082549	

4) STCK2 - M-2 PD 159 ac (idling)			
Max Vehicles/hr:	70	Max Hour	132.71 g/hr
Minutes/Truck:	15		0.29258 lb/hr
Total Hours/year:	8,760	Annual Idling	16500.61 g/yr
Max Idle Time/hr:	17.50		36.3770 lb/yr
Trucks/week	11716		

5) SLINE3 - M-1 PD 80 ac	0.617 Miles	5895 Trucks/week
	PM10_RUNEX	
g/RT	0.004434215	
lbs/RT	9.77561E-06	Max Hr Delivery (0.000342079
lbs/week	0.057627193	Max Annual Deliv 2.996614057
lbs/yr	2.996614057	
tons/yr	0.001498307	

6) STCK3 - M-1 PD 80 ac (idling)			
Max Vehicles/hr:	35	Max Hour	33.18 g/hr
Minutes/Truck:	15		0.07314 lb/hr
Total Hours/year:	8,760	Annual Idling	8302.42 g/yr
Max Idle Time/hr:	8.75		18.3034 lb/yr
Trucks/week	5895		

AERMOD and HARP2 Modeling Files

(Electronic Files)

ATTACHMENT H

California Air Resources Board 2012 Estimated Annual Average Emissions

- San Joaquin Valley Air Basin
- Kern County

ALMANAC EMISSION PROJECTION DATA (PUBLISHED IN 2013)

2012 Estimated Annual Average Emissions

SAN JOAQUIN VALLEY AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5
FUEL COMBUSTION	18.8	3.6	23.8	29.2	4.3	6.0	5.5	5.3
WASTE DISPOSAL	457.4	21.0	0.5	0.3	0.1	0.6	0.2	0.1
CLEANING AND SURFACE COATINGS	23.3	20.3	0.0	-	-	0.1	0.1	0.1
PETROLEUM PRODUCTION AND MARKETING	130.9	33.6	0.6	0.3	0.1	0.2	0.2	0.1
INDUSTRIAL PROCESSES	16.7	15.7	0.8	6.7	3.4	16.5	8.0	3.2
*** TOTAL STATIONARY SOURCES**	**647.1**	**94.2**	**25.7**	**36.4**	**7.9**	**23.4**	**14.0**	**8.8**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
SOLVENT EVAPORATION	53.1	47.6	-	-	-	-	-	-
MISCELLANEOUS PROCESSES	969.0	128.6	186.8	13.2	1.3	488.4	250.2	54.0
*** TOTAL AREAWIDE SOURCES**	**1022.1**	**176.2**	**186.8**	**13.2**	**1.3**	**488.4**	**250.2**	**54.0**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
ON-ROAD MOTOR VEHICLES	53.2	48.5	437.6	177.9	0.7	10.8	10.8	6.7
OTHER MOBILE SOURCES	41.6	39.0	252.5	97.6	0.5	5.9	6.6	6.1
*** TOTAL MOBILE SOURCES**	**94.8**	**87.5**	**690.1**	**275.5**	**1.2**	**16.7**	**17.4**	**12.8**
NATURAL (NON-ANTHROPOGENIC) SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
NATURAL SOURCES	282.0	242.0	442.7	1.7	2.0	42.2	40.5	34.3
*** TOTAL NATURAL (NON-ANTHROPOGENIC) SOURCES**	**282.0**	**242.0**	**442.7**	**1.7**	**2.0**	**42.2**	**40.5**	**34.3**
GRAND TOTAL FOR SAN JOAQUIN VALLEY AIR BASIN	**2046.1**	**599.9**	**1345.2**	**326.8**	**12.4**	**570.6**	**322.1**	**110.0**

Start a new query.

ALMANAC EMISSION PROJECTION DATA (PUBLISHED IN 2013)

2012 Estimated Annual Average Emissions

KERN COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

KERN COUNTY COUNTY - MOJAVE DESERT AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5
FUEL COMBUSTION	0.5	0.1	0.6	2.5	0.2	0.4	0.4	0.4
WASTE DISPOSAL	7.3	0.0	-	-	0.0	0.0	0.0	0.0
CLEANING AND SURFACE COATINGS	0.9	0.8	-	-	-	0.0	0.0	0.0
PETROLEUM PRODUCTION AND MARKETING	0.2	0.2	-	-	-	-	-	-
INDUSTRIAL PROCESSES	0.1	0.1	6.8	15.4	2.2	5.7	3.7	1.6
*** TOTAL STATIONARY SOURCES**	**9.0**	**1.2**	**7.4**	**17.9**	**2.5**	**6.1**	**4.0**	**1.9**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
SOLVENT EVAPORATION	1.4	1.2	-	-	-	-	-	-
MISCELLANEOUS PROCESSES	1.8	0.3	1.4	0.3	0.0	17.1	8.3	1.4
*** TOTAL AREAWIDE SOURCES**	**3.3**	**1.5**	**1.4**	**0.3**	**0.0**	**17.1**	**8.3**	**1.4**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
ON-ROAD MOTOR VEHICLES	2.6	2.4	23.5	9.7	0.0	0.5	0.5	0.4
OTHER MOBILE SOURCES	5.7	5.5	24.9	7.8	0.3	3.1	3.1	3.0
*** TOTAL MOBILE SOURCES**	**8.3**	**7.9**	**48.4**	**17.5**	**0.3**	**3.7**	**3.6**	**3.4**
NATURAL (NON-ANTHROPOGENIC) SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
NATURAL SOURCES	38.3	30.9	119.6	0.3	0.5	11.3	10.8	9.2
*** TOTAL NATURAL (NON-ANTHROPOGENIC) SOURCES**	**38.3**	**30.9**	**119.6**	**0.3**	**0.5**	**11.3**	**10.8**	**9.2**
TOTAL KERN COUNTY IN MOJAVE DESERT	**58.8**	**41.5**	**176.8**	**36.0**	**3.3**	**38.1**	**26.7**	**15.9**

KERN COUNTY COUNTY - SAN JOAQUIN VALLEY AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5
FUEL COMBUSTION	13.0	1.9	10.8	9.3	2.0	3.7	3.5	3.4
WASTE DISPOSAL	184.5	11.0	0.1	0.1	0.0	0.0	0.0	0.0
CLEANING AND SURFACE COATINGS	2.6	2.5	0.0	-	-	0.0	0.0	0.0
PETROLEUM PRODUCTION AND MARKETING	64.2	26.4	0.6	0.2	0.1	0.2	0.2	0.1
INDUSTRIAL PROCESSES	2.3	2.2	0.1	0.1	0.1	2.8	1.3	0.4
*** TOTAL STATIONARY SOURCES**	**266.6**	**44.0**	**11.6**	**9.6**	**2.2**	**6.8**	**5.0**	**4.0**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
SOLVENT EVAPORATION	10.5	9.6	-	-	-	-	-	-
MISCELLANEOUS PROCESSES	89.6	12.2	8.9	1.5	0.0	70.5	35.0	6.5
*** TOTAL AREAWIDE SOURCES**	**100.1**	**21.8**	**8.9**	**1.5**	**0.0**	**70.5**	**35.0**	**6.5**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
ON-ROAD MOTOR VEHICLES	10.4	9.4	81.9	48.6	0.2	2.7	2.7	1.8
OTHER MOBILE SOURCES	5.5	5.1	49.6	12.6	0.1	0.6	0.7	0.7
*** TOTAL MOBILE SOURCES**	**15.9**	**14.5**	**131.5**	**61.2**	**0.3**	**3.4**	**3.4**	**2.5**
NATURAL (NON-ANTHROPOGENIC) SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
NATURAL SOURCES	21.5	18.4	7.1	0.1	0.1	0.8	0.7	0.6
*** TOTAL NATURAL (NON-ANTHROPOGENIC) SOURCES**	**21.5**	**18.4**	**7.1**	**0.1**	**0.1**	**0.8**	**0.7**	**0.6**
TOTAL KERN COUNTY IN SAN JOAQUIN VALLEY	**404.1**	**98.7**	**159.2**	**72.4**	**2.6**	**81.4**	**44.1**	**13.6**
GRAND TOTAL FOR KERN COUNTY	**462.9**	**140.1**	**336.0**	**108.4**	**5.9**	**119.5**	**70.8**	**29.5**

Start a new query.

ATTACHMENT I

California Air Resources Board 2020 Forecasted Annual Average Emissions

- San Joaquin Valley Air Basin
- Kern County

ALMANAC EMISSION PROJECTION DATA (PUBLISHED IN 2013)

2020 Estimated Annual Average Emissions

SAN JOAQUIN VALLEY AIR BASIN

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5
FUEL COMBUSTION	16.7	3.0	22.9	22.5	3.4	5.6	5.2	4.9
WASTE DISPOSAL	511.8	23.6	0.6	0.3	0.1	0.6	0.2	0.1
CLEANING AND SURFACE COATINGS	27.0	23.4	0.0	0.0	-	0.1	0.1	0.1
PETROLEUM PRODUCTION AND MARKETING	134.3	30.6	0.6	0.2	0.1	0.2	0.2	0.1
INDUSTRIAL PROCESSES	19.2	18.0	1.0	5.1	3.6	19.3	9.4	3.7
*** TOTAL STATIONARY SOURCES**	**709.0**	**98.7**	**25.0**	**28.2**	**7.3**	**25.9**	**15.0**	**9.1**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
SOLVENT EVAPORATION	54.9	49.2	-	-	-	-	-	-
MISCELLANEOUS PROCESSES	1095.3	138.5	184.7	13.3	1.3	483.5	248.2	53.8
*** TOTAL AREAWIDE SOURCES**	**1150.2**	**187.7**	**184.7**	**13.3**	**1.3**	**483.5**	**248.2**	**53.8**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
ON-ROAD MOTOR VEHICLES	28.8	26.2	241.5	91.4	0.8	8.9	8.9	4.3
OTHER MOBILE SOURCES	33.1	32.5	267.8	79.2	0.6	4.5	5.6	5.3
*** TOTAL MOBILE SOURCES**	**61.9**	**58.7**	**509.2**	**170.6**	**1.4**	**13.4**	**14.5**	**9.6**
NATURAL (NON-ANTHROPOGENIC) SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
NATURAL SOURCES	282.0	242.0	442.7	1.7	2.0	42.2	40.5	34.3
*** TOTAL NATURAL (NON-ANTHROPOGENIC) SOURCES**	**282.0**	**242.0**	**442.7**	**1.7**	**2.0**	**42.2**	**40.5**	**34.3**
GRAND TOTAL FOR SAN JOAQUIN VALLEY AIR BASIN	**2203.1**	**587.1**	**1161.6**	**213.8**	**12.0**	**565.0**	**318.3**	**106.8**

Start a new query.

ALMANAC EMISSION PROJECTION DATA (PUBLISHED IN 2013)

2020 Estimated Annual Average Emissions

KERN COUNTY

All emissions are represented in Tons per Day and reflect the most current data provided to ARB.

See detailed information.

Start a new query.

KERN COUNTY COUNTY - MOJAVE DESERT AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5
FUEL COMBUSTION	0.6	0.1	0.6	2.6	0.2	0.4	0.4	0.4
WASTE DISPOSAL	8.1	0.1	-	-	0.0	0.0	0.0	0.0
CLEANING AND SURFACE COATINGS	0.9	0.8	-	-	-	0.0	0.0	0.0
PETROLEUM PRODUCTION AND MARKETING	0.2	0.2	-	-	-	-	-	-
INDUSTRIAL PROCESSES	0.1	0.1	8.1	18.4	2.7	6.8	4.4	1.9
*** TOTAL STATIONARY SOURCES**	**9.9**	**1.3**	**8.7**	**21.0**	**2.9**	**7.2**	**4.8**	**2.2**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
SOLVENT EVAPORATION	1.5	1.3	-	-	-	-	-	-
MISCELLANEOUS PROCESSES	1.9	0.3	1.4	0.3	0.0	16.2	7.9	1.3
*** TOTAL AREAWIDE SOURCES**	**3.4**	**1.6**	**1.4**	**0.3**	**0.0**	**16.2**	**7.9**	**1.3**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
ON-ROAD MOTOR VEHICLES	1.6	1.5	13.2	5.1	0.0	0.4	0.4	0.2
OTHER MOBILE SOURCES	5.3	5.2	25.8	8.0	0.3	3.1	3.0	3.0
*** TOTAL MOBILE SOURCES**	**6.9**	**6.6**	**38.9**	**13.0**	**0.4**	**3.5**	**3.4**	**3.2**
NATURAL (NON-ANTHROPOGENIC) SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
NATURAL SOURCES	38.3	30.9	119.6	0.3	0.5	11.3	10.8	9.2
*** TOTAL NATURAL (NON-ANTHROPOGENIC) SOURCES**	**38.3**	**30.9**	**119.6**	**0.3**	**0.5**	**11.3**	**10.8**	**9.2**
TOTAL KERN COUNTY IN MOJAVE DESERT	**58.5**	**40.4**	**168.7**	**34.6**	**3.7**	**38.2**	**26.9**	**15.9**

KERN COUNTY COUNTY - SAN JOAQUIN VALLEY AIR BASIN

STATIONARY SOURCES	TOG	ROG	CO	NOX	SOX	PM	PM10	PM2.5
FUEL COMBUSTION	11.4	1.6	9.9	7.3	1.2	3.3	3.1	3.0
WASTE DISPOSAL	210.7	12.7	0.1	0.1	0.0	0.0	0.0	0.0
CLEANING AND SURFACE COATINGS	2.9	2.7	0.0	-	-	0.0	0.0	0.0
PETROLEUM PRODUCTION AND MARKETING	59.3	22.8	0.5	0.2	0.1	0.2	0.2	0.1
INDUSTRIAL PROCESSES	2.7	2.6	0.1	0.1	0.1	3.4	1.5	0.5
*** TOTAL STATIONARY SOURCES**	**287.0**	**42.4**	**10.6**	**7.7**	**1.4**	**6.9**	**4.8**	**3.7**
AREAWIDE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
SOLVENT EVAPORATION	10.8	9.8	-	-	-	-	-	-
MISCELLANEOUS PROCESSES	101.0	13.1	8.5	1.5	0.0	67.8	33.8	6.4
*** TOTAL AREAWIDE SOURCES**	**111.8**	**22.9**	**8.5**	**1.5**	**0.0**	**67.8**	**33.8**	**6.4**
MOBILE SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
ON-ROAD MOTOR VEHICLES	6.1	5.5	47.5	24.9	0.2	2.0	2.0	1.0
OTHER MOBILE SOURCES	4.2	4.0	50.8	10.2	0.1	0.4	0.5	0.4
*** TOTAL MOBILE SOURCES**	**10.3**	**9.5**	**98.3**	**35.1**	**0.3**	**2.4**	**2.5**	**1.5**
NATURAL (NON-ANTHROPOGENIC) SOURCES	**TOG**	**ROG**	**CO**	**NOX**	**SOX**	**PM**	**PM10**	**PM2.5**
NATURAL SOURCES	21.5	18.4	7.1	0.1	0.1	0.8	0.7	0.6
*** TOTAL NATURAL (NON-ANTHROPOGENIC) SOURCES**	**21.5**	**18.4**	**7.1**	**0.1**	**0.1**	**0.8**	**0.7**	**0.6**
TOTAL KERN COUNTY IN SAN JOAQUIN VALLEY	**430.5**	**93.2**	**124.6**	**44.4**	**1.8**	**77.9**	**41.9**	**12.2**
GRAND TOTAL FOR KERN COUNTY	**489.0**	**133.6**	**293.3**	**79.0**	**5.6**	**116.2**	**68.8**	**28.1**

Start a new query.

5500 Ming Ave | Suite 140 | Bakersfield, CA 93309 | P (661) 282-2200 | F (661) 282-2204
trinityconsultants.com

VIA E-MAIL: DLarman@mcintoshassoc.com
RMcIntosh@mcintoshassoc.com
PNewquist@mcintoshassoc.com

July 31, 2017

Darcie Larman
McIntosh & Associates
2001 Wheelan Court
Bakersfield, CA 93309

RE: Hwy 99/Houghton Mc#06-012.01 – Response to Peer Review Comments Received
Air Quality Impact Analysis Completed by IEC (July 2016/Revised July 2017)

Dear Mrs. Larman:

Based on information provided in correspondence from McIntosh & Associates dated June 6, 2017, including Kern County Data Request 1 regarding the peer review completed on the subject Air Quality Impact Analysis (AQIA), Insight Environmental Consultants, Inc. (IEC) has revised the subject AQIA. All of the "global" comments as well as several specific items have been addressed in this revision. After careful consideration, IEC has determined that two specific comments can't be reasonably addressed by changing the analysis:

1. Construction Start Year – When the AQIA was completed, the construction start date was to be in 2016. All modeling scenarios and sequential phasing over the nine year period ending in 2024 were completed based on a 2016 start date. If the construction start date is changed from 2016 to 2017 or 2018 it will require a complete re-modeling of the construction, operational, Greenhouse Gas and HRA emissions and will include use of a newer, even cleaner, construction fleet mix. While the result would be further reduced construction emissions impacts, this change will not alter the findings stated in the AQIA that the proposed project would remain *less than significant* for all years of construction. We believe that the emissions results and conclusions contained in the AQIA are conservative and changing the construction start date as requested in the peer review would not change the accuracy of the conclusions and, as such, should not be required.

2. Cumulative Projects List – When the AQIA was originally completed, a list of nearby projects was obtained from the lead agency. Emissions from these projects were modeled along with the proposed project. Since the operational emissions from the proposed project resulted in a finding of a "*significant*" impact, the AQIA found that the proposed project would, therefore, pose a '*significant cumulative impact*'. Updating this list would not improve or change the results of the AQIA and should not be required.

The revised AQIA has been re-published and forwarded under separate cover to your office. If you have any questions or require clarification of any of the statements made herein, please contact me at your earliest convenience.

Sincerely,

Ronald W. Hunter
Managing Principal Consultant

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Appendix D

Biological Resources

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Reconnaissance Level Biological Evaluation
314.30 Acres, Section 7, T31S, R28E, MDB&M
Kern County, California

March 2016
Updated July 2017

Prepared for:
Mr. Jay Mitchell
Mitchell Property Management
16420 Johnson Road
Bakersfield, California 93314

Prepared by:
McCormick Biological, Inc.
P.O. Box 80983
Bakersfield, California 93380

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EXECUTIVE SUMMARY

This report documents the biological resources found during a reconnaissance level biological survey conducted March 10, 2016, on 314.30 acres (127.19 hectares) of land, south of metropolitan Bakersfield, California. The property is recorded as Kern County Assessor's Parcel Number (APN) 185-140-08. The project site is located in Section 7, Township 31 South, Range 28 East, Mount Diablo Base and Meridian (M. D. B. & M.) in Kern County, California.

The purpose of this report is to document biological resources identified during survey of the project site, and to recommend avoidance and minimization measures for implementation prior to and during project activities. This report also includes an evaluation of the potential for special-status biological resources not observed during surveys to occur on the property based on the habitat conditions observed.

The project site is located within the geographic range of several threatened and/or endangered wildlife taxa including San Joaquin kit fox (*Vulpes macrotis mutica*), blunt-nosed leopard lizard (*Gambelia sila*), and Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), and tri-colored blackbird (*Agelaius tricolor*). In addition, the site is in the range of listed plant taxa, including Bakersfield smallscale (*Atriplex tularensis*), California jewelflower (*Caulanthus californicus*), Kern mallow (*Eremalche kernensis*), and San Joaquin woolly-threads (*Monolopia congdonii*). All of the potentially occurring, listed plant species are annuals.

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 U.S. Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Wildlife [CDFW (formerly California Department of Fish and Game, CDFG)] is unlawful. Under FESA, harassment and harm also be considered *take* for which the USFWS recommends a permit. One of the potentially occurring species, blunt-nosed leopard lizard (BNLL) is a California *fully protected* species. Under this designation, no *take* of these species is allowed, even under endangered species act permitting.

Based upon our results, the project would not result in significant impacts to wetlands, riparian habitat or other special-status habitats, or wildlife corridors. 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. The project does have the potential to result in significant impacts to some special-status species. Species-specific recommendations and a series of general recommendations are included that, when implemented, will fully mitigate any project impacts to biological resources to less-than-significant level.

1.0 INTRODUCTION

1.1 Purpose and Background

The purpose of this report is to document biological resources identified during a biological reconnaissance survey of the project site, to recommend avoidance and minimization measures for implementation prior to and during project activities. A literature review, survey results, and the professional experience of McCormick Biological Inc. (MBI) staff in the area of the project site were combined to evaluate the potential project effects on those resources. The fieldwork consisted of a surface survey to document natural vegetative communities and site conditions. The site visit was conducted to detect diagnostic sign and observe habitat conditions to locate potential habitat for, and occupation by, special-status species.

This report is intended to support a *California Environmental Quality Act* (CEQA) *of 1970* (2015) review of the proposed project with Kern County as the Lead Agency. For the purposes of this report, potential impacts to the biological resources of the proposed project were evaluated in accordance with Appendix G of the *CEQA Guidelines* (2015).

The project site is currently A (Exclusive Agriculture) with a General Plan land use designation of R-IA (Resource-Intensive Agriculture). The proposed project will amend the land use designation from R-IA to LI (Light Industrial), and SI (Service Industrial), and a Zone Change from A to M-1 (Light Industrial) and M-2 (Medium Industrial). The project site consists of APN 185-140-08, and is located east of State Route 99, south of Di Gorgio Road and north of Houghton Road in Section 7, Township 31 South, Range 28 East, M. D. B. & M (Figures 1-1 and 1-2). The project is within the range of several threatened and/or endangered species, and other special-status wildlife and plant taxa.

1.2 Project Site and Surrounding Area Descriptions

The project site consists of 314.30 acres (127.19 hectares)) located in an unincorporated area south of metropolitan Bakersfield, California (Figures 1-1 and 1-2). The project site is located along the southwestern edge of the San Joaquin Valley; a broad, treeless plain in the rain shadow of the Inner 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 °Fahrenheit (°F); with an average of 110 days per year over 90 °F. 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 November 1 and April 1. 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).

The general topography of the area slopes southwest from approximately 340 feet along the north border to 330 feet along the south project limit (104 - 101 meters) above mean sea level. The project has been historically farmed and was under various degrees of row crop production when surveyed. Dirt farm roads, irrigation ditches, and an equipment/materials storage area exist within the project boundaries. No undisturbed native habitat exists on the project or adjacent properties.



Figure 1-1: Project Vicinity Map –Bakersfield, California (Google Earth Pro 2016)

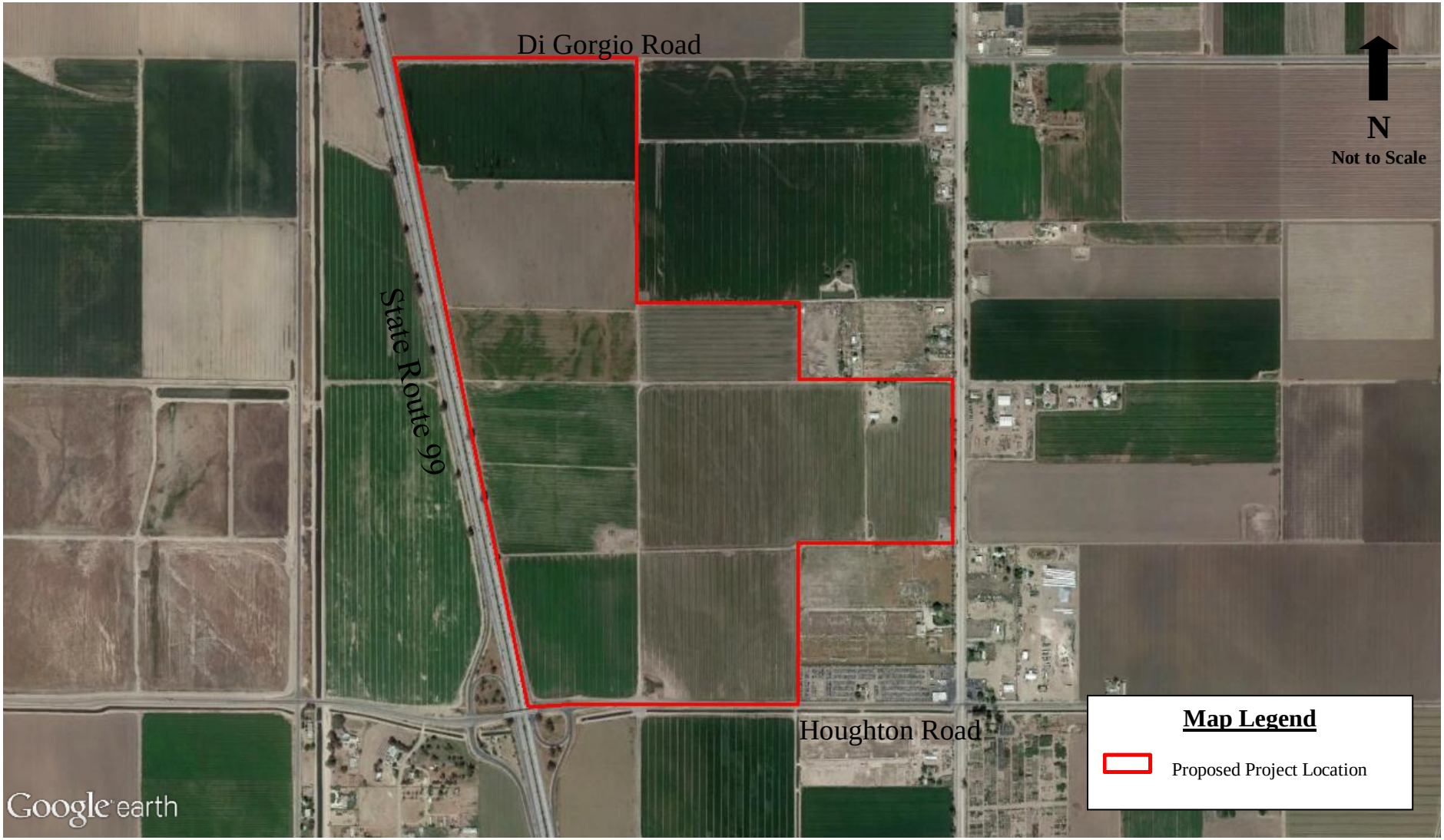


Figure 1-2: Project Site Map (Google Earth Pro 2016)

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 the *Federal Endangered Species Act* (FESA) *of 1973* (2014), and/or the *California Endangered Species Act* (CESA) *of 1970* (2015). 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 U. S. 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 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* (2013) 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 2013).

1.3.3 California Fish and Game Code (C.F.G.C. § 1580 et seq.)

Several sections of the CFGC are applicable to analysis of biological resource impacts that may be associated with the project. The following paragraphs summarize these sections.

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 of 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* (2015). 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 of 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 (FP) in California. Take of FP 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 of 1972* (2014). 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* (2015). 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.

2.0 METHODS

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. Species that are of special concern to the CDFW or the USFWS are included in this analysis. Special-status bird species that are also protected by the MBTA which may nest on or within an approximate 10-mile (16-kilometer) radius of the project site are also evaluated.

Species meeting the criteria as special-status for inclusion in this document include those that occur on the lists of concern consulted during the literature review. Lists consulted include those prepared by a special interest group, such as the California Native Plant Society (CNPS) or 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. Species meeting these criteria have been considered if potential habitat for that species is present in the project area. All species evaluated are collectively referred to as special-status species.

The list of special-status species that was evaluated was additionally compiled by consulting pertinent literature, obtaining the USFWS list of *Federal Endangered and Threatened Species That may Occur in or may be Affected by Project in the Counties and/or USGS* (U.S. Geological Survey) *7.5-minute Quads* of the project site (USFWS 2015a) and accessing the CNDDB. These lists were updated during report preparation (Appendix A). 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 and observations to assess the potential for occurrence, and potential impacts were determined in relation to the special-status species likely occurring on the proposed project site; rather than the overall project vicinity. Species whose occurrence in the vicinity and life history makes them vulnerable to impacts even if they do not occur directly on the project site were also evaluated.

A standard 10-mile (16-kilometer) CNDDB 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). The CNDDB contains records for special-status species, as well as special-status natural communities that have been reported to the CDFW. The electronic version of the database is updated quarterly (CNDDB 2016).

Surveys employed slowly driving all perimeter and interior roads, stopping to inspect and evaluate all representative habitat feature. Field notes included observations of all identified 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. Species identification was aided through the use of binoculars and field guides, and locations of significant findings were recorded using handheld, Garmin global positioning system (GPS) units.

All plant taxa encountered were identified to the extent possible. 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 2015).

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 unit. Notes on wildlife observed during plant surveys were also compiled, with emphasis on special-status wildlife and burrowing mammals.

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.

3.0 RESULTS

The literature review resulted in identification of 21 special-status plant species and 32 special-status wildlife species for evaluation that could occur in the vicinity of the proposed project (Appendix A; Tables A1–A2). Figures A-1 and A-2 provide the results of the CNDDB records query within approximately 10 miles (16 kilometers) of 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 of these species on the proposed project site. The remainder of this section discusses the 2016 field survey results and evaluation of those results based on the literature review and professional judgment of MBI personnel.

3.1 General Conditions

The project site is located in an unincorporated area south of metropolitan Bakersfield. The project site consists entirely of land either currently under row crop agriculture or between crops. Photographs record conditions that were observed on the project site (Appendix B). The land uses surrounding the project site include similar agricultural practices.

The USGS soil survey map describes the project site as comprised of soil map unit, Bakersfield fine sandy loam, 0 to 1% slopes, and Granoso sandy loam 0 to 2% slopes.

Small mammal burrows were noted during the survey along the periphery of the project and dirt roads within the project footprint. All wildlife species observed during the survey were recorded (Appendix C; Tables C1–C2). Direct and indirect evidence of several special-status wildlife species was noted during the surveys conducted on the project site and buffer. The literature review and field survey results for all relevant special-status species are described in the following sections.

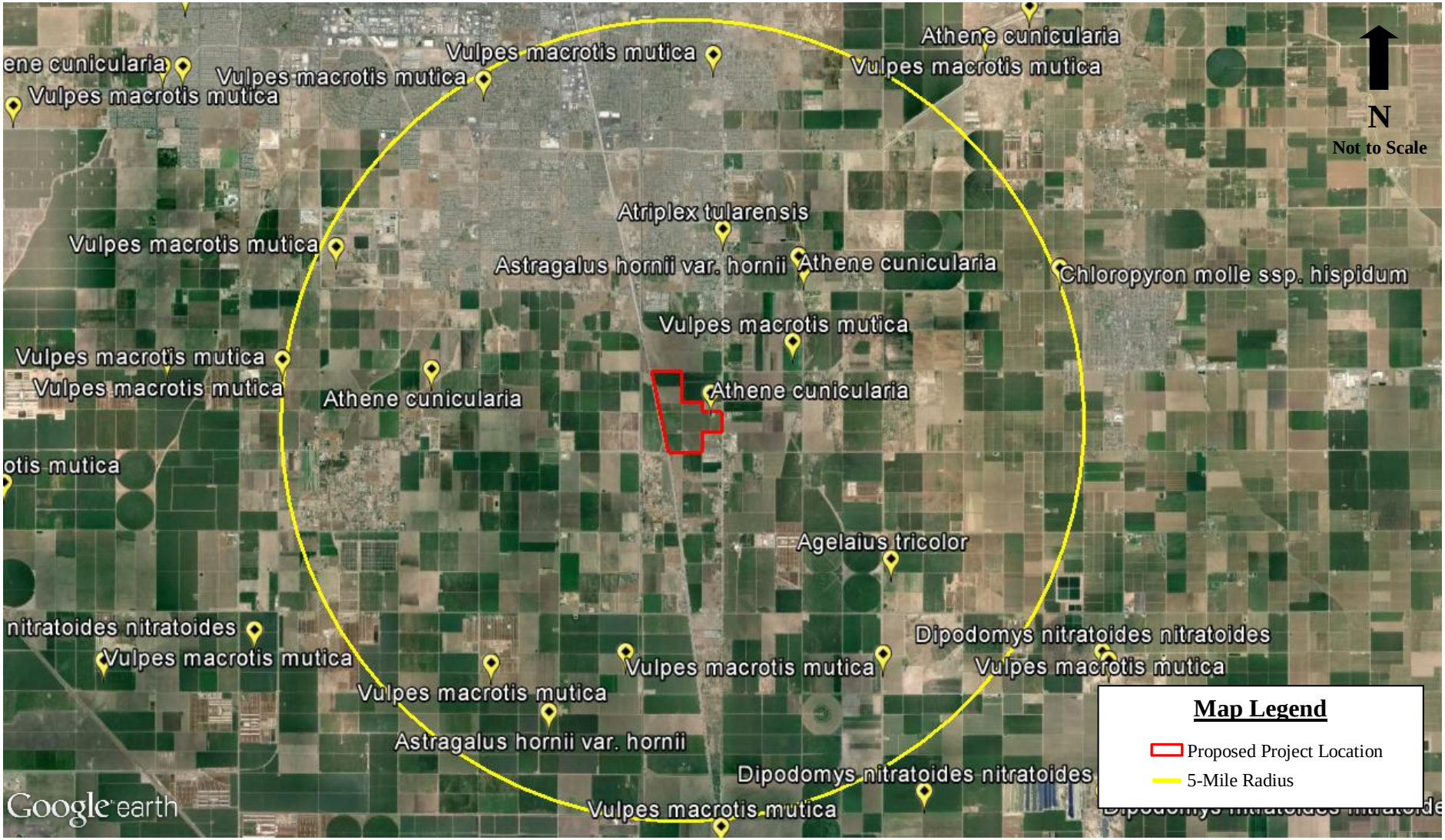


Figure 3-1: California Natural Diversity Database – Recorded Species Observations Map (Google Earth Pro 2016)

Table 3-1: Soil Map Units within the APN 185-140-08.

Soil Map Unit	Name	Brief Description Project Site Distribution[1]
101	Bakersfield fine sandy loam, 0 to 1% slopes	This somewhat poorly drained soil is found on flood plains. It is formed in alluvium derived from granitoid rock. The average frost-free season is 250–300 days.
123	Granoso sandy loam, 0 to 2 % slopes, overwash	This soil somewhat excessively drained, found on alluvial fans and floodplains, derived from mixed rock sources. Runoff is very low.

3.2 Special-status Biological Resources

As a result of the literature review and based on general habitat conditions, out of 21 special-status plant species that occur in the region of the project, no plant were determined to potentially exist on the project given decades of border-to-border row-crop farming Of the 32 wildlife species identified as potentially occurring in the region of the project site, Ten of these were determined to have the potential to be affected by the project (Table 3-2). Special-status wildlife species identified to have the potential to be impacted by the project are further discussed in the section 3.2.2. The initial evaluation of special-status species that were found during the literature review with a potential to occur in the region are included in Appendix A. Those that the initial evaluation found unlikely to be impacted by the proposed project are not discussed further in this report.

3.2.1 Special-status Plant Species

Precipitation was below normal during 2012–2013 and 2013–2014 rainy seasons. Although precipitation during the 2014-2015 rainy season was also below normal and somewhat late, annual plants in the vicinity of the project site did respond. Given the decades of intensive row crop farming of the site and adjacent properties, no special-status plant species is likely to occur on the proposed project. Consequently, no additional discussion is provided beyond the evaluation included in Table A-1.

3.2.2 Special-status Wildlife Species

Following the initial evaluation of the special-status wildlife species included in Appendix A, those species evaluated as potentially impacted by the proposed project are included in Table 3-2 below, and are further discussed.

Table 3-2: Special-status Wildlife That May Occur in the Project Area

Scientific Name	Common Name	Status Federal/State
Reptiles		
*Anniella pulchra pulchra**	Silvery legless lizard	-/CSC
Birds		
Ammodramus savannarum	Grasshopper sparrow	-/CSC
Athene cunicularia	Burrowing owl	-/CSC
Aquila chrysaetos	Golden eagle	-/SFP
Lanius ludovicianus	Loggerhead shrike	-/CSC
Mammals		
Antrozous pallidus	Pallid bat	-/CSC
Dipodomys nitratoides nitratoides	Tipton kangaroo rat	-/CSC
Eumops perotis californicus	Western mastiff bat	-/CSC
Onychomys torridus tularensis	Tulare grasshopper mouse	-/CSC
Vulpes macrotis mutica	San Joaquin kit fox	E/T

[1]Status:

Federal

E	Listed as Endangered
-	No listing status

State

C	Proposed for Listing as Threatened or Endangered
CSC	California Department of Fish and Wildlife Designated Species of Special Concern
E	Listed as Endangered
SFP	California Department of Fish and Wildlife Designated Fully Protected
T	Listed as Threatened
-	No listing status

** Silvery legless lizard has been divided into five species, with four new species being described (Papenfuss and Parham, 2013).*

Reptiles

Silvery legless lizard (*Anniella pulchra pulchra*)

Dorsal coloration of the silvery legless lizard may be silver, gray, or beige while ventral coloration varies from pale yellow-white to bright yellow. They have a dark middorsal line that runs the length of the body and lateral lines on its sides where dorsal and ventral colors meet. This slender, limbless lizard has a shovel-shaped snout, a counter-sunk lower jaw, smooth, polished scales, and a blunt tail (Stebbins 2003).

Habitat for this species includes lightly vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. They prefer warm, loose soil that is somewhat moist, and can often be found under leaf litter, rocks, boards, driftwood, and logs (Nafis 2000–2015a).

The silvery legless lizard is considered a California species of special concern (CDFW 2015). Its range extends from Antioch in Contra Costa County, south through the Coastal, Transverse, and Peninsular Ranges, along the western edge of the Sierra Nevada Mountains, and parts of the San Joaquin Valley and Mojave Desert to El Consuelo in Baja California (Jennings et al. 1994). Its elevation range extends from near sea level on the Monterey Peninsula to approximately 5,900 feet (1,800 meters) above sea level in the Sierra Nevada foothills (Stebbins 2003).

Silvery legless lizard has been divided into five species, with four new species being described (Papenfuss & Parham 2013). The four new species have no status; however, each has a very restricted known range. The soils over most of the project site are suitable for this species. Legless lizards are extremely difficult to detect, and may be present in low numbers in the limited habitat on the project site.

Birds

Grasshopper sparrow (*Ammodramus savannarum*)

The grasshopper sparrow is a California species of special concern that is also protected under the MBTA and California Fish and Game Code (Birds 2014; CDFW 2015; MBTA 2013).This species is a small brown sparrow with a short tail and flat head. The dark crown has a pale center stripe. A white eye-ring with a yellow-orange spot in front of the eye is present on most birds (Dunn & Alderfer 2008). The bird's typical diet consists of grasshoppers and seeds. Seeds the grasshopper sparrow is known to eat come from knotweed (*Polygonum* spp.), campion (*Lychnis* spp.), oats (*Avena* spp.), and pigweed (*Amaranthus* spp.)

The grasshopper sparrow is considered a rare summer resident of California from March to September, and little is known of its wintering status. The species is found in a variety of habitats within its known range, but its preference within California seems to include moderately open grasslands with short to moderate vegetation height and scattered shrubs such as California sagebrush (*Artemisia californica*). The grasshopper sparrow's naturally patchy range in California

has become even more fragmented due to agricultural and urban development (Shuford & Gardali 2008).

The grasshopper sparrow was not observed during any of the surveys. No potential nesting habitat is present on the site; however, the site does present potential foraging habitat and is within the range of the species.

Golden eagle (*Aquila chrysaetos*)

The golden eagle is a large, brown raptor with a length of 30 to 40 inches (76–101 centimeters) and a wing span of 80 to 88 inches (203–224 centimeters). Their large size and flat-winged soaring distinguish the golden eagle from large hawks. Immature golden eagles may be distinguished from immature bald eagles by their thinner bills and relatively smaller heads. In flight, as viewed from below, immature golden eagles show more clearly defined white patches at the base of the primaries and also a distinctive white tail with a dark terminal band. Nesting occurs in trees and on cliff faces, and their diet consists primarily of small mammals, birds, snakes, and carrion (Dunn & Alderfer 2008; Ehrlich et al. 1988).

In the western U.S., this species occurs primarily in open mountainous areas, rolling foothills, canyons, and plains. The golden eagle is an uncommon permanent resident and migrant throughout California, except for the center of the Central Valley, and range from sea level up to 11,500 feet (3,505 meters). The species is fully protected in the state of California (CDFW 2015; Grinnell & Miller 1944; Zeiner et al. 1990a).

The golden eagle was not observed during any of the surveys. Golden eagles are expected to forage in the western foothills and occasionally on the valley floor in the vicinity of the proposed project site.

No nesting habitat is present for this species.

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 (CDFG 2012; CDFW 2015; MBTA 2013).

Adults have bold spotting and barring, and individuals of this species can be distinguished from all other small owls by their long legs. Burrowing owls are diurnal, and during active periods of the year may be observed above ground in the vicinity of their burrows, 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. In California, the species is typically found in close association with California ground squirrels (*Otospermophilus beecheyi*). The squirrels 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.

Within California, it is found throughout the Central Valley, in the San Francisco Bay Area, Carrizo Plain, and Imperial Valley. The Central Valley population is a year-round resident in annual and perennial grasslands or other vegetation communities that support little to no tree or shrub cover. The state of California is considered an important wintering ground for migrants, whose burrowing owl population is augmented during the winter season (CDFG 2012; Dunn & Alderfer 2008; Shuford & Gardali 2008).

No burrowing owls were observed during any of the surveys. No evidence of burrowing owl presence, such as feathers, tracks or pellets, was observed. The habitat observed along the road edges and other lightly disturbed areas including ground squirrel burrows on the project site, has potential for this species. Both nesting and foraging habitat was present and the species could occupy in the future.

Loggerhead shrike (*Lanius ludovicianus*)

The loggerhead shrike is considered a species of special concern in California (CDFW 2015). It is a robin-sized bird about 9 inches (23 centimeters) in length with a raptor-like, hooked bill. Dorsal coloration of adults is bluish-gray, and ventral coloration is whitish with very faint barring. Juveniles tend to be more brownish. Most distinctive is the black eye mask, and in flight, the white wing patches on the contrasting dark wings. It is distinguished from the northern mockingbird (*Mimus polyglottos*), which it resembles in flight, by darker wings and smaller white wing patches. The mockingbird also lacks the conspicuous eye patch and hooked bill, and has slower wing beats (Dunn & Alderfer 2008).

Lacking talons, the shrike impales its prey to facilitate feeding, or to store it for future consumption. Its diet includes a variety of insects and spiders, small reptiles, rodents, and small birds. Nests are built on stable branches in densely-foliaged shrubs or trees, usually well-concealed (Ehrlich et al. 1988).

This species prefers open habitats such as savannas and deserts, with scattered shrubs, trees, posts, fences, utility lines, or other perches. In California, the shrike occurs as a resident over most of the state, being absent from high mountain regions (Zeiner et al. 1990a).

No loggerhead shrike was observed during the field work completed for this project. No suitable nesting substrate for this species occurs on the project site; however, the species is known to occur across Kern County and the project and vicinity provide suitable foraging habitat.

Ground and low shrub nesting birds

Several common and special-status ground and low shrub bird species may forage in the vicinity of the proposed project site. Some have a potential to nest on the site. In addition, many of the common species of birds protected by the MBTA could nest on the proposed project site during the next breeding/nesting season.

No bird nests were observed during the survey on the projec. Other avian species that would be expected to nest onsite include meadowlark (*Sturnella neglecta*).

Mammals

Tulare grasshopper mouse (*Onychomys torridus tularensis*)

The Tulare grasshopper mouse is considered a California species of special concern (CDFW 2015). It is a stout-bodied rodent with a club-like, bi-colored tail. The body is also bi-colored, being pale brown to gray or pinkish-cinnamon above with white underparts. Though the Tulare grasshopper mouse prefers to feed on small mammals and insects, its diet also includes other invertebrates and seeds. It may be confused with the white-footed mouse (*Peromyscus* spp.); however, the grasshopper mouse has a shorter, thicker tail, and larger forefeet

Historically, the species ranged from western Merced and eastern San Benito Counties east to Madera County and south to the Tehachapi Mountains. Currently, they are known to occur along the western margin of the Tulare Basin including western Kern County; within the Carrizo Plain Natural Area; along the Cuyama Valley side of the Caliente Mountains in San Luis Obispo County; and the Ciervo-Panoche Region in Fresno and San Benito Counties (Brown & Williams 2006).

Small mammal burrows suitable for use by Tulare grasshopper mouse were observed on the project site. In addition, this species could be present along the project periphery.

Western mastiff-bat (*Eumops perotis californicus*)

Western mastiff bats are primarily cliff dwelling bats which roost under exfoliating rock slabs but have been found in tall buildings as well. Roosts are typically found more than 10 feet (3 meters) above the ground, allowing for a clear vertical drop below the entrance for flight. Though acoustic records in California document foraging or commuting at up to 10,000 feet (3,050 meters) in the southern Sierra Nevada, the species regularly forage at 100 to 200 feet (30–61 meters) and may forage in flocks. Bats may travel relatively far from roosting sites to forage, in one case being heard in open desert 15 miles (24 kilometers) from the nearest possible roosting site. The foraging habitat of the western mastiff bat includes dry desert washes, flood plains, chaparral, oak woodland, open Ponderosa pine forest, grassland, and agricultural areas. In California, it is most frequently encountered in broad open areas, with a diet primarily consisting of moths, beetles, crickets, and katydids.

Unlike most bats in this area, western mastiffs do not mate in the fall. This species breeds in late winter and births around July. Migrations are limited to small changes in roost locations and hibernation only occurs in short periods resulting in year-round activity.

The western mastiff bat is considered threatened by broad, excessive pesticide use which is thought to lower their prey base, loss of clean water sources, and public hysteria resulting in colony eradications. They are considered a California species of species concern (CDFW 2015; Luce 2005).

No potential day roost habitat is present on or near the proposed project site for this species. This species may forage in the vicinity of the project site.

Pallid bat (*Antrozous pallidus*)

The Pallid bat is a large bat with long, forward-pointing ears typically longer than 1 inch (2.54 centimeters), and a blunt, somewhat pig-like nose. Its fur shows white roots with brown tips on the back. It is common to find these bats with holes in their wings or tail membrane, most likely the result of struggling prey or contact with vegetation (Reid 2006).

The species is an opportunistic feeder but is believed to have a preference for larger arthropods such as centipedes and scorpions it captures from the ground or vegetation. They forage over open shrub-steppe grasslands, oak savannah grasslands, open Ponderosa pine forests, talus slopes, gravel roads, lava flows, fruit orchards, and vineyards, but diet and forage area preference is known to vary with population. This species breeds from October through February and birth from April through July. These bats are not migratory, but may move around seasonally.

Pallid bats roost in a variety of natural and man-made structures such as rock outcrops or buildings, as well as under concrete slabs or other semi-solid to solid materials on the ground. The species may roost alone, in small groups of 2 to 20 bats, or in a group with hundreds of individuals. This species is susceptible to losses from disturbance of roosts, especially hibernation sites or where hundreds roost together, and pesticide use which lowers their prey base. It is currently considered a California species of special concern (CDFW 2015; Sherwin 2005.

Minimal potential roosting habitat is present; however, the project site represents potential foraging habitat for the species.

San Joaquin kit fox (*Vulpes macrotis mutica*)

This species, currently a federal-listed endangered and state-listed threatened species, resembles a small, lanky dog in appearance, with disproportionately large ears containing an abundance of large white, inner guard hairs. The San Joaquin kit fox (SJKF) 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 black-tipped tail up to 12 inches (30 centimeters) long. 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 agricultural and urban areas in Kern County. In the southern San Joaquin Valley portion of the range, SJKF are generally found in sparse, annual grassland and scrub communities (e.g., valley sink scrub, saltbush scrub). Den characteristics of the taxon vary across its range. In the southern portion of its range the taxon often creates dens with two entrances. Natal dens generally have multiple entrances. Entrances are usually 8 to 10 inches (20–25 centimeters) in diameter and are normally higher than wide, 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 change dens on a regular basis. Home ranges for the taxon have been reported by several authors to range from 1 to 12 square miles (1.6–19 square kilometers). In one study, a single kit fox was tracked to 70 dens during a 2-year period (Native fish and wildlife 1967; USFWS 1998).

SJKF are primarily nocturnal but can be seen during the day when activities on the surface get their attention. Potential site occupation is determined based on observation of canid scat 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 2011).

No SJKF dens were observed on the project site (Figure 3-3). The entire site represents potential denning and foraging habitat for this species along the periphery and margins of the project. SJKF are known to occur throughout Kern County in similar habitat.

3.2.3 Riparian Habitat, Wetlands, and Other Waters

No riparian habitat is present on the project site. A search of the USFWS National Wetlands Inventory resulted in no wetlands mapped within the project site vicinity (USFWS 2015b). These results are consistent with the observed conditions within the survey area.

4.0 IMPACT ANALYSIS AND RECOMMENDATIONS

This section provides an analysis of the impacts of the project following the standards of CEQA and provides recommendations that, when implemented, would reduce impacts to less-than-significant levels. It is important to note that potential take of any federal- or state-listed species from project activities would require contacting the appropriate wildlife agency (the USFWS and/or the CDFW). This contact may result in a requirement to obtain federal and/or state take authority for listed species as necessary.

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 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 California Department of Fish and Game or U.S. Fish and Wildlife Service;

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 California Department of Fish and Game or U.S. Fish and Wildlife Service;

3. 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;

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. No impacts to movement corridors are expected and the project is not in an area included in any accepted and approved HCP. Therefore, these two topics will not be addressed further.

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, by the CDFW, or the USFWS?**

It is the opinion of the author that direct impacts, in the form of "incidental take" of a threatened, endangered, or otherwise protected species, are not expected with the proposed GPA and ZC. Direct impacts could occur if the project site is further developed beyond the current agricultural usage. It is the opinion of the author that indirect impacts, in the form of loss of foraging habitat associated with a threatened, endangered, or otherwise protected species, may also occur as a result of the development of this project. Mitigation and avoidance measures compliant with state and federal agency guidelines would reduce to Less Than Significant, impacts to special-status species potentially occurring in the vicinity of the project.

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, and regulations, or by the CDFW or the USFWS?**

No riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service exists on the project site. Consequently, no substantial adverse effect will occur as a result of the development of the project

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 features identified in wetland categories appear on the USFWS National Wetlands Inventory mapping (USFWS 2016b) within the proposed project area. Therefore, no further measures are recommended.

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. 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 protected by local policies. Therefore, impacts from conflicts with local policies will not occur. Consequently, no additional measures are included

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 project is not known to conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Consequently, no additional measures are included.

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Appendix A
Special-Status Plants and Wildlife Evaluation

Table A-1: Special-status Plants That May Occur in the Vicinity of the Project Site.

Scientific Name **Common Name**	**Status Fed/State/CNPS**	**Brief Description**	**Blooming Period**	**Survey Results/Regional or Nearest Occurrence***
Astragalus hornii var. *hornii* Horn's milk vetch	S/-/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.	May to October	No suitable soil or habitat is present on the project site. No impacts are anticipated.
Atriplex cordulata var. cordulata Heartscale	S/-/1B.2	Herbaceous annual in the Chenopodiaceae found in chenopod scrub, meadows and weeps, 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.	April to October	No suitable soil or habitat is present on the project site. No impacts are anticipated
Atriplex coronate var. vallicola *Lost Hills crownscale*	S/-/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.	April to August	No suitable soil or habitat is present on the project site. No impacts are anticipated
Atriplex tularensis 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.	June to October	No suitable soil or habitat is present on the project site. No impacts are anticipated.
California macrophylla Round-leaved filaree	S/-/1B.1	Herbaceous annual in the Geraniaceae found in cismontane woodland, and valley and foothill grasslands on clay soils between 49 and 3,937 feet (15–1,200 meters). Known to occur in the Peninsular Ranges in San Diego and Riverside Counties, the Southern Sierra Nevada Foothills, the Tehachapi Mountains and the Western Transverse Ranges in Kern and Los Angeles Counties; the South Inner Coast Ranges from Santa Barbara County north to Merced County; the San Francisco Bay Area from Stanislaus County north to Contra Costa County and San Mateo County; and the Sacramento Valley and North Inner Coast Range from Alameda County north to Butte County.	March to May	No suitable soil or habitat is present on the project site. No impacts are anticipated.

Scientific Name Common Name	Status Fed/State/CNPS	Brief Description	Blooming Period	Survey Results/Regional or Nearest Occurrence*
Calochortus striatus Alkali mariposa lily	S/-/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.	April to June	No suitable soil or habitat is present on the project site. No impacts are anticipated.
Caulanthus californicus California jewelflower	E/E/1B.1	Herbaceous annual in the Brassicaceae that occurs between 200 and 3,281 feet (61–1,000 meters) 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.	February to May	This species is believed extirpated from Kern County. This species is highly sensitive to disturbance. Although suitable soil is present of the project, the species is highly unlikely to occur given previous site disturbance and proximity to isolated, known occurrences. No impacts are anticipated.
Caulanthus lemmonii Lemmon's jewelflower	S/-/1B.2	Annual herb in the Brassicaceae that occurs between 262 and 4,003 feet (80–1,220 meters) in elevation in pinyon and juniper woodland, and valley and foothill grasslands. Known to occur in the Tehachapi Mountains and the Western Transverse Ranges in Kern and Ventura Counties, and the South Inner Coastal Ranges from Santa Barbara County north to Alameda County.	March to May	No suitable soil or habitat is present on the project site. No impacts are anticipated
Chloropyron molle ssp. *hispidum* Hispid bird's-beak	S/-/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.	June to September	No suitable soil or habitat is present on the project site. No impacts are anticipated.
Delphinium recurvatum Recurved larkspur	S/-/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.	March to June	No suitable soil or habitat is present on the project site. No impacts are anticipated.

Scientific Name Common Name	Status Fed/State/CNPS	Brief Description	Blooming Period	Survey Results/Regional or Nearest Occurrence*
Eremalche parryi ssp. *kernensis* Kern mallow	E/-/1B.1	Annual herb in the Malvaceae that occurs between 230 and 3,281 feet (70–1,000 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.	March to May	Suitable soils are present on the project site. Historic disturbance from row crop farming and subsequent discing for vegetation control would greatly reduce the potential for presence. No impacts are anticipated.
Eriastrum hooveri Hoover's woolly star	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.	March to July	No suitable habitat is present on the project site. No impacts are anticipated.
Eschscholzia lemmonii ssp. *kernensis* 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.	March to May	No suitable r habitat is present on the project site. No impacts are anticipated
Imperata brevifolia California satintail	-/-/2.1	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 1,640 feet (500 meters) in elevation. Known from occurrences in the Eastern San Joaquin Valley from Kern County to Fresno County. It is more widespread in southwestern portion of the state.	September to May	No suitable soil or habitat is present on the project site. No impacts are anticipated.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	S/-/1B.1	Annual herb in the Asteraceae found between 3 and 4,003 feet (1–1,220 meters) in elevation in marshes, swamps, playas, and vernal pools. Known from occurrences in the Transverse Ranges in Santa Barbara, Ventura, and San Bernardino Counties, the Peninsular Ranges in San Diego, Orange and Riverside Counties, the South Coast in Los Angeles County, the Northern Channel Islands, the South Coast Ranges in San Luis Obispo County, the Tehachapi Mountains in Kern County, and the Southern San Joaquin Valley in Kern, Tulare, and Merced Counties.	February to June	No suitable habitat is present on the project site. No impacts are anticipated
Layia leucopappa Comanche Point layia	S/-/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.	March to April	No suitable habitat is present on the project site. No impacts are anticipated.

Scientific Name Common Name	Status Fed/State/CNPS	Brief Description	Blooming Period	Survey Results/Regional or Nearest Occurrence*
Monolopia congdonii 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.	February to May	No suitable habitat is present on the project site. No impacts are anticipated.
Navarretia setiloba Piute Mountains navarretia	S/-/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.	April to June	No suitable habitat is present on the project site. No impacts are anticipated.
Opuntia basilaris var. *treleasei* 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.	April to May	No suitable habitat is present on the project site. No impacts are anticipated.
Puccinellia simplex California alkali grass	-/-/1B.1	Annual herb in the Poaceae found in meadows and seeps between 2,297 and 3,281 feet (700–1,000 meters) in elevation. Known to occur in Kern and San Bernardino Counties.	April to May	No suitable habitat is present on the project site. No impacts are anticipated
Stylocline masonii Mason's neststraw	S/-/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.	March to May	No suitable habitat is present on the project site. No impacts are anticipated.

STATUS: Federal and State Listing Code

C	Candidate for Listing
D	Delisted
E	Federally or State-listed Endangered
S	BLM Sensitive Species
T	Federally or State-listed Threatened

Additional State Listing Code

CSC	California Species of Concern
SFP	State Fully Protected
WL	Watch List

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 threatened in California
2A	Plants presumed extirpated in California, but more common elsewhere
2B.1	Plants considered rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California
2B.2	Plants considered rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California
2B.3	Plants considered rare, threatened, or endangered in California, but more common elsewhere; not very threatened in California

3	Plants about which more information is needed
3.1	Plants about which more information is needed; seriously threatened in California
3.2	Plants about which more information is needed; fairly threatened in California
3.3	Plants about which more information is needed; not very threatened in California
4.1	Plants of limited distribution in California; seriously threatened in California
4.2	Plants of limited distribution in California; fairly threatened in California
4.3	Plants of limited distribution in California; not very threatened in California

Table A-2: Special-status Wildlife That May Occur in the Vicinity of the Project Site.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
Invertebrates			
Branchinecta lynchi 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 acre. Distribution in the Central Valley ranges from Shasta County to Tulare County. Kern County has no documented occurrences.	No vernal pools are present on the project site. No impacts are anticipated.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	T/-	Central Valley riparian forest; nearly always found on or close to its host plant, elderberry (*Sambucus* species).	No host plant species are present on the project site or vicinity. No impacts are anticipated.
Fish			
Hypomesus transpacificus Delta smelt	T/T	Found only in the Sacramento-San Joaquin Estuary in the interface between salt and freshwater.	The project site is beyond the range of the species. No suitable habitat is present and no downstream effects
Amphibians			
Lithobates pipiens *Northern leopard frog*	-/CSC	Prefers habitats with permanent water sources and abundant aquatic vegetation. Native to northern California and Introduced in the Central Valley.	No suitable habitat is present on the project site. No impacts are anticipated
Rana draytonii 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 (*Salix lasiolepis*) seems to be most suitable, but cattails (*Typha* sp.) and bulrushes (*Scirpus* sp.) also provide good habitat.	The project site is beyond the published range of the species. No suitable habitat is present on the project site. No impacts are anticipated.
Spea hammondii 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).	No suitable habitat is present on the project site. No impacts are anticipated
Reptiles			
Anniella pulchra pulchra Silvery legless lizard	-/CSC	Found in coastal dunes, chaparral, pine-oak woodlands, desert scrub, and sandy washes in warm moist loose soils, below 5,085 feet (1550 meters).	Suitable soils for this species exist on the project site. Although individual silvery legless lizards may be impacted, the number is likely to be extremely limited based on discing conducted over four consecutive years and no previously known occurrences on the site or in the vicinity. Consequently, impacts to this species are considered

Scientific Name **Common Name**	**Status** **Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
			less than significant. See additional discussion Section 3.2.2.
Emys marmorata *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 0.5 km from water.	No suitable habitat is present on the project site. No impacts are anticipated
Gambelia sila Blunt-nosed leopard lizard (BNLL)	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.	The undisturbed habitat of the site is appropriate and the project is within the range of the species. As communicated by SJRC personnel, the site has been disced annually for at least four years prior to 2015. No impacts are anticipated. See additional discussion Section 3.2.2.
Masticophis flagellum ruddocki 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.	Project site does not represent suitable habitat for this species due to discing, and isolated location relative to suitable habitat. No impacts are anticipated. See additional discussion Section 3.2.2.
Phrynosoma blainvillii 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.	Suitable soils are present on the project site. Although individual silvery legless lizards may be impacted, the number is likely to be extremely limited based on discing conducted over four consecutive years and no previously known occurrences on the site or in the vicinity. Consequently, impacts to this species are considered less than significant. See additional discussion Section 3.2.2.
Thamnophis gigas Giant garter snake	T/-	Highly aquatic; usually found in areas of freshwater marsh low-gradient streams, drainage canals and irrigation ditches, especially those associated with rice farming; currently known from near Chico, Butte County, to the vicinity of Burrel, Fresno County but historically further south in the San Joaquin Valley.	This species is likely extirpated from Kern County. Project site does not represent suitable habitat for this species. No impacts are anticipated
Birds			
Agelaius tricolor Tricolored blackbird	S/CSC	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.	No suitable nesting or foraging habitat is present on the project site. No impacts are anticipated.
Aquila chrysaetos Golden eagle	-/SFP	Uncommon permanent resident and migrant throughout California except center of the Central Valley; forages in rolling foothills, mountain areas, sage-juniper flans and desert areas, below 12,575 feet (3,833 meters), nests on	No suitable nesting habitat is present on the project site. No impacts are anticipated. See additional discussion Section 3.2.2.

Scientific Name **Common Name**	**Status** **Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
		cliffs and in large trees in open areas, very susceptible to human disturbance.	
Athene cunicularia 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.	Species not observed during fieldwork. No owl burrows identified. The project site represents suitable foraging and nesting habitat for the species based on the presence of California ground squirrel burrows. See further discussion Section 3.2.4
Buteo swainsoni 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.	No trees suitable for raptor nesting exist in the vicinity of the project. No stick nests observed. No impacts are anticipated.
Circus cyaneus Northern harrier	-/CSC	Widespread breeding resident, other than in the Central Valley, most lowland birds are winter migrants; ground nester that forages and nests in a wide variety of open habitats with low perches such as marshes, fields, and other treeless areas.	No trees suitable for raptor nesting exist in the vicinity of the project. No stick nests observed. No impacts are anticipated.
Elanus leucurus *White tailed kite*	-/SFP	Associated habitats include open grasslands, savannahs, agriculture, wetlands, oak woodland and riparian areas with associated open space.	No trees suitable for nesting exist on the project. The site represents marginal foraging habitat. No impacts are anticipated.
Eremophila alpestris actia California horned lark	-/WL	Resident throughout California from the coast to the deserts up to alpine dwarf-shrub habitat above tree line.	The site is within the range of the species and represents suitable nesting and foraging habitat. None were observed. Recommendations intended to reduce potential impacts to nesting bird species are included in Section 4.0.
Falco mexicanus Prairie falcon	-/WL	Found in generally dry, open country such as plains, prairies, and deserts, and can be relatively common in canyon country, where it is attracted to the nesting sites afforded by cliffs and rock outcrops.	A prairie falcon was observed soaring during the field survey. No suitable nesting sites exits on the project. The site represents marginal foraging habitat for the species. No impacts anticipated given the project size relative to surrounding, similar habitat suitable for foraging.
Gymnogyps californianus California condor	E/E, SFP	Forage over wide areas of open rangelands, roost on cliffs and in large trees and snags and occur mostly between sea-level and 2,743 meters (9,000 feet), and nests from 610 to 1,981 meters (2,000–6,500 feet). Require vast expanses of open savannah, grasslands, and foothill chaparral, with cliffs, large trees, and snags for roosting and nesting.	No suitable nesting or foraging habitat exists on the project site. No impacts are anticipated.
Lanius ludovicianus Loggerhead shrike	-/CSC	Common resident and winter visitor in lowlands and foothills throughout California; species prefers open	No loggerhead shrike was observed during the field survey. No suitable nesting sites exits on the project.

Scientific Name **Common Name**	**Status** **Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
		habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches; nests on stable branches in densely-foliaged shrubs or trees, usually well-concealed.	The site represents marginal foraging habitat for the species. No impacts anticipated given the project size relative to surrounding, similar habitat suitable for foraging. See additional discussion Section 3.2.2.
Mammals			
Ammospermophilus nelsoni 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.	The project site is beyond the current published range of the species. The survey was conducted under suitable conditions for observation of the species and no individuals were recorded. No impacts are anticipated
Antrozous pallidus 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.	No suitable roosting habitat exists on the project site. The site represents marginal foraging habitat for the species. No impacts anticipated given the project size relative to surrounding, similar habitat suitable for foraging See additional discussion Section 3.2.2.
Dipodomys ingens Giant kangaroo rat	E/E	Western side of the San Joaquin Valley, including the Carrizo Plain and the Panoche Valley; grassland and shrub-land habitats with sparse vegetative cover and soils that are well-drained, fine sandy loams with gentle slopes.	Historic row-crop farming precludes occupation although individuals have been known to persist on the periphery of agriculture. No burrows typical of Dipodomys sp. were observed during the field survey. No impacts are anticipated..
Dipodomys nitratoides nitratoides 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 in level to near-level terrain with alluvial fan-floodplain soil (fine sands and sandy loams) with sparse grasses and woody vegetation such as iodine bush, saltbush, seep weed, and mesquite.	The project site is within the range of the species. Historic row-crop farming and subsequent discing would generally preclude occupation although individuals have been known to persist on the periphery of agriculture. No burrows typical of *Dipodomys* sp. were observed during the field survey. No impacts are anticipated..
Eumops perotis californicus Greater 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.	No suitable roosting habitat exists on the project site. The site represents marginal foraging habitat for the species. No impacts anticipated given the project size relative to surrounding, similar habitat suitable for foraging. See additional discussion Section 3.2.2.
Onychomys torridus tularensis 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.	Suitable habitat is present on the project site. Although individual Tulare grasshopper mice may be impacted, the number is likely to be extremely limited based on discing conducted over four consecutive years and no previously known occurrences on the site or in the vicinity.

Scientific Name **Common Name**	**Status** **Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
			Consequently, impacts to this species are considered less than significant. See additional discussion Section 3.2.2.
Perognathus inornatus inornatus	S/-	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.	Suitable habitat is present on the project site. Although individual San Joaquin pocket mice may be impacted, the number is likely to be extremely limited based on discing conducted over four consecutive years and no previously known occurrences on the site or in the vicinity. Consequently, impacts to this species are considered less than significant.
Sorex ornatus relictus Buena Vista Lake shrew	E/-	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.	No suitable habitat is present on the project site. No impacts are anticipated.
Taxidea taxus American badger	-/CSC	Uncommon resident found through California; in less disturbed grassland and shrubland habitats in San Joaquin Valley.	No suitable habitat is present on the project site. No impacts are anticipated. See additional discussion
Vulpes macrotis mutica San Joaquin kit fox (SJKF)	E/T	Found in valley saltbush scrub, valley sink scrub, Interior Coast Range saltbush scrub, upper Sonoran sub-shrub scrub, non-native 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.	The site represents suitable habitat for the species. SJKF dens were identified during fieldwork. See additional discussion Section 3.2.2.

STATUS: Federal

S	Listed as a BLM Sensitive Species
D	Delisted
E	Listed as Endangered
PT	Proposed as Threatened
T	Listed as Threatened

State

CSC	California Department of Fish and Wildlife Designated Species of Special Concern
D	Delisted
E	Listed as Endangered
SFP	California Department of Fish and Wildlife Designated Fully Protected
T	Listed as Threatened

Appendix B
Photographs of the Project Site



Photo B-1: .Photograph of the project site taken near the middle of the southern edge of the project, facing northwest.



Photo B-2: .Photograph taken near the middle of the west edge of the project facing east.



Photo B-3: Photograph taken from the northeast corner of the project facing southwest.



Photo B-4: Photograph taken along Union Avenue facing west.

Appendix C
Plants and Wildlife Observed During Survey Conducted
March 10, 2016

Table C1: Plant Species Observed During the Survey Conducted on March 10, 2016

Scientific Name	**Common Name**
Amaryllidaceae	
Allium sp.	Domestic oinion
Asteraceae	
Lactuca serriola	Prickly lettuce
Boraginaceae	
Amsinckia sp.	Fiddleneck
Brassicaceae	
Brassica rapa	Field mustard
Capsella bursa-pastoris	Shepherd's purse
Hirschfeldia incana	Summer mustard
Lepidium nitidum	Peppergrass
Sisymbrium irio	London rocket
Chenopodiaceae	
Salsola tragus	Russian thistle
Convolvlaceae	
Convolvulus sp.	Orchard bindweed
Cyperaceae	
Cyperus esculentus	Yellow nutsedge
Euphorbiaceae	
Croton setigerus	Doveweed
Chamaesyce ocellata ssp. ocellata	Contura creek sand mat
Fabaceae	
Medicago sativa	Alfalfa
Geraniaceae	
Erodium cicutarium	Redstemmed filaree
Malvaceae	
Malva parviflora	Cheeseweed

Scientific Name	**Common Name**
Poaceae	
Avena barbata	Slender wild oat
Bromus diandrus	Ripgut
Bromus madritensis ssp. rubens	Redbrome
Cynodon dactylon	Bermuda grass
Hordeum murinum ssp. leporinum	Foxtail
Poa annua	Annual bluegress
Triticum sp.	Domestic wheat
Polygonaceae	
Rumex crispis	Curly dock
Zygophyllaceae	
Tribulus terrestris	Punctureveine

Table C2: Wildlife Species Observed during the Survey Conducted on March 10, 2016.

Scientific Name	**Common Name**
Reptiles	
Uta stansburiana	Common side-blotched lizard
Birds	
Ardea alba	Great egret
Buteo jamaicensis	Red-tailed hawk
Carpodacus mexicanus	House finch
Cathartes aura	Turkey vulture
Corvus corax	Common raven
Eremophila alpestris	Horned lark
Sturnella neglecta	Western meadowlark
Sturnus vulgaris	European starling
Zenaida macroura	Mourning dove
Mammals	
Otospermophilus beecheyi	California ground squirrel
Thomomys bottae	Valley pocket gopher

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Appendix E

Cultural Resources

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AN ADDITIONAL FIELD CHECK AND RECORD SEARCH FOR A MULTI-USE PROJECT, APNS 185-140-08 AND 185-160-08, 99 HOUGHTON INDUSTRIAL PARK, BAKERSFIELD, KERN COUNTY, CALIFORNIA

Submitted to:
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2001 Wheelan Court
Bakersfield, California 93309

Keywords:
Gosford and Conner 7.5' Quadrangles, Kern County,
California Environmental Quality Act

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MARCH 2016; Revised JULY 2017

Management Summary

At the request of McIntosh and Associates, a Field Check and additional record search was conducted for an approximately 314.30-acre parcel, APNs 185-140-08 and 185-160-08, located between Houghton Road, Highway 99, South Union Avenue, and Di Giorgio Road, in Bakersfield, Kern County, California. The original Phase I Cultural Resource Survey consisted of an archaeological survey and a cultural resource record search.

No cultural resources were identified. No further work is required. If archaeological resources are encountered during the course of construction, a qualified archaeologist should be consulted for further evaluation.

If human remains or potential human remains are observed during construction, work in the vicinity of the remains will cease, and they will be treated in accordance with the provisions of State Health and Safety Code Section 7050.5. The protection of human remains follows California Public Resources Codes, Sections 5097.94, 5097.98, and 5097.99.

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1.0 Introduction

At the request of McIntosh and Associate and Mitchell Property Management, LP, *Hudlow Cultural Resource Associates* conducted a Phase I Cultural Resource Survey in accordance with the California Environmental Quality Act (CEQA) for a proposed commercial and industrial development project. The 314.30-acre property, APNs 185-140-08 and 185-160-08, is located between Houghton Road, South Union Avenue, Di Giorgio Road, and Highway 99 in Bakersfield, Kern County, California with Kern County responsible as Lead Agency to implement CEQA. The Phase I Cultural Resource Survey consisted of a pedestrian survey and a cultural resource record search.

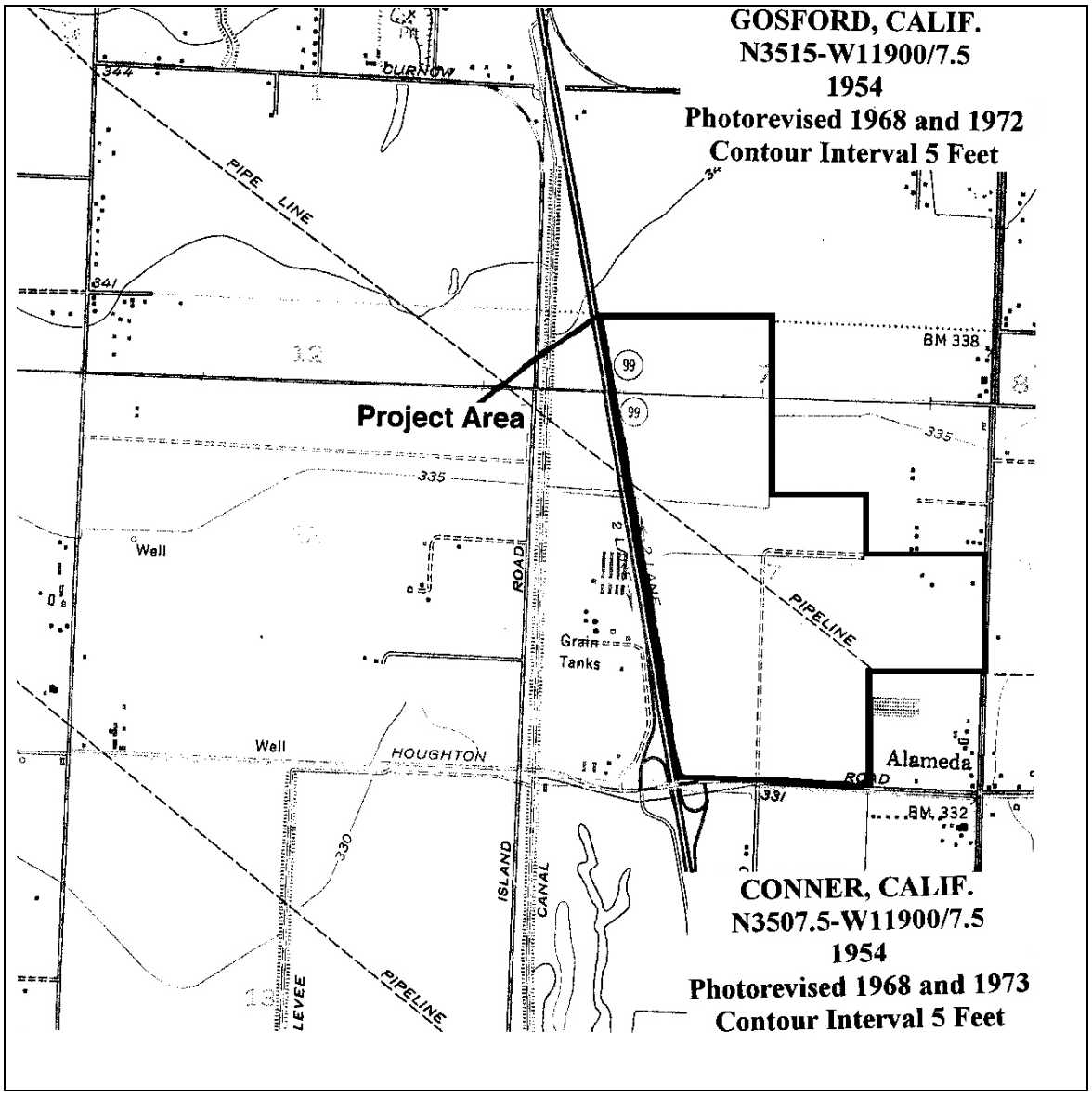
2.0 Project Location

The survey area is in Kern County. It consists of a majority of the portion of Section 7, T.31S., R.28E., Mount Diablo Baseline and Meridian, as displayed on the United States Geological Survey (USGS) Gosford and Conner 7.5-minute quadrangle maps that is east of Highway 99 (Figure 1). The proposed commercial and industrial project is located between Houghton Road, South Union Avenue, Di Giorgio Road, and Highway 99 in the City of Bakersfield, California.

3.0 Record Search

Two record searches of the survey area and the environs have been conducted at the Southern San Joaquin Archaeological Information Center. Scott M. Hudlow conducted the original record search on February 1, 2006, AIC# 06-020. The first record search revealed eleven surveys had been conducted within a one-mile radius of the project area (Table 1). No cultural resources have been identified within one mile of the current project area.

A second record search of the survey area and the environs within 1/2 mile was conducted at the Southern San Joaquin Archaeological Information Center. Scott M. Hudlow conducted the second record search on March 2, 2016, AIC# 16-078. The second record search revealed thirteen surveys have been conducted within a one-half mile radius of the project area (Table 2). Two previous surveys have addressed this project area (Hudlow 2006 and 2008). Two cultural resources have been identified within one-half mile of the current project area. One is a dairy that was identified on the property in 2006 and the other is a multi-component archaeological site on the west side of Highway 99.



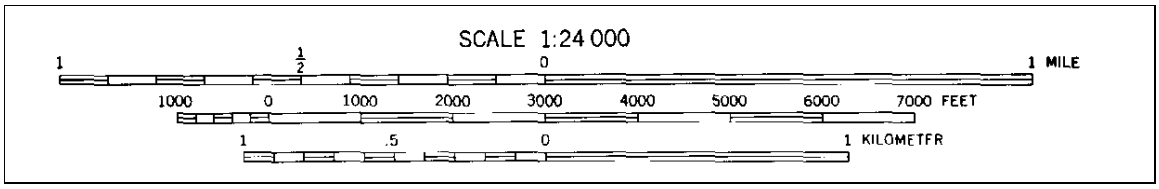


Figure 1
Project Area Location Map

Table 1
Previously Conducted Cultural Resource Surveys
within one Mile of the Project Area (2008 Survey)

Author	Title	Year
Robert A. Schiffman	Archaeological Investigations of 1979 System Improvements for Kern Delta Water District	1979
Robert A. Schiffman	Archaeological Evaluation of P.M. 8879	1988
Robert A. Schiffman	Archaeological Evaluation of P.M. 8885	1988
Mark Q. Sutton	Archaeological Survey of a Portion of S. 18, T31S, R28E, Located West of Highway 99	1988
Bruce Love	Cultural Resource Survey, Bakersfield-Rialto Fiberoptic Line	1997
Kevin Hovey	Rehabilitation of 57 on and off Ramps in Kern County, Highway 5 and 99	1999
Scott M. Hudlow	Reconstruction of Panama Road Between S. H Street and Commanche Road	1999
Curt Duke	Cultural Resource Assessment for Bell Mobil Service Facility LA 460-01	1999
Cathy McDougall	Cultural Resource Survey for the Kern Delta Water District Water Banking Project	2001
Scott M. Hudlow	A Phase I Cultural Resource Survey for a Residential Project at Wible Road and Taft Highway, City of Bakersfield, California	2005

4.0 Field Procedures, Methods, and Report of Archaeological Findings

Between February 16 and March 8, 2006, Scott M. Hudlow (for qualifications see Appendix I) conducted a pedestrian archaeological survey of the entire proposed project area. Hudlow surveyed in both north/south and east/west transects across the entire lot in 15-meter (33 feet) intervals, depending on the field patterns. The lot was covered in newly-planted alfalfa and corn. No cultural resources were identified. Hudlow conducted a field check on March 5, 2016. The lot was still in agricultural use; it was planted in winter barley and alfalfa. Field conditions had not materially changed and no cultural resources were identified.

Table 2
Previously Conducted Cultural Resource Surveys
within one Half-Mile of the Project Area (2016 Survey)

Author	Title	Year
Robert A. Schiffman	Archaeological Investigations of 1979 System Improvements for Kern Delta Water District	1979
Robert A. Schiffman	Archaeological Evaluation of P.M. 8879	1988
Robert A. Schiffman	Archaeological Evaluation of P.M. 8885	1988
Bruce Love	Cultural Resource Survey, Bakersfield-Rialto Fiberoptic Line	1997
D. Varner	Cultural Resource Study for Via Wireless Base Site on Highway 99 at Curnow Road	2000
Susan McDougall	Cultural Resource Survey for the Kern Delta Water District Water Banking Project	2001
Scott M. Hudlow	A Phase I Cultural Resource Survey for a Residential Project, APN 185-140-06, South Union Avenue, City of Bakersfield, California	2006
S. Flint	Cultural Resource Surveys for the Kern Delta Water District Water Banking and In-Lieu Water Supply Project, Kern County, California	2005
Wendy Neetles and Jay Lloyd	Archaeological Investigations of CA-KER-6913/H for the Kern Delta Water District Water Banking and In-Lieu Water Supply Project, Kern County, California	2007
J. Byers	Historic Property and Archaeological Survey Reports for the Proposed Taft Highway Right Hand Lane Project on State Highway 99, near Bakersfield, Kern County, California	2007
Alan Gold	Cultural Resource Survey for a 91-Acre Parcel near the Intersection of Chevalier and Taft Highway, south of Greenfield, Kern County, California	2008
Scott M. Hudlow	A Phase I Cultural Resource Survey for a Residential Project, APN 185-140-06, South Union Avenue, Bakersfield, Kern County, California	2008
David Whitley et al	A Class III/Phase I Survey, Greenfield Arsenic Mitigation Project, Kern County, California	2016

5.0 Management Recommendations

At the request of McIntosh and Associates, a Field Check and additional record search was conducted for an approximately 314.30-acre parcel, APNs 185-140-08 and 185-160-08, located between Houghton Road, Highway 99, South Union Avenue, and Di Giorgio Road, in Bakersfield, Kern County, California. The original Phase I Cultural Resource Survey consisted of an archaeological survey and a cultural resource record search.

No cultural resources were identified. No further work is required. If archaeological resources are encountered during the course of construction, a qualified archaeologist should be consulted for further evaluation.

If human remains or potential human remains are observed during construction, work in the vicinity of the remains will cease, and they will be treated in accordance with the provisions of State Health and Safety Code Section 7050.5. The protection of human remains follows California Public Resources Codes, Sections 5097.94, 5097.98, and 5097.99.

6.0 References

Hudlow, Scott M.

2006 *A Phase I Cultural Resource Survey for a Residential Project, APN 185-140-06, South Union Avenue, City of Bakersfield, California*. Report on file, Southern San Joaquin Archaeological Information Center, California State University, Bakersfield, Bakersfield, California.

2008 *A Phase I Cultural Resource Survey for a Residential Project, APN 185-140-06, South Union Avenue, Bakersfield, Kern County, California*. Report on file, Southern San Joaquin Archaeological Information Center, California State University, Bakersfield, Bakersfield, California.

Appendix F

Hazardous Materials Evaluation

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Hazardous Materials Evaluation Report Final

For:

99 Houghton Industrial Park
314.30 Acres
Houghton Road and State Route 99
County of Kern, State of California

Portion of Section 7
Township 31 South, Range 28 East, M. D. B. & M.

Prepared for:

Mitchell Property Management, LP

Prepared by:

McIntosh & Associates
McIntosh & Associates Engineering, Inc. © 2017
2001 Wheelan Court
Bakersfield, California 93309
(661) 834-4814

Project No. 006-012-001

JULY 2017

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1.0 Introduction

McIntosh & Associates Engineering, Inc. has conducted a Hazardous Material Evaluation Report Final of the 99 Houghton Industrial Park proposed project which consists of 314.30 acres and is within a portion of Section 7, Township 31 South, Range 28 East, of the Mount Diablo Baseline and Meridian. *(Refer to Figure A-1 Proposed Project Location Maps)*

1.1 Purpose of Report

This Hazardous Materials Evaluation Report Final is prepared in support of the Environmental Impact Report being prepared for the 99 Houghton Industrial Park proposed project. The objective of this final report is to review the existing conditions, analyze potential environmental impacts, and suggest feasible mitigation measures to reduce potentially significant effect to the proposed project.

The California State Legislature enacted the California Environmental Quality Act (CEQA) in 1970 requires public agencies to consider the environmental implication of the proposed projects and disclose these findings to the public. The California Environmental Quality Act (CEQA) mandates that projects with adverse effects on the environment must implement feasible mitigation. The County of Kern would have primary responsibility for implementing California Environmental Quality Act (CEQA) and making sure that its mandates are followed for the proposed project.

McIntosh & Associates Engineering, Inc. has prepared this Hazardous Materials Evaluation Report Final to the previously prepared Hazardous Materials Evaluation Report, dated July 2008. All material from the previous July 2008 report is still applicable to the proposed project's potential environmental impacts. Since the previous report was prepared, existing environmental impact conditions may have changed. This final report contains new information that has become available since July 2008. *(Refer to Hazardous Materials Evaluation Report, prepared by McIntosh & Associates, dated July 2008)*

1.2 Regulatory Setting

The management of hazardous materials and waste within the State of California falls within the jurisdiction of the California Environmental Protection Agency (CalEPA) and the Department of Toxic Substances Control (DTSC). The Department of Toxic Substances Control (DTSC) regulates hazardous waste, cleanups of existing contamination emergency planning, and seeks ways to reduce the hazardous waste produced in California.

The term "hazardous material" refers to both hazardous substances and hazardous waste. A material is defined as "hazardous" if it appears on a list of hazardous materials prepared by a Federal, State, or local regulatory agency, or if it possesses characteristics defined as

'hazardous" by such an agency. A "hazardous waste" is a solid waste with properties that make it potentially dangerous or harmful to human health or the environment and possesses one or more of the following characteristics. *(Refer to Table 1-1 United States Environmental Protection Agency (EPA) - Classified Hazardous Materials)*

Table 1-1 United States Environmental Protection Agency (EPA)

Classified Hazardous Materials	
Characteristic	**Types of Materials**
Ignitability	Oxidizers, compressed gasses, flammable liquids/solids
Corrosivity	Strong Acids and Bases
Reactivity	Explosives or compounds that generate toxic fumes when exposed to air or water
Toxicity	Classified by Environmental Protection Agency as capable of inducing systematic damage to humans or animals

2.0 Proposed Project Setting

This section is information gathered from record reviews. It has been organized to provide the location and legal description of the proposed project, geographical characteristics, adjacent properties, and the current and past uses of the proposed project and adjacent properties.

2.1 Proposed Project Location and Legal Description

The proposed project is generally located between Houghton Road to the south, Di Giorgio Road to the north, State Route 99 along the western edge, and Highway 204 (South Union Avenue) along a portion of the eastern frontage. The proposed project is situated 1.10 miles southeast of the Bakersfield City Limits in the County of Kern, State of California. According to the United States Geological Survey for Gosford and Conner, California the 7.5 Minute Topographic Quadrangles Maps; the proposed project is in a portion of Section 7 in Township 31 South, Range 28 East, of the Mount Diablo Baseline and Meridian (MDBM). *(Refer to Figure A-1 Proposed Project Location Maps) (Refer to Figure A-2 Aerial Photograph Proposed Project Location, dated October 20, 2016)*

2.2 Proposed Project Description

According to the Metropolitan Bakersfield General Plan Amendment, the current land use designation for the proposed project is R-IA (Resource-Intensive Agriculture) and HC (Highway Commercial). According to the Kern County Zoning Ordinance, the entire proposed project is currently Zoned A (Exclusive Agriculture). The property owner is

proposing to amend the Metropolitan Bakersfield General Plan Amendment and change the land use zoning designations to M-1 (Light Industrial District); M-2 (Medium Industrial District); C-2 (General Commercial District), and CH (Highway Commercial District). The zone changes would allow for a warehouse, distribution center, general commercial businesses, and highway commercial business. *(Refer to Figure A-4 Metropolitan Bakersfield General Plan Map) (Refer to Figure A-5 Kern County Zoning Map 143-7)*

The proposed project consists of a total 314.30 acres for the development of Light to Medium Industrial Park (107.72 acres), with associated Neighborhood Commercial (22 acres), Service Industrial (159.58 acres), and Highway Commercial (25 acres). The Kern County Assessor's Parcel Numbers for this proposed project are 185-140-08 and 185-160-08 and the changes in the development of the proposed project are listed in table below. *(Refer to Figure A-6 Assessor's Parcel Maps No.: 185-14 & 185-16) (Refer to Table 2-1 Proposed Land Use and Zoning)*

Table 2-1 Proposed Land Use and Zoning

Metropolitan Bakersfield General Plan			Kern County Zoning		
From	**To**	**Gross Acres**	**From**	**To**	**Gross Acres**
R-IA Resource-Intensive Agriculture	**LI** Light Industrial	107.72	**A** Exclusive Agriculture	**M-1 PD** Light Industrial, Precise Development Combining	107.72
	SI Service Industrial	159.58		**M-2 PD** Medium Industrial, Precise Development Combining	159.58
	HC Highway Commercial	(Existing HC Acreage 15.99) 9.01		**CH PD** Highway Commercial	25.00
	GC General Commercial	22.00		**C-2 PD** General Commercial	22.00
TOTAL ACREAGE		**314.30**	**TOTAL ACREAGE**		**314.30**

2.3 Current and Historical Uses

2.3.1 Present and Previous Uses of the Proposed Project

The proposed project has remained undeveloped and has been utilized for agriculture purposes; a steel shop building is located on the east side near Highway 204 (South Union Avenue) along Lamb Avenue and was probably used for field equipment, vehicle maintenance, and storage. A brushy retention basin has been excavated for agricultural purposes and is located on south edge of the proposed project at the t-intersection of Houghton Road and Chevalier Road. (*Refer to Figure A-2 Aerial Photograph Proposed Project Location, dated October 20, 2016)*

The proposed project has been utilized for agricultural purposes from 1940's to the present, and a review of the historical aerial photographs helps to support the findings. *(Refer to Figures B-1 thru B-8 Aerial Photographs) (Refer to Hazardous Materials Evaluation Report, prepared by McIntosh & Associates, dated July 2008)* Information was obtained from the Kern County Agricultural Department online website and that the growers were Doug Kaiser Farms, Permit Number 1500895 was the grower from years 2008 – 2009; Mitchell Property Management LP, Permit Number 1502896 was the grower for the years 2010 – 2017. Currently there is approximately 63 acres of alfalfa being grown along the south portion of the proposed project, and the balance of the proposed project is currently fallow due to the recent drought conditions but has been prepared to resume farming operations.

The Division of Oil, Gas and Geothermal Resources (DOGGR) records show that in the year 1934, the Big McKittrick Oil Company drilled an exploratory well "Sea Cliff-Houghton" 1, east of the present location of State Highway 99 along Di Giorgio Road. The well failed to produce oil or gas and it was subsequently abandoned in the year 1935. *(Refer to Figure C-1 Division of Oil, Gas and Geothermal Resources (DOGGR) Map) (Refer to Figure C-2 Division of Oil, Gas and Geothermal Resource (DOGGR) Data #02932362)*

The proposed project has a 34 inch diameter high pressure gas transmission pipeline (Line 300B) that is owned and operated by Pacific Gas & Electric Company (PG&E). The pipeline is marked at the east boundary of Highway 204 (South Union Avenue) and at the west boundary adjacent to State Highway 99. There is a 6 inch natural gas distribution pipeline operated by Pacific Gas and Electric Company that is located on the west side of the Highway 204 (South Union Avenue) right-of-way. *(Refer to Figure A-10 Petroleum and Natural Gas Pipeline Map) (Refer to Petroleum and Natural Gas Pipeline Report Assessment, prepared by McIntosh & Associates Engineering, Inc., dated July 2017)*

2.3.2 Present and Previous Uses of the Adjacent Properties

The proposed project is adjacent to other related agricultural land uses and a small cluster of rural residential properties with corrals and equestrian facilities, and mobile homes bordering the northeast, east and southeast areas. Agricultural land on the north side of Di Giorgio Road, east side of Highway 204 (South Union Avenue), south side of Houghton Road, and west side of Highway 99. There is an automobile wrecking yard (Higgins Auto Wrecking, 12825 South Union Avenue) located adjacent to the southeast portion of the proposed project. *(Refer to Figure A-2 Aerial Photograph Proposed Project Location, dated October 20, 2016)*

2.4 Environmental and Physical Setting

The proposed project is located in the southern San Joaquin Valley where it is surrounded by three mountain ranges. The Temblor range (a segment of the Coastal Range) is to the west, the Tehachapi range is to the south, and the Sierra Nevada range is to the east. The Kern River flows southwesterly through the valley. The proposed project is in a portion of Section 7 in Township 31 South, Range 28 East, of the Mount Diablo Baseline and Meridian (MDBM); and the proposed project is relatively flat, approximately 333 feet above mean sea level, and sloping slightly from the northwest to southeast. The elevations range on the proposed project is approximately 339 feet on the northwest corner, 330 feet on the southeast corner, and 332 feet on the east side. *(Refer to Figure A-7 United States Geological Survey Topographic Quadrangle Map) (Refer to Figure A-2 Aerial Photograph Proposed Project Location, dated October 20, 2016) (Refer to Figure A-3 Aerial Photograph – One Mile Radius)*

2.4.1 Demographics

Bakersfield, California is 143.6 square miles and Kern County, California is 8,163 square miles. Bakersfield, California is one of the fastest growing, largest populated cities in the United States, and California's third largest inland city after Fresno and Sacramento. According to the United States Census Bureau the population for Bakersfield, California is estimated at 373,627, and for Kern County, California is estimated at 882,176.

Kern County, California lowest point is 206 feet and it is approximately 12 miles west of Delano, California; the highest point is 8,755 feet at the summit of Sawmill Mountain and it is approximately 12 miles west of Frazier Park, California; and the center of population for the state of California is approximately 7 miles northeast of Buttonwillow, California. Bakersfield, California Mean Elevation is 400 feet above Sea Level.

2.4.2 Climate, Wind and Air Quality

Bakersfield, California has a desert climate with long, hot, dry summers, and brief, cool, moist winters. In fact, more clear days than the majority of the United States (averaging 191 days a year), long lasting, mild autumns, and warm springs, giving the region a unique climate suitable for growing a wide variety of crops.

Rainfall averages only 6.5 inches annually, and mostly falling during winter and spring. Summers are very hot and there are extended stretches of hot weather with 108 days per year above 90 Degrees Fahrenheit, 33 days are above 100 Degrees Fahrenheit, and temperatures above 110 Degrees Fahrenheit can occur every few years. Winters are mild daytime temperatures, but frost can be occasionally seen, and often time dense Tule Fog and low visibility. Snow is very rare on the valley floor, but it does snow once every 20 to 30 years.

Wind speed during the summer usually originates in the north end of the San Joaquin Valley and flows in a south-southeasterly direction in the valley, through the Tehachapi pass and into the southeast Desert Air Basin. Occasionally during the winter, winds would originate from the south end of the valley and flow in a north-northwesterly direction.

Bakersfield, California is ranked the second most polluted city in the United States in terms of both short term and year round particle pollution. It is ranked as the third most high ozone levels and polluted city in the United States due to agriculture in this region of the San Joaquin Valley. However, Bakersfield, California for the year 2016 was a good year for the area's air quality for the first time in nearly 20 years and the valley avoided violation of state and federal regulations for the concentration of particulate matter measurements. After six years of extreme drought, a series of storms for the year 2016 it is credited with moving enough of the valley's air to bring down the particulate matter measurements.

2.4.3 Geology and Soils

According to the California Division of Mines and Geology Map of Bakersfield, California sheet, the proposed project rest on alluvial fan deposits of Holocene (Recent) age, having been deposited on this part of the valley floor during the last 11,000 years. Near surface soils within the zone of influence of future developments consist of interbedded layers of sands, silts, and clays deposited from streams emerging from the highlands surrounding the Great Valley. These unconsolidated sediments overlie approximately 12,000 feet of Tertiary continental and marine formations which rest non-conformable on the Mesozoic crystalline basement complex.

The United States Department of Agriculture (USDA), Natural Resources Conservation Services, Custom Soil Resources (Kern County, California, Southwestern Part CA666) shows the proposed project soil surveyed series to be KsA (101) Bakersfield fine sandy loam and CaA (123) Granoso sandy loam. *(Refer to Figure D-1 United States Department of Agriculture (USDA) Map) (Refer to Figure D-2 United States Department of Agriculture (USDA) - Soils Survey Report, dated May 15, 2017) (Refer to Table 2-2 United States Department of Agriculture (USDA) - Soils Survey)*

Table 2-2 United States Department of Agriculture (USDA) – Soils Survey

Soils Survey of Kern County, California – Southwestern Part Proposed Project – Map Unit Legend			
Map Unit Symbol	**Map Unit Name**	**Description**	**Acres in Proposed Project**
KsA (101)	**Bakersfield fine sandy loam, drained, 0 to 1 percent slopes**	This somewhat poorly drained soil is found on flood plains. It is formed in alluvium derived from granitoid rock. The average frost-free season is 250-300 days	**170.22**
CaA (123)	**Granoso sandy loam, 0 to 2 percent slopes, overwash**	This soil somewhat excessively drained, found on alluvial fans and floodplains, derived from mixed rock sources. Runoff is very low.	**144.08**

2.4.4 Earthquake Fault Zones

The California Department of Conservation, Alquist-Priolo Earthquake Fault Zoning Act was signed into California law on December 22, 1972 and went into effect March 7, 1973 to mitigate the hazard of surface faulting to structures for human occupancy. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures.

Seismic Hazard Zone Maps are areas where site investigations are required to determine the need for mitigation of potential liquefaction and/or earthquake induced landslide ground displacements. There are no mapped areas that have Seismic Hazard Zones on the proposed project. No know surface or subsurface faults have been mapped transecting any of the parcels comprising the proposed project. The proposed project and surrounding areas are essentially flat and the potential hazard due to landslides from adjacent properties is not applicable.

2.4.5 Groundwater

The California Department of Water Resources – Kern County Water Agency Improvement District No. 4 reported that in May 2017 the proposed project has a depth of approximately 165 feet to 175 feet below ground surface. The depth to groundwater surface is represented in feet below the ground surface. The surrounding water wells indicate partial

aquifer recoveries of 6 feet to 16 feet with May 2017 measurements. The water level measurements are selected based on measurement date and well construction information (where available) and approximate groundwater levels in the unconfined to uppermost semi-confined aquifers. *(Refer to Figure A-8 Kern County Water Agency Depth of Groundwater Map, updated May 2017)*

The property owner currently provides irrigation water solely for agricultural purposes on the proposed project, and it does not service the property with domestic water or provide recharge water at this time. There are two existing diesel engine powered medium yield agricultural wells on the proposed project, one located in the northwest corner, one located at the center along west edge, an existing out of service electric motor driven small yield agricultural well located on the east side of Chevalier Road north of Houghton Road, and a domestic service water well north of the steel shop building on the east side along Lamb Avenue. Water quality of the existing agricultural supply wells have not been tested, and if used and/or newly drilled wells would need to be sampled and analyzed for all required chemicals or constituents during the formation of the privately owned public water system. *(Refer to Water Supply Assessment Final, prepared by McIntosh & Associated Engineering, Inc., dated July 2017)*

The State of California, Department of Water Resources, and California Statewide Groundwater Elevation Monitoring (CASGEM) was developed to help local agencies to participate in the California Statewide Groundwater elevation Monitoring (CASGEM) program and comply with provisions of the California Water Code Section 10927. Department of Water Resources maintains the "Water Data Library" which provides the public access to groundwater elevation and groundwater quality data collected by the Department of Water Resources and other agencies throughout the state. The Department of Water Resources changes water elevation data from the "Water Data Library" into the California Statewide Groundwater Elevation Monitoring (CASGEM) online system, including historical data that extends back several decades. The proposed project does not have any California Statewide Groundwater Elevation Monitoring (CASGEM) Water Wells or Voluntary Water Wells on the property. The following was reviewed for CASGEM Water Wells and Voluntary Water Wells adjacent to the proposed project. *(Refer to Figure A-9 California State Groundwater Elevation Monitoring (CASGEM) Water Wells Map) (Refer to Tables 2-3 and 2-4 California Statewide Groundwater Elevation Monitoring (CASGEM)*

Table 2-3 California Statewide Groundwater Elevation Monitoring (CASGEM)

Water Well		
CASGEM Well ID: 47285	**Local Well NBR:** 31s/27e-12q **SWN:** 31S27E12Q001M **CASGEM Well ID:** 47285 **CASGEM Station ID:** 352410N1190280W001 **ME ID:** 5031 **ME NAME:** Kern River Fan Group **GW Basin Name:** Kern County **GW Basin Code:** 5-22.14 **Hydrologic Region:** Tulare Lake **DWR Region Office:** South Central	**County:** Kern **Well Use:** Irrigation **Total Well Depth:** 710 **Has Well Construction Data:** Y **Completion RPT NBR:** Not Available **Coop Agency:** **Status:** Active **Submit Date:** 08/26/2014 **Latitude(Y):** 35.241433 **Longitude(X):** -119.03008

Table 2-4 California Statewide Groundwater Elevation Monitoring (CASGEM)

Voluntary Water Wells		
CASGEM Well ID: 24255, 24263, 24292, 24293, 24301, 24303, 24585, 37730, 37738, 38707	**No Available Data**	**Submit Date:** 06/08/2016

2.4.6 Natural Gas Transmission Pipeline

United States Department of Transportation Pipeline and Hazardous Materials Safety Administration has developed the Pipeline Information Management Mapping Application for use by pipeline operators and federal, state, and local government officials. The application contains sensitive pipeline critical infrastructure information. Recognizing the public's need to know the location of transmission pipelines, the National Pipeline Mapping System Public Viewer allows users to access pipeline maps without disclosing sensitive pipeline information.

Kern County is geographically a central location for it oil industry and makes Bakersfield, California a hub of energy transportation by pipelines. The Division of Oil, Gas and Geothermal Resources (DOGGR) take petroleum products from oil wells to processing facilities. Petroleum transmission pipelines bring crude oil from the southern San Joaquin Valley and from offshore wells to Bakersfield, California for refining and through the region to the Los Angeles Basin and the Bay Area. Pacific Gas and Electric Company (PG&E) has two large natural gas transmission pipelines crossing just south (Line 300-A) and through the southwest (Line 300-B) area of Bakersfield, California on their way from Arizona to the Bay Area. The presence of these pipelines, combined with agricultural sector who business is to

cultivate soil can be a hazard to health and safety that maybe greater than in most other parts of the state.

Pipeline marker signs for transmission and distribution pipelines are located both on the proposed project and adjacent properties and indicators of the pipeline routes for the following pipelines:

- There is a 34 inch natural gas transmission pipeline (Line 300-B) operated by Pacific Gas and Electric Company (PG&E) and is located within the proposed project and adjacent properties. Five pipeline marker signs indicating the presence and approximate location of this pipeline, and portions of the pipeline have been recently replaced and/or hydro-tested as part of Pacific Gas and Electric Company's Pipeline Safety Enhancement Plan procedure. The pipeline is considered active, no leaks in the pipeline have been reported on the proposed project or within half-mile of the adjacent properties. Pacific Gas and Electric Company (PG&E) should be contacted before any excavation and construction near the pipeline.

- There is a 6 inch natural gas distribution pipeline operated by Pacific Gas and Electric Company (PG&E) that is located on the west side of the Highway 204 (South Union Avenue) right-of-way. There are no pipeline markers indicating the location of this pipeline that are visible within the assessment area. The pipeline is considered active; no leaks in the pipeline have been reported on the proposed project or within half-mile of the adjacent properties. Pacific Gas and Electric Company (PG&E) should be contacted before any excavation and construction near the pipeline.

There are no hazardous liquid petroleum pipelines are known to exist on the proposed project or adjacent properties. The 34 inch natural gas transmission pipeline and its easements through the proposed project are identified on the ALTA/ACSM Land Title Survey prepared by McIntosh & Associates, dated May 16, 2006. *(Refer to Petroleum and Natural Gas Pipeline Assessment, prepared by McIntosh & Associated Engineering, Inc., dated July 2017)*

3.0 Records Review

Review of regulatory agency records was conducted for the proposed project and a surrounding one mile radius. The following documents have been reviewed in this section: United States Environmental Protection Agency and Toxic Release Inventory records; California Environmental Protection Agency Air Resources Board (CHAPIS) records; State of California, Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) online website records; Kern County Agricultural Department and Measurement

Standards (Agricultural Commissioner) online website records; Kern County Environmental Health Services Department records; California Environmental Protection Agency (CalEPA) online website records.

3.1 United States Environmental Protection Agency Toxics Release Inventory

The proposed project was not identified in the year 2017 United States Environmental Protection Agency Toxics Release Inventory Facilities for Explorer Chemical Releases Report for Bakersfield, California area facilities, and no other properties were identified within a one mile radius of the proposed project. This data was released by the United States Environmental Protection Agency data source and updated June 2, 2017.

3.2 California Environmental Protection Agency Air Resources Board

Toxic air pollutants are chemicals that have the potential to cause adverse health effects, such as cancer, birth defects, and organ damage. The online California Environmental Protection Agency Air Resources Board (CHAPIS) records were reviewed June 2017, and are listed from the year 2015 database for emissions by facilities and reflect the most current data available. The proposed project was not identified with any emission inventory, and one mile radius of the proposed project was not identified with any emission inventory and/or any facilities were identified.

The closes emission facility is Kern Oil & Refining Company located at 7724 East Panama Lane, Bakersfield, California. It is approximately two miles northeast of the proposed project with Particulate Matter Emissions of 5.671 Tons for the year 2015.

3.3 State of California, Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR)

Petroleum and associated natural gas are the primary mineral resources historically and currently under development in the vicinity of the proposed project. McIntosh & Associates Engineering, Inc. reviewed State of California, Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) online website and obtained records for one exploratory oil well that was drilled near the north boundary of the proposed project. *(Refer to Figure C-1 Division of Oil, Gas and Geothermal Resources (DOGGR) Map) (Refer to Figure C-2 Division of Oil, Gas and Geothermal Resource (DOGGR) Data #02932362)*

The California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) records show that on October 31, 1934 the Big McKittrick Oil Company drilled an exploratory well "Sea Cliff-Houghton" 1, Well Number 1, and American Petroleum Institute

(API) Number 02932362. The well is east of the present of State Highway 99, along Di Giorgio Road and along the north portion of the proposed project. The well failed to produce oil or gas and was subsequently abandoned in October 9, 1935.

The onsite dry hole "Sea Cliff-Houghton" 1 is not considered likely to pose current recognizable environmental risks to the proposed project. Because the well was filled only with drilling mud prior to abandonment in the year 1935, the Division of Oil, Gas and Geothermal Resources (DOGGR) would require that the well be re-abandoned to current standards prior to grading and development of the proposed project. *(Refer to Hazardous Materials Evaluation Report, prepared by McIntosh & Associates, dated July 2008)*

The State of California, Department of Conservation, Division of Oil, Gas and Geothermal Resource (DOGGR) Wildcat Map W4-2 indicates that the nearest active producing oil fields are the Mountain View Field approximately 4.75 mile northeast, the Stockdale Field approximately 4.1 miles northwest, the Lakeside Field approximately 7.7 miles west, and the nearest producing gas field is the Paloma Field approximately 7.1 miles southwest.

3.4 Kern County Agricultural Department and Measurement Standards (Agricultural Commissioner)

The Kern County Agricultural Department and Measurement Standards (Agricultural Commissioner) has been tracking annually permitted crop boundaries since the year 1997. The proposed project has been utilized for agricultural purposes from 1940's to the present, and a review of the historical aerial photographs helps to support the findings. *(Refer to Figures B-1 thru B-8 Aerial Photographs)* Information was obtained from the Kern County Agricultural Department online website for the permit numbers and the grower on the proposed project. Doug Kaiser Farms, Permit Number 1500895 was the grower from years 2008 – 2009; Mitchell Property Management LP, Permit Number 1502896 was the grower for the years 2010 – 2017. The proposed project farmland cultivated or harvest is wheat and alfalfa. *(Refer to Hazardous Materials Evaluation Report, prepared by McIntosh & Associates, dated July 2008; for the Photograph Years 1994 to 2008)*

The use of pesticides, herbicides, fertilizers, and general soil amendments has been licensed for application to the proposed project from the years 1994 – 2017. Information was obtained from Kern County Agricultural Department and Measurement Standards (Agricultural Commissioner) online website indicated that the following pesticides, herbicides, fertilizers, and general soil amendment have been licensed for application to the proposed project from 2008 – 2017. *(Refer to Table 3-1 Restricted Materials Permitted for Usage on Proposed Project) (Refer to Hazardous Materials Evaluation Report, prepared by McIntosh & Associates, dated July 2008; for the Photograph Years 1994 to 2008)*

Table 3-1 Restricted Materials Permitted Usage on Proposed Project

Restricted Materials Permitted	
Product Name	***Years Permitted**
41-A	2008, 2016
AD-WET	2008, 2011
BRANDT ONSITE	2016
BUCTRIL 4EC HERBICIDE	2008, 2010, 2011
BWC SPREADER 90	2010, 2011, 2012, 2014, 2015
CHLORPYRIFOS 4E AG	2009
CLARITY HERBICIDE	2008
COMITE	2014
DIMETHOATE 2.67 EC	2014
DRIFTSTOP	2010, 2011
FIRST CHOICE NO FOAM A	2009
GRAMOXONE INTEON	2011, 2012
HELENA PENETRATOR	2010
HERBIMAX	2009
HI=WETT SUPER-SPREADER	2016
HONCHO PLUS HERBICIDE	2011, 2016
INTENSITY ONE POST-EMERGENCE GRASS HERBICIDE	2016
LOCK-ON INSECTICIDE	2011, 2012
MAESTRO 4EC (CA)	2015
MIST-CONTROL (REVISE FORMULA)	2013, 2014, 2015
MSO CONCENTRATE WITH LECI-TECH	2011
NO FOAM B	2014
NUFARM RHOMENE MCPA BROADLEAF HERBIDIDE	2008, 2009
ON-SITE	2016
OUTLOOK (R) HERBICIDE	2016
POAST	2011
PROWL (R) H20 HERBICIDE	2011, 2012, 2014, 2015, 2016
PURSUIT HERBICIDE	2009, 2010
QUEST	2010
RAMPART FUNGICIDE	2016
RAPTOR HERBICIDE	2008, 2009, 2010
RIDOMIL GOLD BRAVO SC	2016
RNA CROP OIL CONCENTRATE 1915	2008
ROUNDUP POWERMAX HER	2012, 2013, 2014, 2015, 2016
ROVRAL BRAND 4 FLOWABLE FUNGICIDE	2016
SHARK EW	2009

SILENCER	2013
SIMPLICITY CA	2016
SOURCE 1 NO FOAM B	2009
SURF-90	2016
SURROUND WP CROP PROTECTANT	2016
WARRIOR II WITH ZEON TECHNOLOGY	2011, 2016
VULCAN	2014
YUKON	2014
ZEAL WDG MITICIDE	2016

**See Hazardous Material Evaluation Report, prepared by McIntosh & Associates, dated July 2008, Table 3-3 for Restricted Materials Permitted for the years 1994 to 2008*

Organochlorine pesticides are defined as *persistent* because they are stable in the environment and resist decay with time. The ability of organochlorine pesticides to persist in the environment made them highly effective and therefore widely used in agricultural insect control efforts during the years 1940's to 1970's. The organochlorine pesticide Dichloro Diphenyl Trichloroethane (DDT) also was used to control typhus and malaria. It is unfortunate that the properties that made these chemicals such effective insecticides also made them environmental biohazards. Most organochlorine pesticides were banned for use in the United States by the mid-years 1980's; those that remain in legal use are the active, low concentration ingredients of some home and garden products and some agricultural and environmental pest control products. There are four broad groups of organochlorine pesticides, none of which include the pesticides and herbicides permitted since the year 1994 for application to the crops grown on the proposed project.

- Hexachlorocyclohexane (Lindane)
- Dichloro Diphenyl Trichloroethane (DDT) and related compounds Dichlorodiphenyldichloroethylene (DDE) and Dichlorodiphenyldichloroethane (DDD)
- Cyclodienes (Aldrin, Heptachlor, and others)
- Mirex and Chlordecone

Agricultural fertilizers and chemicals in use today are sold in concentrated volumes but are mixed and applied in dilute concentrations. When used properly, they are soon utilized or metabolized by crops, and they degrade relatively quickly. However, some environmentally-persistent, organochlorine pesticides can linger in the soil for many years. It is not known if environmentally persistent pesticides and herbicides were ever applied to the proposed project. The potential for elevated concentrations of environmentally persistent pesticides to exist in the near-surface soils, which would require regulatory action, is low.

3.5 Kern County Environmental Health Services Department

On June 26, 2017 the Kern County Environmental Health Services Department was contacted regarding potential records associated with Aboveground Storage Tanks (AST), Underground Storage Tanks (UST), Hazardous Materials Business Plans (HMBP), or Hazardous Materials Incident Reports (HMIR) for the proposed project and within one mile radius of the property. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

No Hazardous Material Business Plans were on file with the Kern County Environmental Health Services Department for the proposed project. The Kern County Environmental Health Services Department reported one Soil Remediation report and three Underground Storage Tanks (UST) removal files that were reviewed and summarized. The Kern County Environmental Health Services Department reported several sites with Hazardous Material Business Inventory and during routine inspection of these facilities some had violations that were observed and some had no violations within a one mile radius that were reviewed and summarized.

- **Soil Remediation Report**
  - *Refer to 3.5.1 99 Houghton Industrial Park – Proposed Project*
- **Underground Storage Tanks Removal Report**
  - *Refer to 3.5.2 Richard Limi Custom Harvesting*
  - *Refer to 3.5.3 Young's Commercial Transfer Company*
  - *Refer to 3.6.14 Souza Properties*

3.5.1 99 Houghton Industrial Park – Proposed Project

A Phase I Environmental Site Assessment Report was conducted by Soils Engineering, Inc., Bakersfield, California in the year 2006 that indicated petroleum hydrocarbon impacted soil was observed about the location of two onsite irrigation wells along the west boundary and in the northwest corner of the proposed project. The report also included observations regarding soil surrounding a waste oil aboveground storage tank located adjacent to a steel shop building that is located on the east side near Highway 204 (South Union Avenue) along Lamb Avenue. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

A Remedial Action Report prepared and submitted by Soils Engineering, Inc. of Bakersfield, California on November 13, 2006 provided information regarding the October 2006 characterizations and cleanups of petroleum hydrocarbon contaminated soil at the two irrigation well sites and the waste oil aboveground storage tank. Samples were collected to characterize the vertical extent of the impacted soil at each location. Impacted, non-hazardous soil, totaling 521.1 tons, was removed thereafter and transported to the McKittrick Waste Treatment Site in western Kern County for disposal and/or recycling. Confirmation samples were collected from each of the three onsite locations to ensure that the impacted soil had been removed to less than action levels as required by the Kern

County Environmental Health Services Department. The Kern County Environmental Health Services Department then approved the Remedial Action Report, issuing a December 1, 2006 closure letter indicating that no further action was required. *(Refer to Hazardous Materials Evaluation Report, prepared by McIntosh & Associates, dated July 2008)*

3.5.2 Richard Limi Custom Harvesting

Richard Limi Custom Harvesting is located at 11437 South Union Avenue, Bakersfield, California, approximately .45 miles northeast of the proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

On September 19, 1991, one 10,000 gallon capacity, single wall, steel, diesel underground storage tank was removed and transported to Golden State Metals by Wegener Construction under Kern County Environmental Health Services Department Permit Number 320026. The tank was destroyed on September 20, 1991. Soil samples collected from depths of two feet and six feet below the ends of the tank setting and the dispenser were analyzed for gasoline and diesel constituents. No petroleum hydrocarbons were detected in the samples collected below the ends of the tank setting. The sample collected two feet beneath the dispenser exhibited diesel at 36 milligrams per kilogram, less than the Kern County Environmental Health Services Department action level of 100 milligrams per kilogram. Groundwater was not affected. The Kern County Environmental Health Services Department subsequently issued a closure letter dated October 8, 1991, indicating that no further action was required. *(Refer to E-2 Richard Limi Custom Harvesting)*

Kern County Environmental Health Services Department did a routine Hazardous Material Business Plan Inventory Inspection and Hazardous Waste Generator Inspection on May 26, 2015 for Richard Limi Custom Harvesting. On a routine Compliance Evaluation Inspection of the property the facility had no violations that were observed.

A Hazardous Materials Business Inventory (California Environmental Reporting System ID 10235941) was provided to Kern County Environmental Health Services Department on March 1, 2016 for permitted inventory on the property. *(Refer to E-2 Richard Limi Custom Harvesting)*

Richard Limi Custom Harvesting Hazardous Materials Business Inventory		
Chemical Name	**Quantity Reported**	**Containers**
GEAR OIL	55.00 GALLONS	STEEL DRUM
HYDRAULIC OIL	55.00 GALLONS	STEEL DRUM
MOTOR OIL	55.00 GALLONS	STEEL DRUM
USED OIL FILTERS	350.00 POUNDS	STEEL DRUM
WASTE OIL	500.00 GALLONS	*AST
OXYGEN	250.00 CUBIC FEET	STEEL DRUM

**Aboveground Storage Tank (AST)*

3.5.3 Young's Commercial Transfer Company

Young's Commercial Transfer Company is located at 300 Buena Vista Road, Bakersfield, California, approximately .21 miles east from the proposed project and east of Highway 204 (South Union Avenue). *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

On February 18, 1992, two 10,000 gallon capacity, single-wall, steel, diesel underground storage tanks were removed by CALPI, Inc. The tanks were transported to Golden State Metals where they were destroyed. Soil samples collected from depths of two feet and six feet below the ends of the tank settings and the dispenser were analyzed for gasoline and diesel constituents. Approximately 1,000 cubic yards of diesel impacted soil were removed from the former tank settings and bio-remediated on site between November 1992 and July 1994. Monitoring well MW-1 was installed on December 22, 1992 to penetrate the shallow water table underlying the site from 39 feet to 55 feet below ground surface its total depth. Petroleum hydrocarbons were not detected in groundwater samples collected from MW-1 during a sequence of quarterly monitoring activities, and nearby drinking water wells had not been impacted. After the monitoring well was properly destroyed under Kern County Environmental Health Services Department issued a site closure report/letter dated August 11, 1994 indicating that no further action is needed at this site in relation to the former diesel underground tank. *(Refer to E-3 Young's Commercial Transfer Company)*

3.5.4 Higgins Auto Wrecking, Inc.

Higgins Auto Wrecking, Inc. is located at 12825 South Union Avenue, Bakersfield, California, adjacent to the proposed project at the southeast corner of the property at the intersection of Highway 204 (South Union Avenue) and Houghton Road. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

Kern County Environmental Health Services Department records listed no violations and a Hazardous Material Business Inventory (California Environmental Reporting System ID 1032854) was submitted on June 14, 2016 for permitted inventory on the property. *(Refer to E-2 Higgins Auto Wrecking, Inc.)*

Higgins Auto Wrecking, Inc. Hazardous Materials Business Inventory		
Chemical Name	**Quantity Reported**	**Containers**
ARGON	155.00 CUBIC FEET	CYLINDER
USED BRAKE FLUID	55.00 GALLONS	STEEL DRUM
USED OIL FILTERS	13.00 POUNDS	STEEL DRUM
WASTE GASOLINE	55.00 GALLONS	STEEL DRUM
WASTE OIL	300.00 GALLONS	STEEL DRUM
WASTE ANTIFREEZE	55.00 GALLONS	PLASTIC DRUM
FREON	240.00 POUNDS	CYLINDER

ACETYLENE	107.00 CUBIC FEET	CYLINDER
OXYGEN	282.00 CUBIC FEET	

3.5.5 Watts Yard

Watts Yard is located at 13267 Chevalier Road, Bakersfield, California, approximately .40 miles south of the proposed project and Houghton Road. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

The Kern County Environmental Health Services Department records show that a routine inspection was done on October 3, 2016, and the facility had violations that were observed for aboveground petroleum storage tank. At the time of the inspection there was excess of debris and liquid inside of secondary containment, outside of the containment wall shows evidence of discharge along the outside of the wall, and a heavy accumulation of black sludgy material. The corrective action is to pump out the liquid/sludge material and remove as hazardous waste. Failure to conduct inspections of the tank/containers resulted in the loss of their farming exemption, and is now required to prepare a full Spill Prevention Countermeasures Control Plan by a professional engineer. The facility has 30 days to come into full compliance of the violations by November 2, 2016. Details were listed and it is not considered a direct or indirect threat to the proposed project. *(Refer to E-5 Watts Yard)*

A Hazardous Materials Business Inventory (California Environmental Reporting System ID 10672591) was provided to Kern County Environmental Health Services Department on August 12, 2016 for permitted inventory on the property. *(Refer to E-5 Watts Yard)*

Watts Yard Hazardous Materials Business Inventory		
Chemical Name	**Quantity Reported**	**Containers**
DIESEL FUEL NO. 2	12,000.00 GALLONS	*AST
HYDRAULIC FLUID	200.00 GALLONS	*AST
MOTOR OIL (Lube Oil)	200.00 GALLONS	*AST

**Aboveground Storage Tank (AST)*

3.5.6 Affordable Onsite Services, Inc.

Affordable Onsite Services, Inc. is located at 13801 South Union Avenue, Bakersfield, California, approximately .5 miles southeast from the proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

The Kern County Environmental Health Services Department records show that a routine inspection was done on November 7, 2016, and the facility had violations that were observed for not having proper site map for storage locations, hazardous waste labeling on outside of containers, failure to retain disposal records, and failure to meet hazardous waste storage requirements. The facility has 30 days to come into full compliance of the violations

by December 7, 2016. Details were listed and it is not considered a direct or indirect threat to the proposed project. *(Refer to E-6 Affordable Onsite Service, Inc.)*

A Hazardous Materials Business Inventory (California Environmental Reporting System ID 10232854) was provided to Kern County Environmental Health Services Department on March 15, 2016 for permitted inventory on the property. *(Refer to E-6 Affordable Onsite Service, Inc.)*

Affordable Onsite Service, Inc. Hazardous Materials Business Inventory		
Chemical Name	**Quantity Reported**	**Containers**
ACETYLENE	1,000.00 CUBIC FEET	CYLINDER
ANTIFREEZE	55.00 GALLONS	STEEL DRUM
ARGON	2,500.00 CUBIC FEET	CYLINDER
BATTERIES	320.00 POUNDS	UNKNOWN
HYDRAULIC OIL	55.00 GALLONS	STEEL DRUM
LUBRICANT	35.00 GALLONS	STEEL DRUM
NITROGEN	1,380.00 CUBIC FEET	CYLINDER
OXYGEN	2,000.00 CUBIC FEET	CYLINDER
WASTE OIL	750.00 GALLONS	*AST
UNIVERSAL WASTE (Aerosol Cans)	10.00 POUNDS	STEEL DRUM
WASTE ANTIFREEZE	55.00 GALLONS	STEEL DRUM
WASTE OIL FILTERS	350.00 POUNDS	STEEL DRUM
USED ABSORBENT MATERIAL	275.00 POUNDS	STEEL DRUM

**Aboveground Storage Tank (AST)*

3.5.7 AMRI Transport, Inc. (Round Trip Transportation, Inc.)

AMRI Transport, Inc. (Round Trip Transportation, Inc.) is located at 10402 Compagnoni Street, Bakersfield, California, approximately .90 miles northwest of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

The Kern County Environmental Health Services Department records show that a routine inspection was done on April 28, 2015, and the facility had violations that were observed for not having an active Environmental Protection Agency ID Number, and 55 gallon drums of used oil were not labeled with "Hazardous Waste". The facility was cited to come into full compliance of the violations by March 28, 2015. Details were listed and it is not considered a direct or indirect threat to the proposed project. *(Refer to E-7 (AMRI) Round Trip Transportation, Inc.)*

A Hazardous Materials Business Inventory (California Environmental Reporting System ID 10238344) was provided to Kern County Environmental Health Services Department on February 26, 2015 for permitted inventory on the property. *(Refer to E-7 (AMRI) Round Trip Transportation, Inc.)*

AMRI Transport, Inc. (Round Trip Transportation, Inc.) Hazardous Materials Business Inventory		
Chemical Name	**Quantity Reported**	**Containers**
HEAVY DUTY DIESEL OIL	250.00 GALLONS	TOTE BIN
MOTOR OIL	55.00 GALLONS	STEEL DRUM
WASTE MOTOR OIL	55.00 GALLONS	STEEL DRUM
WASTE OIL FILTERS	350.00 POUNDS	STEEL DRUM

3.5.8 American Telephone and Telegraph (AT&T) – S Union (USID47852)

American Telephone and Telegraph (AT&T) – S Union (USID47852) is located at 9834 South Union Avenue, Bakersfield, California, approximately 1 mile northeast of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

Kern County Environmental Health Services Department records listed no violations and a Hazardous Material Business Inventory (California Environmental Reporting System ID 10236778) was submitted on January 11, 2017 for permitted inventory on the property for Lead Acid Batteries (59.10 Gallons). *(Refer to E-8 AT&T – S Union - USID47852)*

3.5.9 Downtown Automotive

Downtown Automotive is located at 9757 Bace Avenue, Bakersfield, California, approximately 1 mile northeast of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

Kern County Environmental Health Services Department records listed no violations and a Hazardous Material Business Inventory (California Environmental Reporting System ID 102332851) was submitted on May 5, 2016 for permitted inventory on the property. *(Refer to E-9 Downtown Automotive)*

Downtown Automotive Hazardous Materials Business Inventory		
Chemical Name	**Quantity Reported**	**Containers**
ACETYLENE	200.00 CUBIC FEET	CYLINDER
ARGON	500.00 CUBIC FEET	CYLINDER
STARGON	310.00 CUBIC FEET	CYLINDER
NITROUS OXIDE/SULFUR DIOXIDE MIX	750.00 CUBIC FEET	CYLINDER
USED OIL FILTERS	10.00 POUNDS	STEEL DRUM
WASTE ANTIFREEZE	55.00 GALLOND	*AST
WASTE OIL	85.00 GALLONS	*AST
OXYGEN (Oxygen Difluoride)	500.00 CUBIC FEET	CYLINDER
MOTOR OIL	205.00 GALLONS	*AST
TRNASMISSION FLUID	55.00 GALLONS	*AST

**Aboveground Storage Tank (AST)*

3.5.10 Greenfield Body Works

Greenfield Body Works is located at 10825 South Union Avenue, Bakersfield, California, approximately .62 miles south of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

Kern County Environmental Health Services Department records listed no violations and a Hazardous Material Business Inventory (California Environmental Reporting System ID 10236136) was submitted on June 21, 2016 for permitted inventory on the property. *(Refer to E-10 Greenfield Body Works)*

Greenfield Body Works Hazardous Materials Business Inventory		
Chemical Name	**Quantity Reported**	**Containers**
ACETYLENE	530.00 CUBIC FEET	CYLINDER
ARGON	704.00 CUBIC FEET	CYLINDER
OIL BASED AUTO PAINT WASTE	95.00 GALLONS	STEEL DRUM
OXYGEN	1,500.00 CUBIC FEET	CYLINDER
USED OIL	300.00 GALLONS	PLASTIC DRUM
USED OIL FILTERS	350.00 GALLONS	STEEL DRUM
WATER BASED AUTO PAINT WASTE	40.00 GALLONS	PLASTIC DRUM
OXYGEN (Oxygen Difluoride)	500.00 CUBIC FEET	CYLINDER
MOTOR OIL	205.00 GALLONS	*AST
TRNASMISSION FLUID	55.00 GALLONS	*AST

**Aboveground Storage Tank (AST)*

3.5.11 Price Disposal, Inc.

Price Disposal, Inc. is located at 8665 South Union Avenue, Bakersfield, California, approximately .09 miles southeast of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

The Kern County Environmental Health Services Department records show that a routine inspection was done on November 7, 2016, and the facility had violations that were observed. Failure to complete and electronically submit the Business Activities Page and/or Business Owner/Operator Identification Page, failure to complete and electronically submit Hazardous Materials Inventory Information for all hazardous materials on site at or above reportable quantities, inspection of the hazardous materials inventory was incomplete/inaccurate, and failure to maintain Spill Prevention Control and Countermeasures plan onsite. The facility was cited to come into full compliance of the violations by December 7, 2016. Details were listed and it is not considered a direct or indirect threat to the proposed project. *(Refer to E-11 Price Disposal, Inc.)*

A Hazardous Materials Business Inventory (California Environmental Reporting System ID 10233556) was provided November 30, 2016 to Kern County Environmental Health Services Department for permitted inventory on the property. *(Refer to E-11 Price Disposal, Inc.)*

Price Disposal, Inc. Hazardous Materials Business Inventory		
Chemical Name	**Quantity Reported**	**Containers**
DIESEL	7,500.00 GALLONS	*AST
WASTE WATER FROM TRUCK WASH	7,500.00 GALLONS	*AST
PROPANE	1,000.00 GALLONS	*AST
DEF	330.00 GALLONS	CARBOY
ETHYLENE GLYCOL	110.00 GALLONS	STEEL DRUM
ACETYLENE	1,125.00 CUBIC FEET	CYLINDER
CARBON DIOXIDE	1,000.00 CUBIC FEET	CYLINDER
OXYGEN (Oxygen Difluoride)	2,100.00 CUBIC FEET	CYLINDER
WASTE OIL FILTERS	700.00 POUNDS	STEEL DRUM
DEGREASER	55.00 GALLONS	PLASTIC DRUM
GEAR LUBE	110.00 GALLONS	STEEL DRUM
HYDRAULIC OIL	300.00 GALLONS	STEEL DRUM
MOTOR OIL	300.00 GALLONS	STEEL DRUM
TRANSMISSION FLUID	110.00 GALLONS	STEEL DRUM
WASTE COOLANT / ANTIFREEZE	110.00 GALLONS	STEEL DRUM
WASTE OIL	750.00 GALLONS	STEEL DRUM
TRIMIX CARBON DIOXZIED ARGON HELIUM	3,000 CUBIC FEET	CYLINDER

**Aboveground Storage Tank (AST)*

3.5.12 Kern County Roads Department - Curnow

Kern County Roads Department - Curnow is located at 2260 Curnow Road, Bakersfield, California, approximately .75 miles northwest of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

Kern County Environmental Health Services Department records listed no violations and a Hazardous Material Business Inventory (California Environmental Reporting System ID 10231759) was submitted on March 30, 2017 for permitted inventory on the property. *(Refer to E-12 Kern County Roads Department - Curnow)*

Kern County Roads Department - Curnow Hazardous Materials Business Inventory		
Chemical Name	**Quantity Reported**	**Containers**
HYDRAULIC	55.00 GALLONS	STEEL DRUM
USED ANTIFREEZE	55.00 GALLONS	STEETL DRUM
DIESEL	2,000.00 GALLONS	*AST
UNLEADED GASOLINE	1,000.00 GALONS	*AST
CSS-1	3,800.00 GALLONS	*AST

MOTOR OIL	55.00 GALLONS	STEEL DRUM
WASTE OIL	30.00 GALLONS	STEEL DRUM
WASTE OIL FILTERS	350.00 POUNDS	STEEL DRUM
DEGREASER	55.00 GALLONS	STEEL DRUM
GREASE	30.00 GALLONS	STEEL DRUM

**Aboveground Storage Tank (AST)*

3.5.13 Milli Transportation, Inc.

Milli Transportation, Inc. is located at 10604 South "H" Street, Bakersfield, California, approximately .50 miles northwest of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

Kern County Environmental Health Services Department records listed no violations and a Hazardous Material Business Inventory (California Environmental Reporting System ID 10657384) was submitted on September 30, 2017 for permitted inventory on the property. *(Refer to E-13 Milli Transportation, Inc.)*

Milli Transportation, Inc. Hazardous Materials Business Inventory		
Chemical Name	**Quantity Reported**	**Containers**
ARGON-CARBON DIOXIDE	735.00 CUBIC FEET	CYLINDER
GREASE	600.00 POUNDS	STEEL DRUM
MOTOR OIL	110.00 GALLONS	CYLINDER
OXYGEN	250.00 CUBIC FEET	CYLINDER
USED OIL FILTERS	700.00 POUNDS	STEEL DRUM
WASTE OIL	165.00 GALLONS	CYLINDER

3.5.14 Souza Properties

Souza Properties is located at 9869 South Union Avenue, Bakersfield, California, approximately 1 mile northeast of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

In March 1993 a fluid sample was taken from a small waste oil sump on the Souza Properties which was classified as a Class V Shallow Injection Well by the Kern County Environmental Health Services Department. Based on the results of the analysis it was concluded that further characterization of soil was required. On May 20, 1993 remaining fluids which existed in the sump were removed by vacuum truck, and transported to Gibson Environmental of Bakersfield, California for disposal, and two loads were collected (2,500 gallons and 765 gallons) of oil water and rinsate. Waste Manifests showing disposition and transportation of the waste to Gibson Environmental.

On May 21, 1993 five underground storage tanks from Souza Properties were removed by CALPI, Inc. Soil samples collected below the tanks indicated that significant soil

contamination existed beneath the tanks. In August 1993, Smith-Gutcher & Associates performed a site assessment which indicated contamination extended to a depth of approximately 45 feet. In May 1994, AquaGeosciences, Inc. prepared and submitted a Remedial Action work plan to the Kern County Environmental Health Services Department for approval. The plan was approved and on May 23, 1994, AquaGeosciences, Inc. implemented the Remedial Action Plan. Field operations included excavating the impacted soil in the area underlying the former tanks to a depth of 51 feet. Impacted soil from this excavation in addition to previously excavated oil sump (Class V Injection Well) was the spread across the site where it was treated by a combination of bioremediation and aeration. A total of 900 cubic yard of impacted soil was removed from the excavation. Chemical analyses of work samples collected from the walls and base of the excavation confirm the removal of impacted soil above the mandated 1,000 ppm as set by the Kern County Environmental Health Services Department. The analytical results indicate TPH (gasoline and diesel) range from non-detect to 790 ppm on confirmation samples taken during the excavation. The Kern County Environmental Health Services Department issued a closure letter dated November 15, 1994, indicating that no further action related to the underground storage tank release is required. *(Refer to E-14 Souza Properties)*

3.5.15 TBS Properties

TBS Properties is located at 2909 Houghton Road, Bakersfield, California, approximately 1 mile southwest of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

Kern County Environmental Health Services Department records listed no violations and a Hazardous Material Business Inventory (California Environmental Reporting System ID 10445257) was submitted on June 12, 2017 for Liquefied Petroleum Gas (1pg), 500.00 Gallons, and Aboveground Storage Tank. *(Refer to E-15 TBS Properties)*

3.5.16 T-Mobile West Corporation SV00460A

T-Mobile West Corporation SV00460A is located at 1260 Shafter Road, Bakersfield, California, approximately 1 mile southwest of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

Kern County Environmental Health Services Department records listed no violations and a Hazardous Material Business Inventory (California Environmental Reporting System ID 10729963) was submitted on May 10, 2017 for Electrolyte/Sulfuric Acid, 25.90 Gallons and is in fenced area in cabinet on rack/shelves. *(Refer to E-16 T-Mobile West Corporation SV00460A)*

3.6 California Environmental Protection Agency (CalEPA)

The California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records for the proposed project and one mile radius of the property. The online website records associated with Aboveground Storage Tanks (ASTs), Underground Storage Tanks (USTs), Hazardous Materials Business Plans (HMBPs), or Hazardous Materials Incident Reports (HMIRs) were reviewed June 2017.

No Hazardous Material Business Plans were on file with the California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records for the proposed project. The California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records had one Hydrostatic Test of Natural Gas Transmission Line Segment T-355-14, six Underground Storage Tanks Cleanup reports, and one Cleanup Program report that was reviewed and summarized. The California Environmental protection Agency (CalEPA Regulated Site Portal) and State Water Resources Control Board online website records reported several sites with Hazardous Material Business Inventory and during routine inspection facilities had violations that were observed within a one mile radius that were reviewed and summarized.

- **Hydrostatic Test of Natural Gas Transmission Line Segment Report**
  - *Refer to 3.6.1 Pacific Gas and Electric Company Hydrostatic T-355-14 – Proposed Project*
- **Underground Storage Tanks Cleanup Site Report**
  - *Refer to 3.6.3 Young's Commercial Transfer Company*
  - *Refer to 3.6.13 Curnow Road Yard*
  - *Refer to 3.6.15 Souza Properties*
  - *Refer to 3.6.19 Greenfield auto Truck Center*
  - *Refer to 3.6.20 Kern Delta Water District*
  - *Refer to 3.6.21 B S Baldwin Dairy*
- **Cleanup Program Report**
  - *Refer to 3.6.18 H & H Truck Service*

3.6.1 Pacific Gas and Electric Company Hydrostatic T-355-14

Pacific Gas and Electric Company Hydrostatic T-355-14 is located along the east edge of the proposed project. On October 24, 2013 the Central Valley Water Board issued a Notice of Applicability for coverage under Water Quality Order Number 2003-003-DWQ, Statewide General Waste Discharge Requirements for Discharges to Land with a Low Treat to Water Quality for the discharge of hydrostatic test water from Pacific Gas & Electric Company Hydrostatic Test Project of Natural Gas Transmission Line Segment T-355-14 to agricultural land in Kern County. Hydrostatic test is a way in which pressure vessels such as pipelines can be tested for strength and leaks.

On February 10, 2014 Pacific Gas & Electric Company submitted the monitoring results and a Notice of Termination form to terminate coverage. The discharge of hydrostatic test water from segment T-355-14 occurred between October 30, 2013 and November 9, 2013 of about 768,400 gallons of hydrostatic test water that was discharged following the hydrostatic test. According to the Notice of Termination the hydrostatic testing is complete and no further discharge is expected, therefore coverage under the general order is terminated. *(Refer to F-1 Aerial Photograph – One Mile Radius) (Refer to F-2 PG&E Hydrostatic T-355-14, dated April 8, 2014)*

3.6.2 Richard Limi Custom Harvesting

Richard Limi Custom Harvesting is located at 11437 South Union Avenue, Bakersfield, California, approximately .45 miles northeast of the proposed project. *(Refer to Figure F-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records show that on May 26, 2015 a routine inspection by Kern County Environmental Health Services Department was done at this site and no violations were observed. A Hazardous Material Business Inventory (Environmental Protection Agency ID CAL000352668) was submitted on March 1, 2016.

Richard Limi Custom Harvesting Hazardous Materials Business Inventory		
Chemical Name	**Hazard Label**	**Average Daily Amount Range**
ACETYLENE	FIRE	0-2599 CUBIC FEET
GEAR OIL	FIRE	9-11 GALLONS
HYDRAULIC OIL	FIRE	12-59 GALLONS
MOTOR OIL	FIRE	12-59 GALLONS
OXYGEN	FIRE	0-2599 CUBIC FEET
USED OIL FILTERS	FIRE	12-59 GALLONS
WASTE OIL	FIRE	60-119 GALLONS

3.6.3 Young's Commercial Transfer Company

Young's Commercial Transfer Company is located at 300 Buena Vista Road, Bakersfield, California, approximately .21 miles east from the proposed project and east of Highway 204 (South Union Avenue). *(Refer to Figure F-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records (State Water Resources Control Board ID T060290089) show that the property had a Leaking Underground Storage Tank Cleanup Site for potential contaminants of concern for gasoline. The State Water Resources Control Board cleanup status history case start date was February 18, 1992, and the cleanup is completed and the case was closed October 3,

1994. A closure letter from the Kern County Environmental Health Service Department has been issued on August 11, 1994. *(Refer to Figure F-3 Young's Commercial Transfer, Company)*

3.6.4 Higgins Auto Wrecking, Inc.

Higgins Auto Wrecking, Inc. is located at 12825 South Union Avenue, Bakersfield, California, adjacent to the proposed project at the southeast corner of the property at the intersection of Highway 204 (South Union Avenue) and Houghton Road. *(Refer to Figure F-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records listed no violations and a Hazardous Material Business Inventory (Environmental Protection Agency ID CAL000318368) was submitted on June 30, 2017.

Higgins Auto Wrecking, Inc. Hazardous Materials Business Inventory		
Chemical Name	**Hazard Label**	**Average Daily Amount Range**
ACETYLENE	FIRE	0-2599 CUBIC FEET
DRAINED USED OIL FILTERS	FIRE	0-99 POUNDS
FREON	FIRE	0-99 POUNDS
GASOLINE	FIRE	12-59 GALLONS
WASTE OIL	FIRE	12-59 GALLONS
OXYGEN DIFLUORIDE	FIRE	0-2599 CUBIC FEET
RED DYE DIESEL	FIRE	60-119 GALLONS
USED BRAKE FLUID	FIRE	12-59 GALLONS
WASTE ABSORBANT	FIRE	100-499 POUNDS
WASTE ANTIFREEZE		12-59 GALLONS

3.5.5 Watts Yard

Watts Yard is located at 13267 Chevalier Road, Bakersfield, California, approximately .40 miles south of the proposed project and Houghton Road. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records show that on October 3, 2016 a routine Compliance Evaluation Inspection was done by a local agency, and the facility had violations that were observed for aboveground petroleum storage tanks. At the time of the inspection it was evident that inspections are not being conducted by Watts Yard. There was excess of debris and liquid inside of secondary containment, outside of the containment wall shows evidence of discharge along the outside of the wall, and a heavy accumulation of black sludgy material. The corrective action is to pump out the liquid/sludge material and remove as hazardous waste. Watts Yard has lost its farming exemption and is now required to prepare a full Spill Prevention

Control and Countermeasures plan by a professional engineer. A written notification on October 28, 2016 that documents and communicates violations observed during an inspection of the business, and a notice of inspection was provided by the Kern County Environmental Health Services Department inspector at the time of the inspection. Details were listed and it is not considered a direct or indirect threat to the proposed project.

A Hazardous Materials Business Inventory (Environmental Protection Agency ID 10672591) was provided to Kern County Environmental Health Services Department on August 12, 2016 for permitted inventory on the property.

Watts Yard Hazardous Materials Business Inventory		
Chemical Name	**Hazard Label**	**Average Daily Amount Range**
DIESEL FUEL NO. 2	FIRE	6000-8999 GALLONS
LUBE	FIRE	120-599 GALLONS
PHENOL		120-599 GALLONS

3.6.6 Affordable Onsite Service, Inc.

Affordable Onsite Services, Inc. is located at 13801 South Union Avenue, Bakersfield, California, approximately 1.5 miles southeast from the proposed project. *(Refer to Figure F-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records shows that on November 7, 2016 a routine Compliance Evaluation Inspection done by a local agency, and the facility had violations that were observed of not having proper site map for storage locations, hazardous waste labeling, failure to retain disposal records, and failure to meet hazardous waste storage requirements. The facility was cited to come into full compliance of the violations by December 7, 2016. Details were listed and it is not considered a direct or indirect threat to the proposed project.

A Hazardous Materials Business Inventory (Environmental Protection Agency ID CAL 000275972) was provided to Kern County Environmental Health Services Department on April 12, 2016 for permitted inventory on the property.

Affordable Onsite Service, Inc. Hazardous Materials Business Inventory		
Chemical Name	**Hazard Label**	**Average Daily Amount Range**
ACETYLENE	FIRE	0-2599 CUBIC FEET
ANTIFREEZE		12-59 GALLONS
ARGON, LIQUID	FIRE	0-2599 CUBIC FEET
HYDRAULIC OIL		12-59 GALLONS
LEAD ACID BATTERIES		100-599 POUNDS
LUBRICANT		12-59 GALLONS

NITROGEN OXIDES		0-2599 CUBIC FEET
WASTE OIL		120-599 GALLONS
OXYGEN DIFLUORIDE	FIRE	1-2599 CUBIC FEET
ARESOL CANS	Sudden Release of Pressure	0-99 POUNDS
ABSORBENT MATERIALS		100-599 POUNDS
WASTE ANTIFREEZE	Reactivity	0-11 GALLONS
WASTE OIL FILTERS		100-499 POUNDS

3.6.7 AMRI Transport, Inc. (Round Trip Transportation, Inc.)

AMRI Transport, Inc. (Round Trip Transportation, Inc.) is located at 10402 Compagnoni Street, Bakersfield, California, approximately .90 miles northwest of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records show that on October 24, 2016, a routine Compliance Evaluation Inspection done by a local agency, and the facility had no violations that were observed.

A Hazardous Materials Business Inventory (Environmental Protection Agency ID 15-010-036654) was provided to Kern County Environmental Health Services Department on June 20, 2016 for permitted inventory on the property.

AMRI Transport, Inc. (Round Trip Transportation, Inc.) Hazardous Materials Business Inventory		
Chemical Name	**Hazard Label**	**Average Daily Amount Range**
HEAVY DUTY DIESEL OIL	FIRE	120-599 GALLONS
MOTOR OIL		12-59 GALLONS
WASTE MOTOR OIL		12-59 GALLONS
WASTE OIL FILTERS		100-499 POUNDS

3.6.8 American Telephone and Telegraph (AT&T) – S Union (USID47852)

American Telephone and Telegraph (AT&T) – S Union (USID47852) is located at 9834 South Union Avenue, Bakersfield, California, approximately 1 mile southwest of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records show that on December 16, 2016, a routine Compliance Evaluation Inspection done by a local agency, and the facility had no violations that were observed.

A Hazardous Materials Business Inventory was provided to Kern County Environmental Health Services Department on January 12, 2017 for permitted inventory on the property for Lead Acid Batteries, 59.10 Gallons, and inside cell site in outdoor cabinets.

3.6.9 Downtown Automotive

Downtown Automotive is located at 9757 Bace Avenue, Bakersfield, California, approximately 1 mile northeast of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records for Hazardous Waste Generator – Notice of Violation was provided to Downtown Automotive on May 5, 2016. A written notification that documents and communicates violations observed during the inspection by the Kern County Environmental Health Services Department inspector at the time, and detail were not listed.

A Hazardous Materials Business Inventory (Environmental Protection Agency ID CAL000212081) was provided to Kern County Environmental Health Services Department on June 9, 2016 for permitted inventory on the property.

Downtown Automotive Hazardous Materials Business Inventory		
Chemical Name	**Hazard Label**	**Average Daily Amount Range**
ACETYLENE	FIRE	0-2599 CUBIC FEET
ARGON	Sudden Release of Pressure	0-2599 CUBIC FEET
DRAINED USED OIL FILTERS		0-99 POUNDS
MOTOR OIL		12-59 GALLONS
NITROUS OXIDE/SULFUR DIOXIDE MIX	Sudden Release of Pressure	0-2599 CUBIC FEET
WASTE OIL	FIRE	12-59 GALLONS
OXYGEN DIFLUORIDE	Sudden Release of Pressure	0-2599 CUBIC FEET
STARGON	Sudden Release of Pressure	0-2599 CUBIC FEET
TRANSMISSION FLUID	FIRE	12-59 GALLONS
WASTE ANTIFREEZE		12-59 GALLONS

3.6.10 Greenfield Body Works

Greenfield Body Works is located at 10825 South Union Avenue, Bakersfield, California, approximately .62 miles south of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records listed no violations and a Hazardous Material Business Inventory (Environmental Protection Agency ID CAL000214920) was submitted on September 13, 2016.

Greenfield Body Works Hazardous Materials Business Inventory		
Chemical Name	**Hazard Label**	**Average Daily Amount Range**
ACETYLENE	FIRE	0-2599 CUBIC FEET
ARGON		0-2599 CUBIC FEET

OIL BASED AUTO PAINT WASTE	FIRE	0-11 GALLONS
OXYGEN	Sudden Release of Pressure	0-2599 CUBIC FEET
USED OIL		60-119 GALLONS
USED OIL FILTERS	FIRE	60-119 GALLONS
WATER BASED AUTO PAINT WASTE		12-59 GALLONS

3.6.11 Price Disposal, Inc.

Price Disposal, Inc. is located at 8665 South Union Avenue, Bakersfield, California, approximately .09 miles southeast of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records on November 7, 2016 had violation inspections that is designed to determine compliance with legal requirements which does not involve sampling for the following:

- Aboveground Petroleum Storage Act – Failure to provide a copy of the Spill Prevention Control Countermeasures plan.
- Hazardous Waste Generator – Failure to provide copies of the hazardous waste manifests.
- Hazardous Material Release Response Plans – Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
- Hazardous Materials Release Response Plans – Failure to complete and electronically submit the Business Activities Page and/or business Owner Operator Identification Page.

Details were listed and it is not considered a direct or indirect threat to the proposed project.

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records show a Hazardous Material Business Inventory (Environmental Protection Agency ID CAL000014901) was submitted on November 30, 2016.

Price Disposal, Inc. Hazardous Materials Business Inventory		
Chemical Name	**Hazard Label**	**Average Daily Amount Range**
ACETYLENE	FIRE	0-2599 CUBIC FEET
CARBON DIOXIDE-NITROUS OXIDE MIXTURE		0-2599 CUBIC FEET
CYCLOPROPANEDICARBOXYLIC ACID	FIRE	600-1199 GALLONS
DIESEL EXHAUST FLUID (DEF)		120-599 GALLONS
DEGREASER		12-59 GALLONS
DIESEL FUEL	FIRE	6000-8999 GALLONS
DIPHENYLAMINE	FIRE	60-119 GALLONS
ETHYLENE GLYCOL		60-119 GALLONS
WASTE OIL	FIRE	120-990 GALLONS

OLEFIN SALSIDE	FIRE	60-119 GALLONS
PHOSPH ORODITHOIC	FIRE	2600-12999 CUBIC FEET
TRIMIX CARBON DIOXZIED ARGON HELIUM	FIRE	2600-12999 CUBIC FEET
WASTE COOLANT/ANTIFREEZE		12-59 GALLONS
WASTE OIL FILTERS		0-99 POUNDS
WASTE WATER FROM TRUCK WASH		3000-5999 GALLONS
ZINC DITHIOPHSPHATE		120-599 GALLONS

3.6.12 Kern County Roads Department - Curnow

Kern County Roads Department - Curnow is located at 2260 Curnow Road, Bakersfield, California, approximately .75 miles northwest of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records show no violations and one Hazardous Material Business Inventory (Environmental Protection Agency ID CAL000358843) was submitted on December 8, 2016.

Kern County Roads Department - Curnow Hazardous Materials Business Inventory		
Chemical Name	**Hazard Label**	**Average Daily Amount Range**
CSS-1		120-599 GALLONS
DIESEL	FIRE	600-1199 GALLONS
GREASE		0-11 GALLONS
HYDRAULIC OIL	FIRE	0-11 GALLONS
MOTOR OIL		12-59 GALLONS
NATURALIZER VC		0-11 GALLONS
UNLEADED GASOLINE	FIRE	600-1199 GALLONS
USED ANTIFREEZE		0-11 GALLONS
WASTE OIL		0-11 GALLONS
WASTE OIL FILTERS		0-99 POUNDS

3.6.13 Curnow Road Yard

Curnow Road Yard is located at 2600 Curnow Road, Bakersfield, California, approximately .90 miles northeast of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records (State Water Resources Control Board ID T0602900384) show that the property had a Leaking Underground Storage Tank Cleanup Site for potential contaminants of gasoline to the soil. The State Water Resources Control Board cleanup status history case start date was September 20, 1990, and the cleanup is completed and the case was closed May 16, 1991. *(Refer to Figure F-8 Curnow Road Yard)*

3.6.14 Milli Transportation, Inc.

Milli Transportation, Inc. is located at 10604 South "H" Street, Bakersfield, California, approximately .50 miles northwest of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records show no violations and one Hazardous Material Business Inventory (Environmental Protection Agency ID CAL000414772) was submitted on September 30, 2016.

Milli Transportation, Inc. Hazardous Materials Business Inventory		
Chemical Name	**Hazard Label**	**Average Daily Amount Range**
ARGON MIX WITH CARBON DIOXIDE	FIRE	0-2599 CUBIC FEET
GREASE	FIRE	500-999 POUNDS
MOTOR OIL	FIRE	60-119 GALLONS
OXYGEN	FIRE	0-2599 CUBIC FEET
USED OIL FILTERS	FIRE	100-499 POUNDS
WASTE OIL	FIRE	60-119 GALLONS

3.6.15 Souza Properties

Souza Properties is located at 9869 South Union Avenue, Bakersfield, California, approximately 1 mile northeast of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records (State Water Resources Control Board ID T0602900554) show that the property had a Leaking Underground Storage Tank Cleanup Site for potential contaminants of gasoline to the soil. The State Water Resources Control Board cleanup status history case start date was May 21, 1993, and the cleanup is completed and the case was closed November 15, 1994. The Kern County Environmental Health Service Department issued a closure letter dated November 15, 1994. *(Refer to Figure F-4 Souza Properties)*

3.6.16 TBS Properties

TBS Properties is located at 2909 Houghton Road, Bakersfield, California, approximately 1 mile southwest of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records show no violations and one Hazardous Material Business Inventory was submitted on June 13, 2017 for Propane (Hazard Label – FIRE) with an average daily amount range of 120-599 Gallons.

3.6.17 T-Mobile West Corporation SV00460A

T-Mobile West Corporation SV00460A is located at 1260 Shafter Road, Bakersfield, California, approximately 1 mile south of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records show no violations and no Hazardous Material Business Inventory.

3.6.18 H & H Truck Service

H & H Truck Service is located at 9889 South Union Avenue, Bakersfield, California, approximately .96 miles northeast of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records (State Water Resources Control Board ID SLT5FU065560) that the site was referred to the Regional Water Quality Control Board for Cleanup Program from the Kern County Environmental Health Service Department for potential contaminants of petroleum fuel to the soil. On January 6, 1987 a report indicated that a truck service steam cleaning the exterior of oil field tankers used a sump for disposal of wastewater. Samples of sediment from the sump for selected metals and for volatile hydrocarbons were taken from the sump. Analytical results do not indicate any constituents at concentrations of concern. H & H Truck Service has installed a new water filtration system to recycle wash water, and wastewater filtered from the wash water is separated and piped to an above ground storage tank. The State Water Resources Control Board cleanup status history case start date was January 6, 1987, and the cleanup is completed and the case was closed May 15, 2014. The Kern County Environmental Health Service Department indicated that the sump no long exists and the cleanup status is completed and the case is closed as of May 15, 2014. *(Refer to Figure F-5 H & H Truck Service)*

3.6.19 Greenfield Auto Truck Center

Greenfield Auto Truck Center is located at 9721 South Union Avenue, Bakersfield, California, approximately 1 mile northeast of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records (State Water Resources Control Board ID T0602900332) show that the property had a Leaking Underground Storage Tank Cleanup Site for potential contaminants of gasoline to the soil. The State Water Resources Control Board cleanup status history case start date was May 15, 1990, and the cleanup is completed and the case was closed June 9, 2003. *(Refer to Figure F-6 Greenfield Auto Truck Center)*

3.6.20 Kern Delta Water District

Kern Delta Water District is located at 501 Taft Highway, Bakersfield, California, approximately 1 mile northeast of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records (State Water Resources Control Board ID T0602900556) show that the property had a Leaking Underground Storage Tank Cleanup Site for potential contaminants of diesel to the soil. The State Water Resources Control Board cleanup status history case start date was June 8, 1993, and the cleanup is completed and the case was closed January 7, 1994. *(Refer to Figure F-7 Kern Delta Water District)*

3.6.21 B S Baldwin Dairy

B S Baldwin Dairy is located at 3151 Engle Road, Bakersfield, California, approximately 1.2 miles west of proposed project. *(Refer to Figure E-1 Aerial Photograph – One Mile Radius)*

California Environmental Protection Agency (CalEPA Regulated Site Portal) online website records (State Water Resources Control Board ID T060290047) show that the property had a Leaking Underground Storage Tank Cleanup Site for potential contaminants of gasoline to the soil. The State Water Resources Control Board cleanup status history case start date was November 26, 1991, and the cleanup is completed and the case was closed January 24, 1997. *(Refer to Figure F-9 B S Baldwin Dairy)*

4.0 Site Reconnaissance

A site reconnaissance visit was conducted on June 15, 2017 for the proposed project and the surrounding areas. This section provides the methodology for the site reconnaissance visit, and specific onsite and offsite observations.

4.1 Methodology

The objective of the site reconnaissance is to visually inspect and observe current physical conditions of the proposed project and its surroundings. Emphasis was placed on the proposed project area to determine if visible and recognizable hazardous materials and/or substances were present on the property. Prior to the site reconnaissance visit, all available environmental records and historical aerial photographs of the proposed project were reviewed in an attempt to identify those locations where hazardous materials could have been stored or discarded. The objective of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions such as

hazardous substances and petroleum products in connection with the proposed project, including soils, surface waters, and groundwater.

4.2 Proposed Project - Onsite Observations

Table 4-1 summarizes conditions encountered during the site reconnaissance on the proposed project. An explanation of the visual observations follows Table 4-1 Summary of Site Reconnaissance. *(Refer to Hazardous Materials Evaluation, prepared by McIntosh & Associates, dated July 2008)*

Table 4-1 Summary of Site Reconnaissance

Site Reconnaissance		
Proposed Project Feature's	**Observed**	**Not Observed**
Structures (existing)	X	
Evidence of past uses (foundations, debris)	X	
Hazardous substances and/or waste oil in containers	X	
Aboveground storage tanks (ASTs)	X	
Underground storage tanks (USTs) or evidence of USTs		X
Underground petroleum/natural gas pipelines	X	
Strong, pungent or noxious odors		X
Pools of liquid; hazardous materials or petroleum products		X
Drums		X
Unidentified substance containers		X
Potential polychlorinated biphenyl (PCB) - containing equipment	X	
Subsurface hydraulic equipment		X
Heating/ventilation/air conditioning (HVAC) units		X
Stains or corrosion on floors, walls or ceilings		X
Floor drains and sumps		X
Canals, pits, ponds, ditches or lagoons	X	
Stained soil and/or pavement greater than de minimis		X
Stressed vegetation		X
Waste or wastewater discharges to the ground surface or surface waters on the proposed project (including storm water)		X
Wells (irrigation, domestic, dry, injection, abandoned, and monitoring wells)	X	
Cleanout ports for septic systems		X

- The proposed project was observed to be agricultural land and cultivated and ready for growing crops. Pacific Gas and Electric Company have single pole mounted transformers at the southwest corner and approximately in the center along the west boundary edge of the proposed project. Steel irrigation standpipes were along the

west boundary edge of the proposed project. *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photos 1 and 2)*

- The proposed project had an irrigation water well on the west side, powered by a late model Cummins engine with an associated diesel aboveground storage tank mounted on a flatbed trailer approximately in the center along the west boundary edge of the proposed project. One 5 gallon bucket containing a small amount of waste oil was observed between the Aboveground Storage Tank and the pump turbine. There was no oil or diesel stained soil that was observed around the location of the irrigation water well. A decomposing concrete lined irrigation ditch was observed adjacent to the well location. *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photos 3 and 4)*

- The proposed project had an irrigation water well at the northwest corner of the proposed project that has been abandoned. There was no oil or diesel stained soil that was observed around the location of the irrigation water well. *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photo 5)*

- An unlined ditch was observed on the south side of the Di Giorgio Road unpaved alignment at the northeast corner of the proposed project. The ditch marks the boundary between the proposed project and the adjacent offsite agricultural land to the north. *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photo 6)*

- The proposed project has an electrically operated domestic water well with associated pressure and a storage tank on the north side of the easternmost portion of the property. There is one pole mounted electrical transformer located offsite and to the north of the domestic water well (4) PMT. *(Refer to Figure A-11 Pole Mounted Electrical Transformers Map) (Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photos 7 and 8)*

- A steel shop building fixed to a concrete foundation with a floor area of 3,840 square feet was observed south of the domestic well. Natural gas service lines on the east side of the building, an open canopied carport, out-of-serviced electrical panel/meter, and one pole mounted electrical transformer located on the north side at the easternmost portion of the proposed project (5) PMT. *(Refer to Figure A-11 Pole Mounted Electrical Transformers Map) (Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photos 7 and 9)*

- The offsite Pacific Gas and Electric Company, (South Union Avenue natural gas meter and regulation Station 269.45-B) within the chain link fence and gravel surface located at the northwest corner of South Union Avenue and Mugsy Avenue which is

located 1,333 feet north of Houghton Road. *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photo 10)*

- The proposed project was observed to be agricultural land and cultivated and ready for growing crops. *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photo 11)*

- At the t-intersection of Houghton Road and Chevalier Road at the proposed project, adjacent to the tail water booster pump, brushy retention basin, wooden beehives and one pole mounted electrical transformer. *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photos 12 and 13)*

- The proposed project was observed to be agricultural land and alfalfa is the current crop. *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photo 14)*

- Higgins Auto Wrecking, Inc. is located at 12825 South Union Avenue, Bakersfield, California, and is adjacent to the proposed project at the southeast corner of the property at the intersection of Highway 204 (South Union Avenue) and Houghton Road. Records listed that Higgins Auto Wrecking has no violations. *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photo 15)*

- The proposed project was observed to be agricultural land and alfalfa is the current crop. *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photo 16)*

- The proposed project was observed to be agricultural land and the property is not cultivated for growing crops. *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photo 17)*

- The proposed project was observed to be agricultural land and the property has been cultivated for growing crops. *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photo 17)*

- The proposed project was observed to be agricultural land and the property has been cultivated for growing crops, and old tires, debris and palm fronds are along the east edge of property. A row of palm trees are along the east edge of the proposed project and Highway 204 (South Union Avenue). *(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photos 18 and 19)*

- The adjacent property along Highway 204 (South Union Avenue) and the east edge of the proposed project with rural residential with corrals and equestrian facilities.

(Refer to Figure G-1 Aerial Photograph Index) (Refer to Figure G-2 Site Photos – Photo 20)

4.3 Adjacent Properties and Usages

The current adjacent properties and roads usages. *(Refer to Table 4-2 Adjacent Properties Usages) (Refer to A-2 Aerial Photograph Proposed Project Location) (Refer to E-1 Aerial Photography – One Mile Radius) (Refer to E-4 Higgins Auto Wrecking, Inc.)*

Table 4-2 Adjacent Properties Usage

Direction	Adjacent Roads	Adjacent Properties Usage
North	Di Giorgio Road Unpaved Western Alignment	Agricultural Land - Grapes
South	Houghton Road	Undeveloped Agricultural Land and State Highway 99 off ramp south of Houghton Road.
East	Highway 204 (South Union Avenue) is adjacent to 40 acres in the easternmost portion	Agricultural Land and rural residential with corrals and equestrian facilities, and mobile homes along Highway 204 (South Union Avenue) and on the northeast, east and southeast adjacent to the proposed project. There is an automobile wrecking yard (Higgins Auto Wrecking, 12825 South Union Avenue) located adjacent to the southeast portion of the proposed project.
West	State Highway 99	State Highway 99; Undeveloped Agricultural Land

4.3.1 Pole Mounted Electrical Transformers

There are four pole mounted electrical transformer that are located on the proposed project, and two addition pole mounted electrical transformers are adjacent to the proposed project. The ground surface below each pole mounted electrical transformer displayed no evidence of discoloration from fluid leakage. *(Refer to Table 4-3 Pole Mounted Electrical Transformer Locations) (Refer to Figure A-11 Pole Mounted Electrical Transformers Map) (Refer to Hazardous Materials Evaluation, prepared by McIntosh & Associates, dated July 2008)*

Table 4-3 Pole Mounted Electrical Transformer Locations

Location	Number of *PMTs	*PG&E Power Rating	Year Installed
PMT (1) - Southwest corner of the proposed project on the north side of the Houghton Road overpass.	1	15 *KvA [1]	1990

PMT (2) - Along the west boundary adjacent to the overhead electric freeway message sign.	1	15 *KvA [1]	1994
PMT (3) – Offsite - Adjacent to the Northeast corner of the proposed project. Blue label affixed to the transformer, indicating that it is free of electrolytic fluid containing *PCBs.	1	150 *KvA [3]	1999 [B]
PMT (4) – Offsite – North of the electrically operated domestic water well and storage tank	1	15 *KvA [1]	2007 [B]
PMT (5) - Located north of the Northeast corner of steel shop building on the proposed project	2	15 *KvA [1] 25 *KvA [1]	1991 1976
PMT (6) - North of Houghton Road on the proposed project and adjacent to the tail water booster pump and brushy retention basin	1	10 *KvA [1] 10 *KvA [1]	1986 1986

[1] Single-Phase Transformer
[3] Three-Phase Transformer
[B] Blue sticker indicates transformer is confirmed PCB-free
*KvA - Kilovolt-Amperes
*PG&E - Pacific Gas and Electric Company
*PMTs – Pole Mounted Transformers
*PCBs – Polychlorinated Biphenyls

4.3.2 Pacific Gas and Electric Company Subsurface Pipelines

Pacific Gas and Electric Company (PG&E) 34 inch diameter active natural gas transmission pipeline (Line 300-B) underlies the proposed project. Its location and physical characteristics are listed in Table 4-4 Pacific Gas and Electric Company Subsurface Pipelines. The natural gas transmission pipeline traverses from State Highway 99 in the northwest to the south line bordering the easternmost portion of the proposed project. The natural gas transmission pipeline then traverse due east for approximately 1/4 mile passing through the offsite Pacific Gas and Electric Company (PG&E), (South Union Avenue natural gas meter and regulation Station 269.45-B) located at the northwest corner of South Union Avenue and Mugsy Avenue which is located 1,333 feet north of Houghton Road. Pacific Gas and Electric Company (PG&E) active 6 inch diameter active natural gas distribution pipeline traverses north to south and is located on the west side of Highway 204 (South Union Avenue) right-of-way. *(Refer to Figure A-10 Petroleum and Natural Gas Pipeline Map) (Refer to Petroleum and Natural Gas Pipeline Assessment, prepared by McIntosh & Associated Engineering, Inc., dated July 2017)*

Table 4-4 Pacific Gas and Electric Company Subsurface Pipelines

Pipeline Identifier	Diameter Pipeline	Year Installed	Operating Pressure Pounds Per Square Inch
(PG&E*) Natural Gas Transmission Pipeline (Line 300-B) underlies the proposed project	34 Inches	1950	700
(PG&E*) Natural Gas Distribution Pipeline traverses north to south along the west side of Highway 204 (South Union Avenue) right-a-way	6 Inches	Not available	60

*PG&E – Pacific Gas and Electric Company

5.0 Proposed Project Usage Survey

The proposed project usage survey included determining the property history with respect to hazardous materials by examining and interpreting visible features on aerial photographs, reviewing County of Kern property assessment records, and summarizing replies in a Hazardous Materials Evaluation Questionnaire provided by Mr. Randy Becker, manager of 99 Houghton LLC. *(Refer to Hazardous Materials Evaluation Report, prepared by McIntosh & Associates, dated July 2008)*

5.1 Site History

5.1.1 Aerial Photographs Interpretation

Available historical aerial photographs for the years 2008, 2009, 2011, 2012, 2013, 2014, 2015 and 2016 were reviewed to assess the history of the proposed project. These aerial photographs were printed from Google Earth online website. *(Refer to Table 5-1 Summary of Aerial Photographs Review) (Refer to Appendix B – Figures B-1 (2008), B-2 (2009), B-3 (2011), B-4 (2012), B-5 (2013), B-6 (2014), B-7 (2015) and B-8 (2016) Aerial Photographs) (Refer to Hazardous Materials Evaluation Report, prepared by McIntosh & Associates, dated July 2008) (Refer to Figures E-1 (1937), E-2 (1952), E-3 (1956), E-4 (1963), E-5 (1975), E-6 (1981), E-7 (1990), E-8 (1995), E-9 (2000), E-10 (2002), E-11 (2003) and E-12 (2006) Aerial Photographs)*

Table 5-1 Summary of Aerial Photographs Review

AERIAL PHOTOGRAPHS YEARS 2008, 2009, 2011, 2012, 2013, 2014 and 2016		
Aerial Photo Years	**Proposed Project Use**	**Proposed Project and Adjacent Properties**
Figure B-1 **YEAR 2008** Date: 03/31/2008	Agricultural Land	The proposed project is comprised of agricultural land. Some of the proposed project has crops growing, and the rest has been cultivated and ready for growing crops. A brushy retention basin is on the south edge of the proposed project and has been used for agriculture purposes. A steel shop building is located on the east side near Highway 204 (South Union Avenue) along Lamb Avenue. The proposed project is adjacent to other related agricultural land, rural residential properties, and an automobile wrecking yard (Higgins Auto Wrecking) located adjacent to the southeast portion of the proposed project.
Figure B-2 **YEAR 2009** Date: 05/24/2009	Agricultural Land	Conditions on the proposed project and other adjacent properties appear relatively similar to those observed in the year 2008 aerial photograph.
Figure B-3 **YEAR 2011** Date: 04/29/2011	Agricultural Land	Conditions on the proposed project and other adjacent properties appear relatively similar to those observed in the years 2008 and 2009 aerial photograph.
Figure B-4 **YEAR 2012** Date: 08/07/2012	Agricultural Land	Conditions on the proposed project and other adjacent properties appear relatively similar to those observed in the years 2008, 2009 and 2011 aerial photographs.
Figure B-5 **YEAR 2013** Date: 07/30/2013	Agricultural Land	Conditions on the proposed project and other adjacent properties appear relatively similar to those observed in the years 2008, 2009, 2011 and 2012 aerial photographs.
Figure B-6 **YEAR 2014** Date: 04/15/2014	Agricultural Land	Conditions on the proposed project and other adjacent properties appear relatively similar to those observed in the years 2008, 2009, 2011, 2012 and 2013 aerial photographs.

Figure B-7 **YEAR 2015** Date: 03/26/2015	Agricultural Land	Conditions on the proposed project and other adjacent properties appear relatively similar to those observed in the years 2008, 2009, 2011, 2012, 2013 and 2014 aerial photographs.
Figure B-8 **YEAR 2016** Date: 10/20/2016	Agricultural Land	The conditions on the proposed project and other adjacent properties appear relatively similar to those observed in the years 2008, 2009, 2011, 2012, 2013, 2014 and 2015. The proposed project is comprised of agricultural land. Some of the proposed project has crops growing, and the rest has been cultivated and ready for growing crops. Brushy retention basin is on the south edge of the proposed project and has been used for agriculture purposes. A steel shop building is located on the east side near Highway 204 (South Union Avenue) along Lamb Avenue. The proposed project is adjacent to other related agricultural land, rural residential properties, and an automobile wrecking yard (Higgins Auto Wrecking) located adjacent to the southeast portion of the proposed project.

5.1.2 Kern County Assessor Recorder's Office

Table 5-2 Kern County Assessor Recorder's Office Appraisal History records were reviewed for the proposed project. The following information was provided:

Table 5-2 Kern County Assessor Recorder's Office Appraisal History

Available Kern County Building Permit Number	Year of Appraisal Record	Description of Appraised Property
8244	1990	48 x 80 Steel Shop Building
15161	1990	Update Electrical
62	1987	Destroyed Old Water Well
	1977	6 Cycle Diesel Engine
	1973	5 Horsepower Tail Water Pump
	1971	New 687 Foot Deep Water Well
	1963	60 Horsepower Pump
	1959	100 Horsepower Pump
	1954	Concrete Ditch

No storage structures or vessels designed for or containing hazardous materials or wastes were reported by the Kern County Assessor Recorder's Office for the proposed project. *(Refer to Hazardous Material Evaluation Report, prepared by McIntosh & Associates, dated July 2008)*

5.1.3 Kern County Building Inspection Department

The Kern County Building Inspection Department was contacted in order to obtain historical building permit information for the proposed project. No building permits were found in the county records for the proposed project Assessor's Parcel Numbers. No permits for items such as underground storage tanks, septic systems, building, demolition, or any previous structures are on file for the proposed project. *(Refer to Hazardous Material Evaluation Report, prepared by McIntosh & Associates, dated July 2008)*

5.1.4 Utilities

Pacific Gas and Electric Company (PG&E) is currently serving or would serve the proposed project. The County of Kern requires the developer to install street lights and Pacific Gas and Electric Company (PG&E) would own and maintain the entire street lighting system.

Atlantic Telephone and Telegraph Company (ATT&T) current facilities would not currently support and serve a development of this size, but would reinforce their facilities as needed to satisfy the growth.

Water on the proposed project is currently used solely for irrigation for the agricultural crops, and it does not service the property with domestic water or provide recharge water at this time. Greenfield County Water District has indicated it cannot provide adequate water for the proposed project and would not serve the property. Kern Delta Water district does not provide drinking water, but currently manages the groundwater in the vicinity of the proposed project, primarily by importing high quality surface water supplies (Kern River) that percolate into the aquifers to augment and/or replace the amount of groundwater pumped. The proposed project is located in a non-adjudicated water basin, therefore the developer has the overlying right to pump groundwater from the property. The proposed project distribution system would consist of a potable water treatment plant, storage tanks, booster pumps for the pumped groundwater, reclaimed water treatment plant with tank storage and booster pumps for the recycled water system, and water lines. The water system shall be designed and constructed to comply with Kern County Development Standards and maintaining the water supply.

Sewer System for the proposed project area has never been provided, and currently the neighboring residential and commercial properties are served by individual and privately owned septic systems. The developer would be required to construct a new wastewater plant facility for the proposed project that could cause significant environmental effects.

Based on wastewater generation rate for general commercial and industrial development uses utilized by the County of Kern, the proposed project would result in the generation of 2.91 million gallons per day of wastewater. The new wastewater package plant facility shall be constructed according to State specifications and shall be operated in such a way as to not contaminate the underlying unconfined aquifer, and not cause a nuisance to existing agricultural land, neighboring residential and commercial properties. *(Refer to Public Services Report Final, prepared by McIntosh & Associates Engineering, Inc., dated June 2017) (Refer to Public Services Report, prepared by McIntosh & Associates, dated October 2008)*

6.0 Impacts

The Lead Agency (County of Kern) typically bases a determination of hazardous materials significance on the thresholds established by the California Environmental Quality Act (CEQA) Guidelines. The Environmental Checklist Form of the California Environmental Quality Act Guidelines contains a list of effects that may be deemed potentially significant. The following questions are found in the Hazards and Hazardous Materials Section of Environmental Checklist "G":

a) Would the proposed project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Typically, general/retail commercial businesses do not generate, store, or dispose of significant quantities of hazardous materials. Highway commercial businesses may include fueling stations and vehicle repair facilities that sell or use and dispose of small quantities of petroleum products and wastes in conformance with conditions of respective Hazardous Materials Business Inventory permits issued by the Kern County Environmental Health Services Department. No significant impacts are anticipated to the public or the environment.

b) Would the proposed project create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The routine transport, use, or disposal of hazardous materials during construction activities is temporary. Excavation, grading, framing, glazing, masonry, plumbing, and other construction activities for the proposed project are not anticipated to release hazardous materials or present significant hazards to construction workers, the general public, or the environment.

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

The proposed project is not located within one-quarter mile of an existing school or a proposed school.

d) Is the proposed project 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?

The proposed project is not located on a site which is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5; therefore, it would not create a significant hazard to the public or the environment.

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

The proposed project is not located within two mile of a public airport or public use airport.

f) For a proposed project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Private airstrips had been located: 1) northwest of the proposed project in the North Half of Section 2, Township 31 South, Range 27 East; and 2) Southeast of the proposed project in the West Half of Section 16, Township 31 South, Range 28 East. Current aerial photographs indicate that these airstrips no longer exist.

g) Would the proposed project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Previously adopted emergency response plans or emergency evacuation plans will not be impaired by the implementation of the proposed project.

h) Would the proposed project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Wildlands are not situated adjacent to the proposed project; therefore, wildland fires are not a source of concern.

6.1 Onsite Features of Potential Concern

6.1.1 Abandoned Petroleum Prospect Oil Well

McIntosh and Associates Engineering, Inc. reviewed State of California, Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) online website records and the Wildcat Map W4-1 identified that one exploration oil well that was drilled near the north boundary of the proposed project. The Big McKittrick Oil Company drilled one exploration well "Sea Cliff-Houghton" 1, Well Number 1, and American Petroleum Institute (API) Number 02932362 on October 31, 1934. The well is east of the present of State Highway 99, along Di Giorgio Road and along the north portion of the proposed project. The well failed to produce oil or gas and was subsequently abandoned in October 9, 1935. *(Refer to Figure C-1 Division of Oil, Gas and Geothermal Resources (DOGGR) Map) (Refer to Figure C-2 DOGGR Data #02932362)*

McIntosh and Associates Engineering, Inc. evaluated the drilling history and descriptions of conventional cores of the "Sea Cliff-Houghton" 1 oil well to its total depth of 6,756 feet below ground surface. There was one gas show that was reported for two foot interval from 2,077 feet to 2,079 feet below ground surface. The well never produced or gas and is not consider to pose current recognizable environmental risks to the proposed project. Because the well was filled only with drilling mud prior to abandonment in the year 1935, the Division of Oil, Gas and Geothermal Resources would require that the well be re-abandoned to current standards prior to grading and development of the proposed project. Mitigation is expected to be required. *(Refer to Figure C-2 DOGGR Data #02932362)*

6.1.2 Pacific Gas and Electric Company Natural Gas Transmission Pipelines

Pacific Gas and Electric Company (PG&E) built, operated and maintains (Line 300-B) an active natural gas transmission pipeline which traverses from the northwest to the southeast through proposed project, and was constructed and buried in the year 1950. The 34 inch diameter pipeline external coating includes primer, paint, two coats of asphalt, and two layers of felt. The depth of the pipeline is estimated at 36 inches to 60 inches below surface which allows the surface farmer to shallow plow and disc the soil above the pipeline a reasonable amount without endangering the pipeline. The natural gas transmission pipeline maximum operating pressure is approximately 700 pound per square inch gauge (psig). With the implementation of proposed mitigation measures, impacts from potential health risks or damaging incidents associated with the onsite Pacific Gas and Electric Company

(PG&E) pipeline are reduced to a level of less than significant. *(Refer to Figure A-10 Petroleum and Natural Gas Pipeline Map)*

Pacific Gas and Electric Company (PG&E) operate a 6 inch diameter natural gas distribution pipeline operating at a maximum pressure of 60 pounds per square inch gauge (psig) is located on the west side of Highway 204 (South Union Avenue) right-of-way. Only the 6 inch pipeline has a segment adjacent to the proposed project which would require street improvements above the pipeline. With the implementation of proposed mitigation measures, impacts from potential health risks or damaging incidents associated with the 6 inch offsite Pacific Gas and Electric Company (PG&E) pipeline are reduced to a level of less than significant. *(Refer to Figure A-10 Petroleum and Natural Gas Pipeline Map)*

Operation of the existing 34 inch natural gas transmission pipeline the potential impacts are reduced with the use of pipeline markers, signs and underground warning tape and further reduced by enhanced safety features, including intrusion detection and leak monitoring system (central control room via supervisory control and data acquisition to detect third party dig-in), automatic and remote controlled shut-off valves. Given the design of the pipeline, recently imposed integrity management protocol for all utility pipeline operators, and pipeline monitoring and reporting requirements, the potential impacts associated with reasonably foreseeable upset and accident conditions during the operation of the existing pipelines within the proposed project would be less than significant. *(Refer to Petroleum and Natural Gas Pipeline Assessment, prepared by McIntosh & Associated Engineering, Inc., dated July 2017)*

6.1.3 Water Wells and Pumps

Two active, diesel powered irrigation wells are situated on the proposed project. The west water well is located adjacent to State Highway 99 where a concrete lined ditch also serves as an identifying landmark on the proposed project. The northwest well is located near the northwest corner of the proposed project. In the fall of year 2006, petroleum stained soil was removed from each water well irrigation location and transported to the McKittrick Waste Site in western Kern County. No diesel or waste oil staining was observed on the ground surface at either irrigation water well location during the site reconnaissance for this study that was conducted on June 15, 2017. The irrigation water wells are considered to be less than significant impacts to the proposed project. At least one well may be expected to supply water for dust suppression when the proposed project is excavated. If the water wells are not to be used for irrigation or industrial purposes, they should be destroyed in accordance with California Well Standards as governed by the California Department of Water Resources, and permit requirements of the Kern County Environmental Health Services Department.

The domestic water well located north of the steel shop building is also considered to be a less than significant impact to the proposed project. The water well need not be destroyed

if it is preferable to utilize it according to Federal, State, and Kern County Environmental Health Services Department regulations. The proposed project is located in a non-adjudicated water basin, therefore the developer has the overlying right to pump groundwater from the property. Greenfield County Water District has indicated it cannot provide adequate water for the proposed project and would not serve the property. Ker Delta Water District does not provide drinking water, but currently manages the groundwater in the vicinity of the proposed project. The proposed project distribution system would consist of a potable water treatment plant, storage tanks, booster pumps for the pumped groundwater, reclaimed water treatment plant with tank storage and booster pumps for the recycled water system, and water lines. The water system shall be designed and constructed to comply with Kern County Development Standards and maintaining the water supply. *(Refer to Water Supply Assessment Final, prepared by McIntosh & Associates Engineering, Inc., dated July 2017)*

6.1.4 Agricultural Activities

Applications of pesticides and herbicides have been conducted according to Restricted Materials Permits obtained annually from the Kern County Agricultural Department and Measurement Standards (Agricultural Commissioner) office. The Kern County Agricultural Department Commissioner's Office currently issues annual Restricted Materials Permit No. 1502896 to Mitchell Property Management LP and monitors the applications of agricultural chemicals. *(Refer to Farmland Conversion Study Report Final, prepared by McIntosh & Associates Engineering, Inc., dated June 2017) (Refer to Farmland Conversion Study, prepared by McIntosh & Associates, dated March 2017 and May 2009)*

Agricultural chemicals in use today are applied in diluted concentrations, and, when used properly, degrade relatively quickly. However, some environmentally persistent pesticides can linger in the soil for many years. It is not known if environmentally-persistent pesticides and herbicides were ever applied to the proposed project. McIntosh and Associates Engineering, Inc. sampling and analysis of surface soils from proposed project with similar pesticide and herbicide application histories has typically yielded non-detectable results for analyses of environmentally persistent pesticides and herbicides. Therefore, the potential for elevated concentrations of environmentally persistent pesticides to exist in the near surface soils of the proposed project, which would require regulatory action, is low.

The agricultural activities conducted at the proposed project may have impacted near surface soils with residual concentrations of pesticides, herbicides and associated metals. The most likely chemicals of concern might be chlorinated pesticides and associated metals, and they could be considered an environmental impact to the proposed project. Considering the land uses arising from the proposed zoning change to each parcel, historical applications of permitted agricultural chemicals to the soil are not anticipated to pose adverse impacts to the proposed project. Therefore, no mitigation measures are recommended.

It is possible that asbestos containing materials could be present in subsurface concrete irrigation (transite) pipes on the proposed project. Concrete pipe was documented in information obtained from the Kern County Assessor Recorder's Office. If concrete subsurface irrigation pipe is located on the proposed project, the San Joaquin Valley Unified Air Pollution Control District shall be contacted for proper disposal procedures and requirements. Transite pipe at the proposed project would then be removed and properly disposed, but it is considered to be a less than significant impact.

6.1.5 Pole Mounted Electrical Transformers

Four pole mounted electrical transformer are located on the proposed project. The pole mounted electrical transformers appear to be in good condition and there is no apparent corrosion. The ground surface below each pole mounted transformer displayed no evidence of discoloration.

The Pacific Gas and Electric Company (PG&E) is the owner of the pole mounted electrical transformers. The Pacific Gas and Electric Company's transformer database, compiled circa 1990, does not indicate whether polychlorinated biphenyls (PCBs) are present in the electrolytic fluids of older transformers, especially those installed prior to the year 1990. However, pole mounted transformers installed subsequent to 1990 likely do not contain polychlorinated biphenyl (PCB) insulating fluids. Pole mounted electrical transformers and re-closers labeled with a blue "non-PCB" sticker do not contain polychlorinated biphenyls (PCB) fluids. It is unknown if the onsite pole mounted transformers absent blue "non-PCB" stickers contain polychlorinated biphenyls (PCB) fluids. Based on the visual absence of apparent unauthorized releases of insulating fluids from the electrical transformers they are considered to be less than significant impacts to the proposed project. Pacific Gas and Electric Company (PG&E) should be contacted for their removal prior to the proposed project development.

6.1.6 Steel Shop Building Location

A steel shop building fixed to a concrete foundation with an area of 3,840 square feet is located south of the domestic well in the easternmost portion of the proposed project. A cylinder shaped propane Aboveground Storage Tank was observed near the northeast corner of the building. Natural gas service lines were observed on the east side of the building. The canopied carport formerly utilized to store used tires was observed west of the shop building. A cradle mounted waste oil Aboveground Storage Tank on the south side of the shop building. The shop building and carport are expected to be demolished; a demolition permit obtained from the Kern County Building Inspection Department may be required. The propane Aboveground Storage Tank is considered a less-than-significant impact, and appears to be in good condition and might conceivably be utilized elsewhere. Final disposition for the former waste oil Aboveground Storage Tank is considered a less

than significant impact, and shall consist of transport to a local metals dismantling/recycling facility for destruction.

6.2 Proposed Project Impacts

Approval of the proposed project by the County of Kern would allow for light industrial and commercial uses. Commercial uses may result in increased risks from hazardous materials. These types of commercial uses may allow the installations of aboveground and underground storage tanks utilized for fueling vehicles and backup generators (this short list is not all-inclusive). These uses could potentially result in environmental impacts from hazardous materials and/or substances. However, various government entities require permits for the abovementioned concerns. These various permits require controls that would reduce the potential impacts to a less than significant level. The proposed project would comply with all applicable rules and regulations dealing with hazardous materials and/or substances from the following agencies:

- San Joaquin Valley Air Pollution Control District
- California Regional Water Quality Control Board
- California Integrated Waste Management Board
- California Department of Toxic Substances Control
- California Office of Environmental Health Hazard Assessment
- Kern County Department of Environmental Health Services
- Kern County Fire Department

The proposed project is not located within two miles of a public airport or public use airport, and does not constitute a remote safety hazard. In addition, the proposed project is not located within one-quarter mile of a school.

The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, and/or disposal of hazardous materials. It would not create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The proposed project would not be a source of hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing school or proposed school.

6.2.1 Government Code, Section 65962.5

The California Legislative Information for Section 65962.5 (a) - The Department of Toxic Substances Control shall compile and update as appropriate, but at least annually, and shall submit to the Secretary for Environmental Protection a list of all of the following:

- Section 65962.5 (1) - All hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.
    - Health and Safety Code (HSC) Section 25187.5 (a) – If corrective action is not taken on or before the date specified in an order issued pursuant to Section 25187, or if in the judgement of the department immediate corrective action is necessary to remedy or prevent an imminent substantial danger to the public health, domestic livestock, wildlife, or the environment, the department may take, or contact for the taking of, that corrective action and recover the cost.

The proposed project is not included on any hazardous materials sites lists. The proposed project would not create a hazard to the public or environment through the transport, disposal and/or use of hazardous materials, and it would not create a public hazard through emissions of hazardous materials, accidental or otherwise.

6.2.2 Wildlands

Wildlands are not located adjacent to the proposed project.

7.0 Mitigation

Hazardous materials are generally substances that, by their nature and reactivity, have the capacity to cause harm or create a health hazard during normal exposure or an accidental release.

- If during excavation and construction a pipeline accident occurs, potential unknown buried hazardous materials are found, and/or if unidentified materials are discovered in the prescribed soil testing, health and safety procedures shall be implemented. Procedures shall include, at a minimum, emergency medical treatment, evacuation of the site and/or threatened area, and notification action. Notification shall be determined by the appropriate agency which may include but not be limited to the following agencies: Kern County Department of Environmental Health Services, Kern County Fire Department, San Joaquin Valley Unified Air Pollution Control District, and the California Regional Water Quality Control Board. Evacuation and determination regarding the type of contamination encountered and best course of action would be determined by the ranking official and any required remediation measures shall be implemented. All work would stop immediately if any heretofore unknown soil or other hazardous materials concerns arise during any part of the testing, excavation and/or construction on the proposed project.

7.1 Abandoned Petroleum Prospect Well

The State of California, Department of Conservation, Division of Oil, Gas and Geothermal Resources show that the well "Sea Cliff-Houghton" 1 was drilled on October 31, 1934 and abandoned on October 9, 1935 on the proposed project. This indicates that commercial quantities of oil are not likely to underlie the proposed project.

The abandoned well "Sea Cliff-Houghton" 1 shall be located, exposed, and re-abandoned to conform to the current abandonment requirements of the California Division of Oil, Gas and Geothermal Resources and the Kern County Department of Environmental Health Services at (661) 862-8740. A preliminary summary program for re-abandonment was proposed and provided by the Program Management Engineer in the Bakersfield office of the California Division of Oil, Gas and Geothermal Resources at (661) 322-4031:

- Clean out the well to depth 4,200 feet
- Fill well with fresh drilling fluid (mudding the hole)
- Set cement plugs from 4,200 to 4,100 feet; shoe plug from 735 to 635 feet; and surface plug from 25 lineal feet below ground surface to final grade
- Fill the annular space between the 13 inch and 9 inch diameter casing strings
- Weld a steel plate over the tops of the casings

7.2 Pacific Gas and Electric Company Natural Gas Transmission Pipelines

In order to mitigate impacts encountered during excavation and construction you are required to follow regulations and guidelines before grading. *(Refer to Petroleum and Natural Gas Pipeline Assessment, prepared by McIntosh & Associated Engineering, Inc., dated July 2017)*

- Prior to grading or excavating the Underground Service Alert One-call center shall be contacted at (800) 227-2600. The proposed excavation area shall be delineated by the grading or excavation contractor with white marking paint or with other suitable markers such as flags or stakes at least two days prior to commencing any excavation work. A "Dig Alert" ticket number would be issued at the time Underground Service Alert is contacted. Excavating is not permitted without this ticket number and is valid for twenty-eight days. Underground Service Alert would notify its member utilities having underground facilities in the area. Underground Service Alert does not notify nonmember utilities or energy companies, or Caltrans.

- If a rupturing of a pipeline should occur during excavation and construction activities the Kern County Fire Department and Pacific Gas and Electric Company should be contacted immediately. A natural gas transmission pipeline rupture most often

indicates an emergency situation and 9-1-1 should be dialed. If an emergency is not indicated, the Kern County Fire Department - Greenfield Station 52, located at 312 Taft Highway, should be contacted at (661) 834-5144. Non-Emergency telephone numbers for the Kern County Fire Department number (661) 324-6551 and the developer shall follow all safety and cleanup regulations. Pacific Gas and Electric Company's 24 hour emergency contact number is (800) 743-5000.

8.0 Conclusions

Impacts related to hazardous materials and hazardous substances are considered site-specific and are generally mitigated to less than significant levels on a project-by-project basis. In the case of the proposed project, all potential hazards and potentially hazardous materials or situations that could result from the release of substances would be mitigated to less than significant levels. Compliance with the applicable federal, state, and local regulations, which includes safety standards, would minimize the potential cumulatively considerable impacts on the proposed project.

This Hazardous Materials Evaluation Report Final has determined that the proposed project at the 99 Houghton Industrial Park would not have a significant impact, either individually or cumulatively, for impacts relating to fixed hazards or hazardous materials or substances with the incorporation of mitigation measures.

McIntosh & Associates Engineering, Inc. has completed this Hazardous Materials Evaluation Report Final with the best available information at the time the evaluation was performed for proposed project. This report was prepared to satisfy the California Environmental Quality Act Guidelines (CCR Section 15000) Checklist Section VII using current standards of professional care.

McIntosh & Associates Engineering, Inc.



9.0 Resources

California Department of Water Resources, Kern County Water Agency Improvement District 4; dated May 2017; http://www.water.ca.gov/waterdatalibrary/; reviewed June 2017

California Environmental Protection Agency Air Resources Board (CHAPIS); https://www.arb.ca.gov/ch/chapis1/chapis1.htm; reviewed June 2017

California Environmental Protection Agency (CalEPA); http://geotracker.waterboards.ca.gov; reviewed June 2017

California Environmental Quality Act (CEQA) - Year 2016; https://www.wildlife.ca.gov/Conservation/CEQA/Purpose;

City of Bakersfield; Metro Bakersfield General Plan Map; dated February 17, 2017; Laserfiche WebLink; www.bakersfiieldcity.us; reviewed June 2017

Google Earth; www.google.com; Aerial Photograph dated October 20, 2016; reviewed June 2017

Hazardous Material Evaluation Report; dated July 2008; prepared by McIntosh & Associates, 2001 Wheelan Court, Bakersfield, California 93309, (661) 834-4814; www.mcintoshassoc.com; reviewed June 2017

Kern County California Agricultural website; Agricultural Crop Reports and Maps; www.kernag.com; reviewed June 2017

Kern County California Assessor Recorders Office; http://recorderonline.co.kern.ca.us;

Kern County California Building Inspection Department; http://esps.kerndsa.com/building-inspection; reviewed June 2017

Kern County California Environmental Health Services Department; Lydia V. von Sydow LYDIAV@kerncounty.com; reviewed June 2017

Kern County California Geographic Information Systems (GIS); Kern County Zoning Maps; http://esps.kerndsa.com/gis; reviewed June 2017

Kern County California Website; Zoning Map 143-7; http://esps.kerndsa.com/maps; reviewed June 2017

Petroleum and Natural Gas Pipeline Assessment; dated July 2017, prepared by McIntosh Associates Engineering, Inc., 2001 Wheelan Court, Bakersfield, California 93309, (661) 834-4814; www.mcintoshassoc.com; reviewed July 2017

Rand McNally Maps; www.randmcnally.com; reviewed June 2017

State of California, Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR); District 4, County of Kern, State of California; https://maps.conservation.ca.gov/doggr/wellfinder; reviewed June 2017

State of California, Department of Water Resources, California Statewide Groundwater Elevation Monitoring (CASGEM); www.casgem.water.ca.gov; reviewed June 2017

United States Department of Agriculture, Natural Resources Conservation Services; Kern County California, Southwestern Part (CA666); dated May 15, 2017; www.websoilsurvey.nrcs.usda.gov; reviewed June 2017

United States Environmental Protection Agency (EPA); www.epa.gov; reviewed June 2017

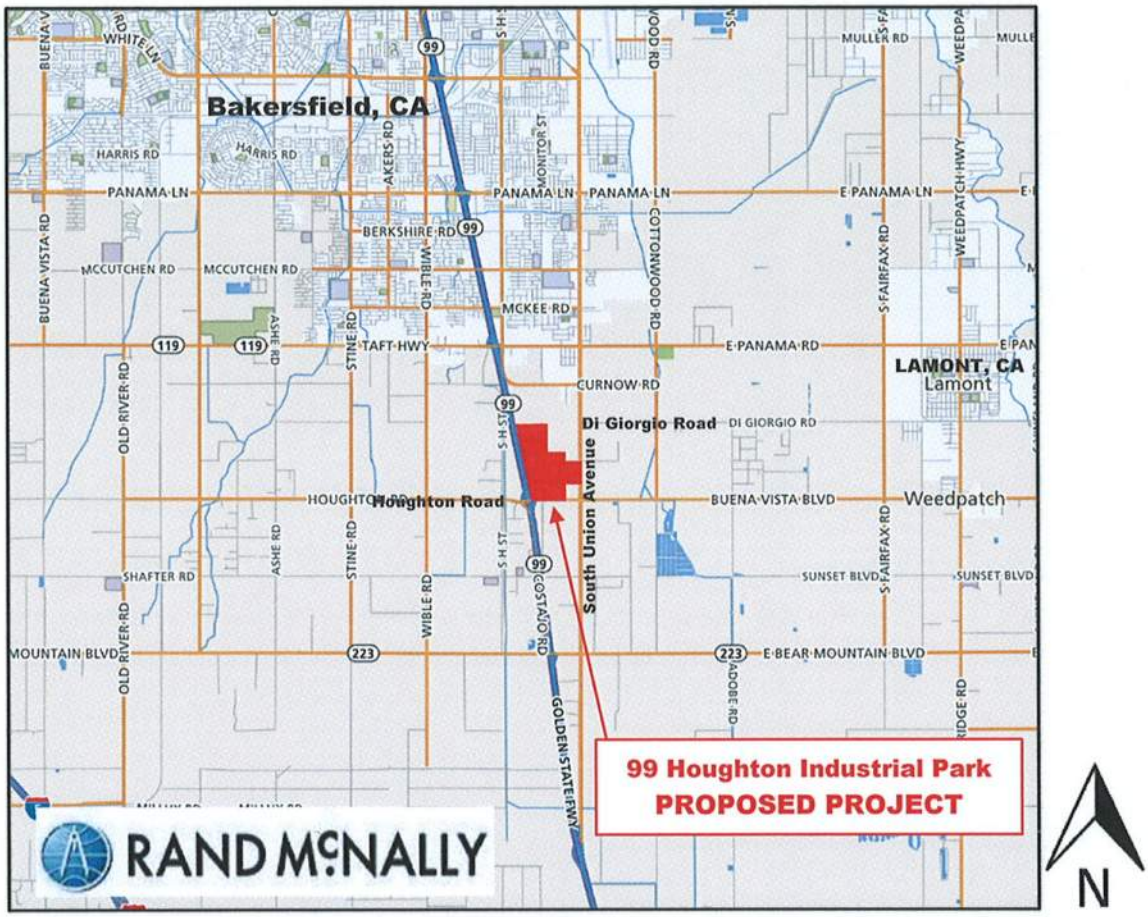
United States Geological Survey; Department of the Interior; Topographic Quadrangle Maps; 7.5 Minute Maps; www.viewer.nationalmap.gov; reviewed June 2017

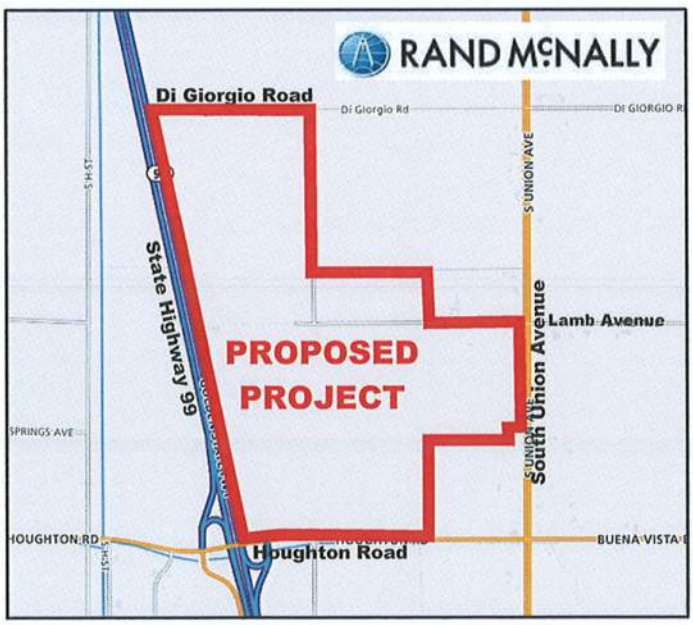
United States Department of Toxic Substances Control (DTSC); www.dtsc.ca.gov; reviewed June 2017

Water Supply Assessment Final; dated July 2017; prepared by McIntosh & Associates Engineering, Inc., 2001 Wheelan Court, Bakersfield, California 93309, (661) 834-4814; www.mcintoshassoc.com; reviewed July 2017

APPENDIX A

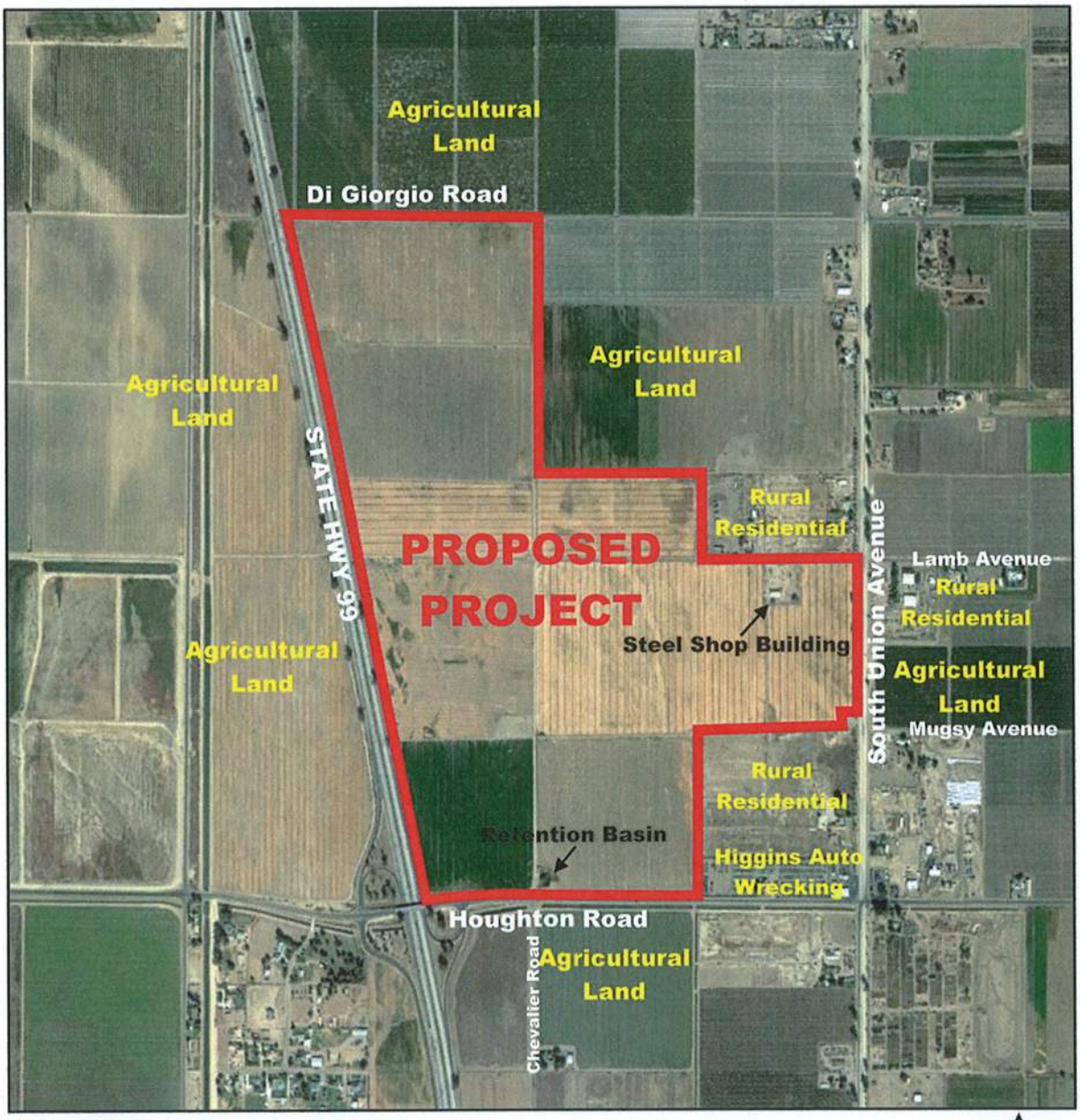
Figures





PROPOSED PROJECT
Township 31 South,
Range 28 East
Portion of Section 7
County of Kern
State of California

Figure A-1 - Proposed Project Location Maps



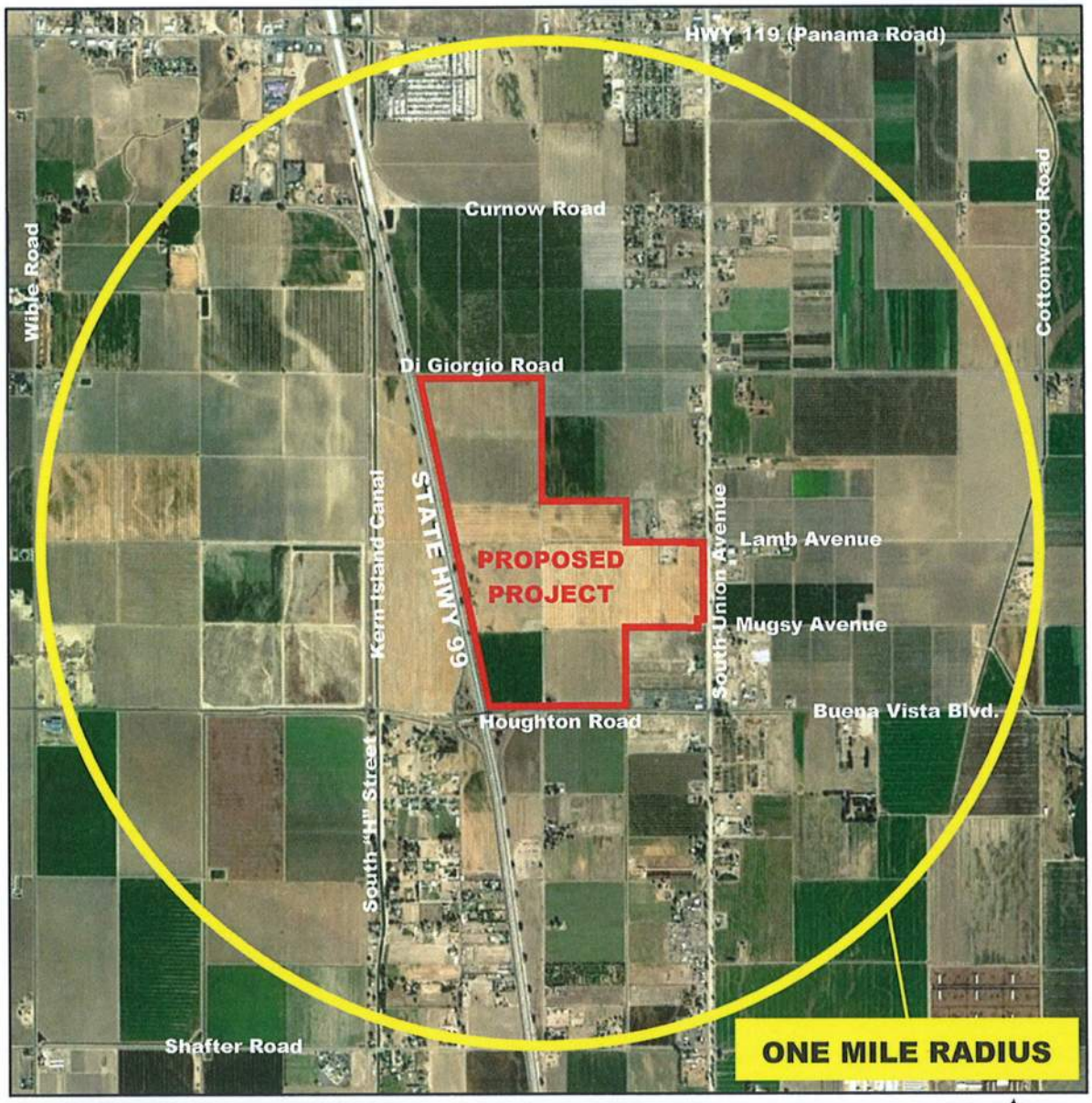
2016 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7

County of Kern, State of California

Figure A-2 - Aerial Photograph Proposed Project Location



2016 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

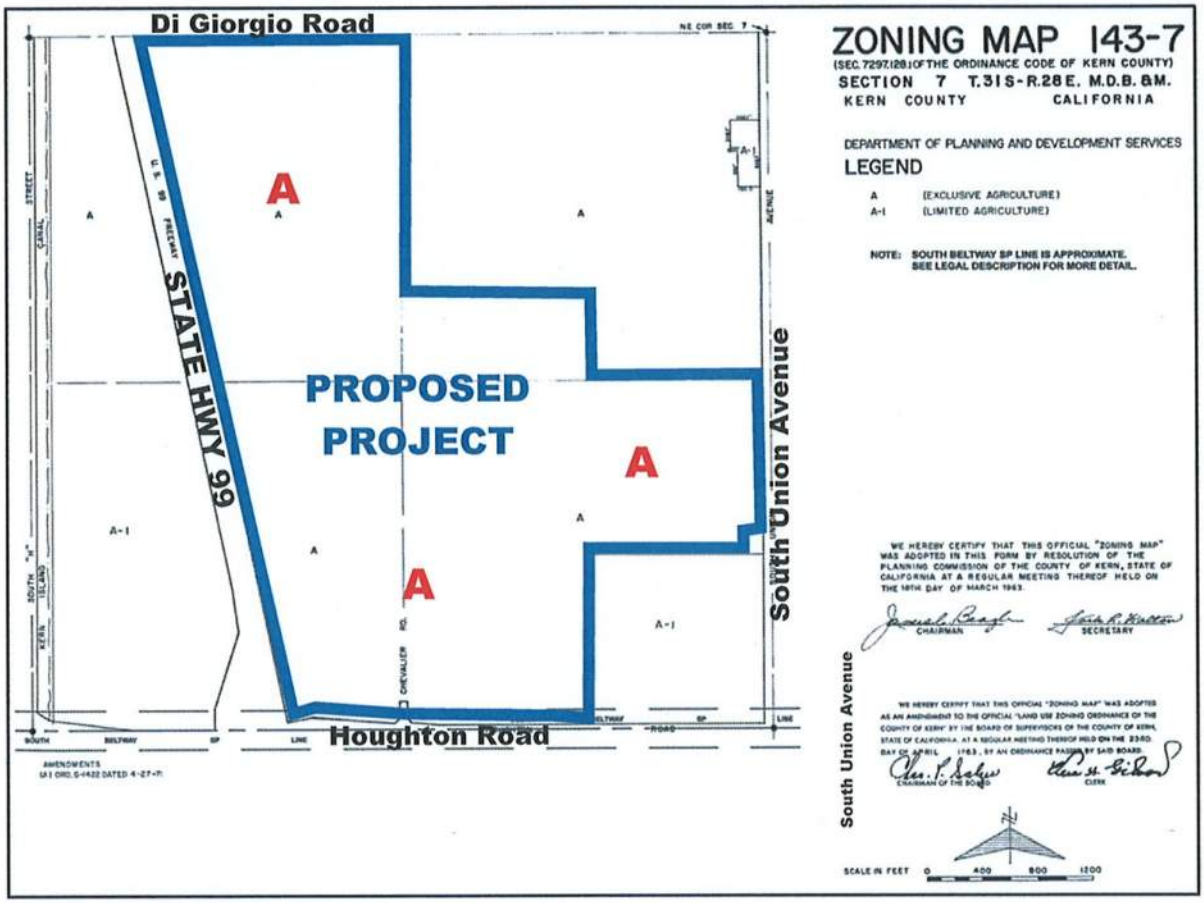
Figure A-3 - Aerial Photograph – One Mile Radius



PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure A-4 - Metropolitan Bakersfield General Plan Map



LEGEND

ZONE A

EXCLUSIVE AGRICULTURE

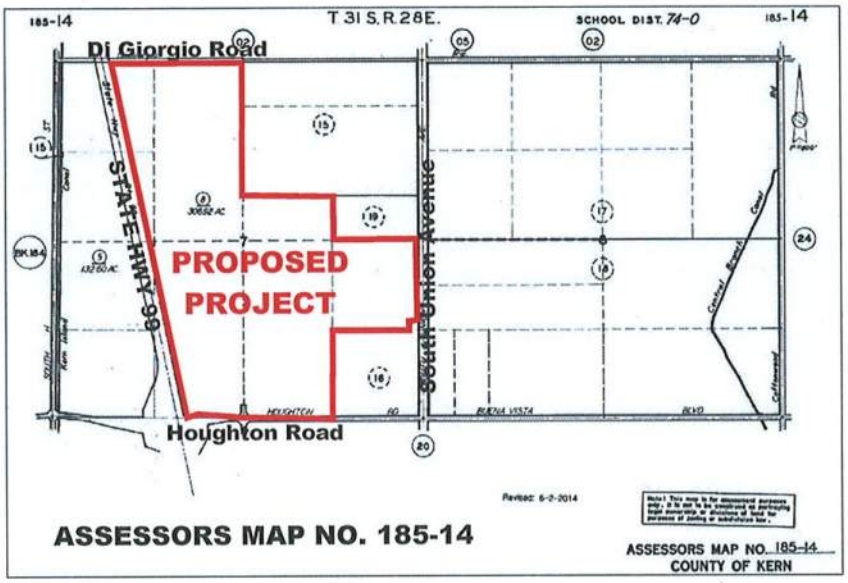
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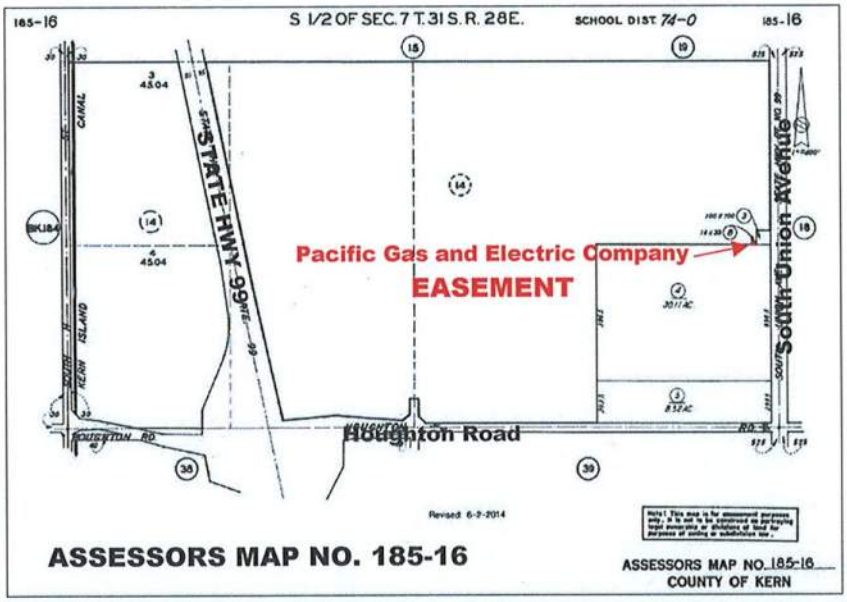
ZONING MAP 143-7

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure A-5 - Kern County Zoning Map 143-7



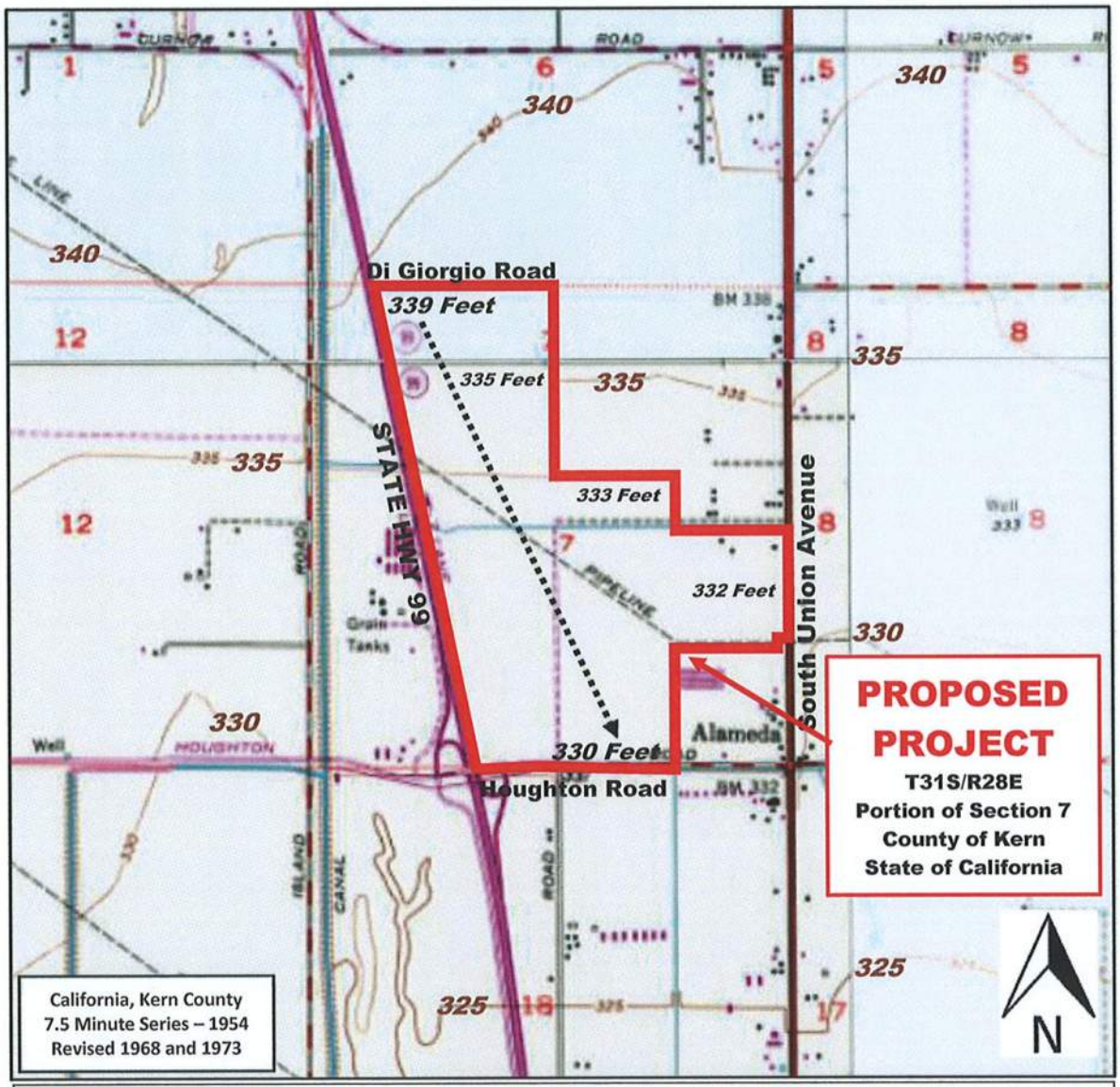


ASSESSORS PARCEL MAPS
NO.: 185-14 & 185-16

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure A-6 – Assessor's Parcel Maps No.: 185-14 & 185-16



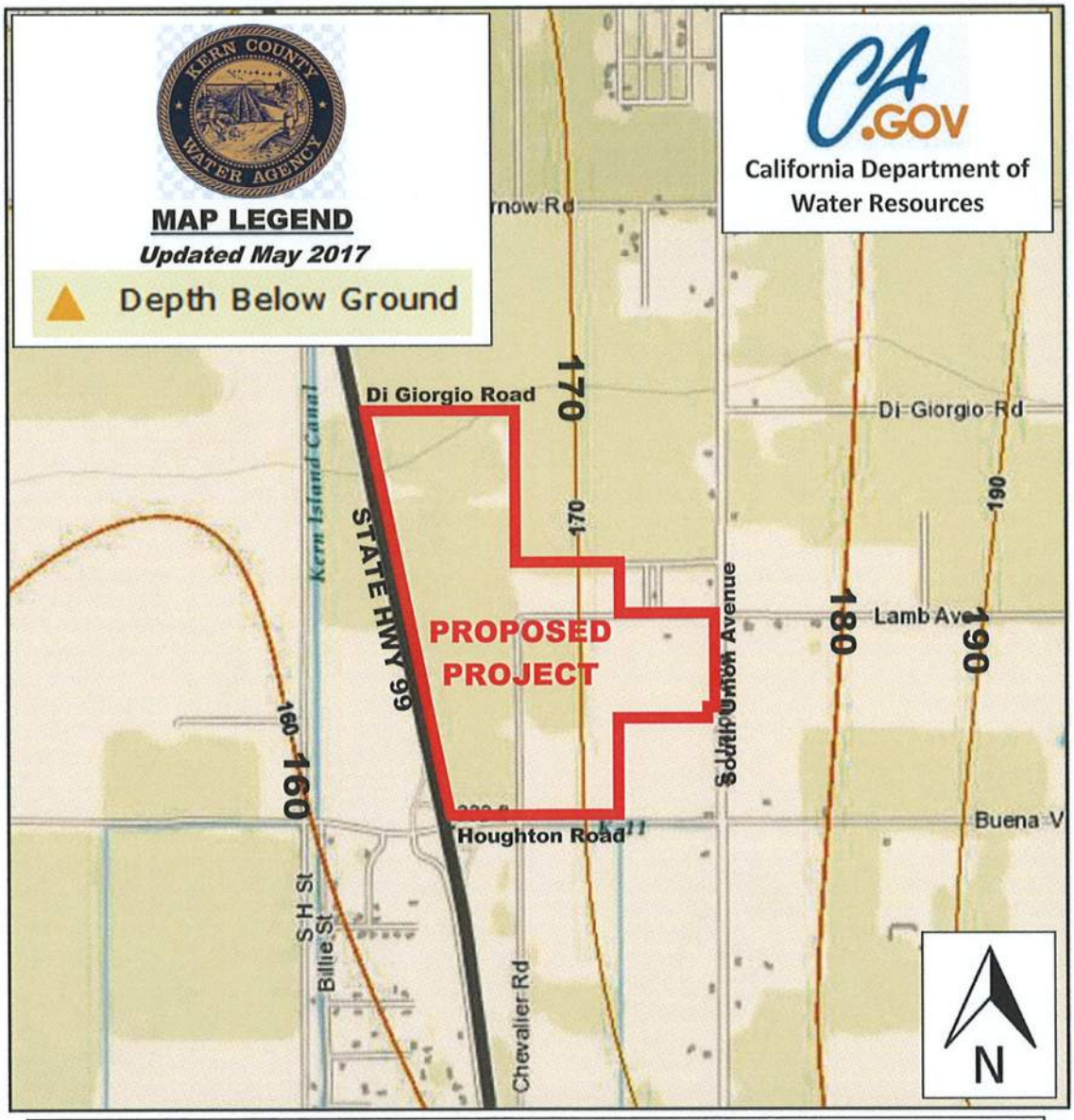
USGS
science for a changing world

United States Department of the Interior - United States Geological Survey
7.5 Minute Series – Gosford and Conner, California – Topographic Quadrangle Maps
County of Kern, State of California - Contour Interval 5 Feet

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure A-7 - United States Geological Survey Topographic Quadrangle Map



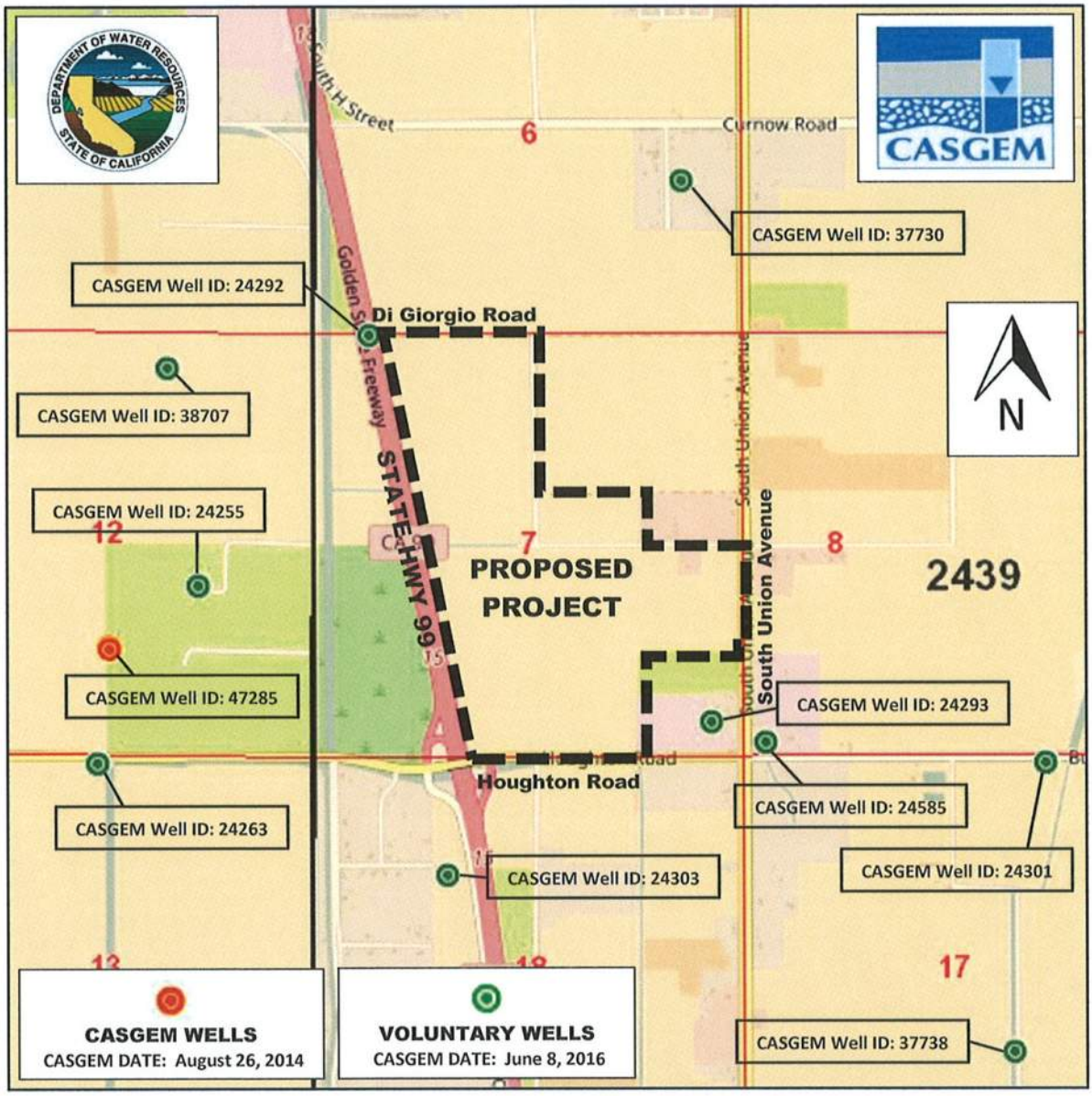
California Department of Water Resources
Kern County Water Agency Improvement District No. 4
APPROXMATE DEPTH TO GROUNDWATER BELOW THE GROUND SURFACE IS REPRESENTED IN FEET

Spring 2017 Depth of Groundwater

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

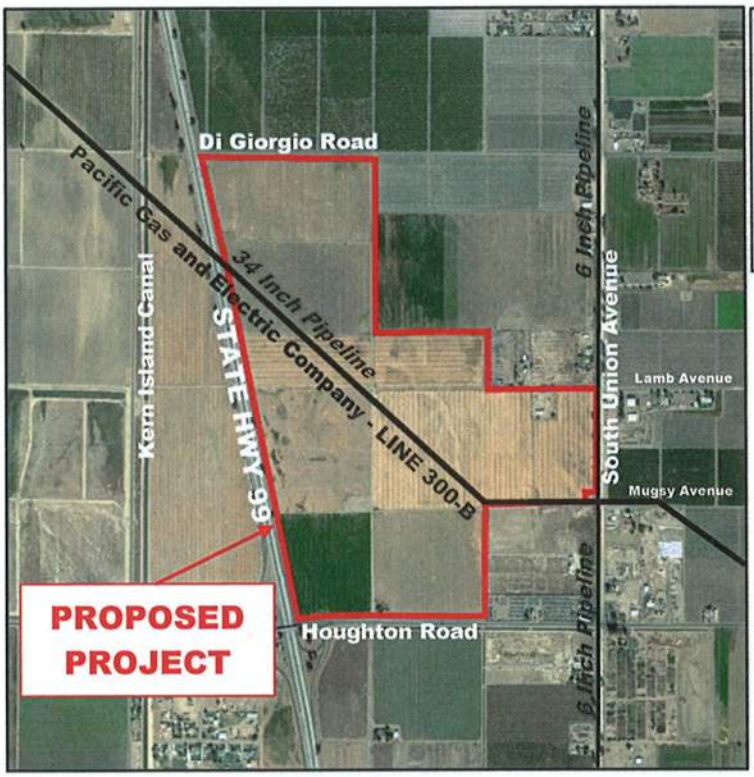
Figure A-8 – Kern County Water Agency Depth of Groundwater Map



State of California, Department of Water Resources, California Statewide Groundwater Elevation Monitoring (CASGEM)

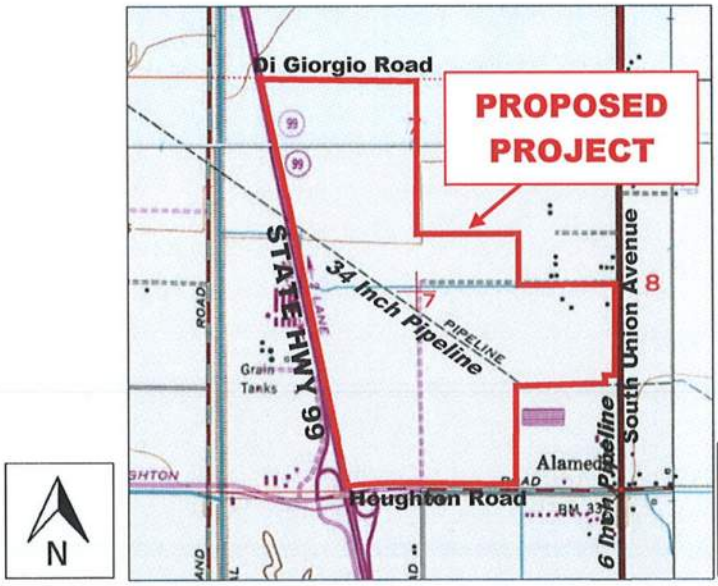
PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California
Figure A-9 – CASGEM Water Wells Map



Refer to Petroleum and Natural Gas Pipeline Assessment, prepared by McIntosh & Associates Engineering, Inc., dated July 2017

Google Earth
Aerial Photograph Date: 10/20/2016

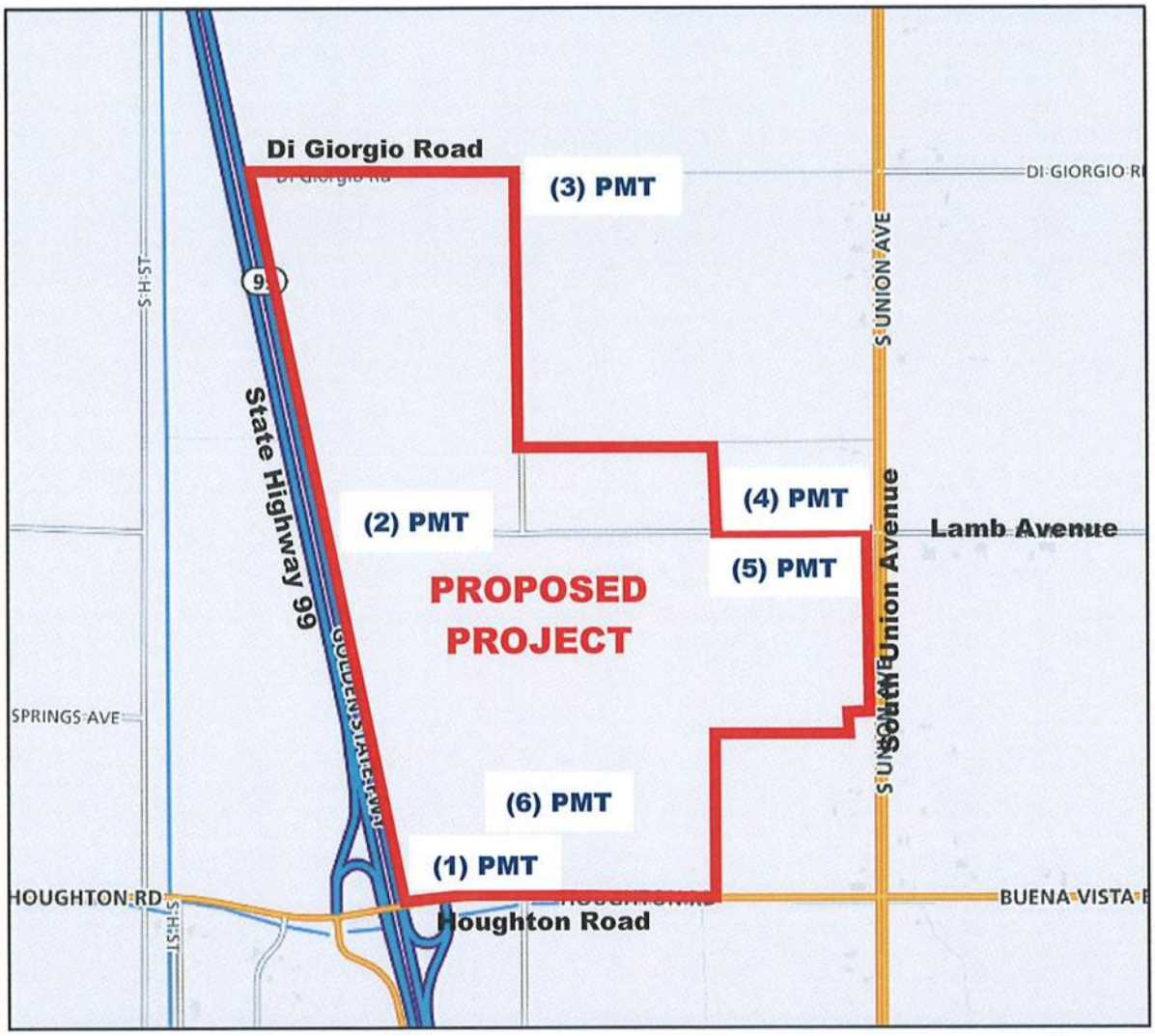


USGS science for a changing world
Gosford and Conner, California Quadrangle Maps

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure A-10 Petroleum and Natural Gas Pipeline Map



RAND McNALLY

N

PMT – Pole Mounted Electrical Transformers

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure A-11 – Pole Mounted Electrical Transformers Map

APPENDIX B

Figures



Photo Date: 03/31/2008

2008 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure B-1 – 2008 Aerial Photograph



Photo Date: 05/24/2009

2009 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure B-2 – 2009 Aerial Photograph



Photo Date: 04/29/2011

2011 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure B-3 – 2011 Aerial Photograph

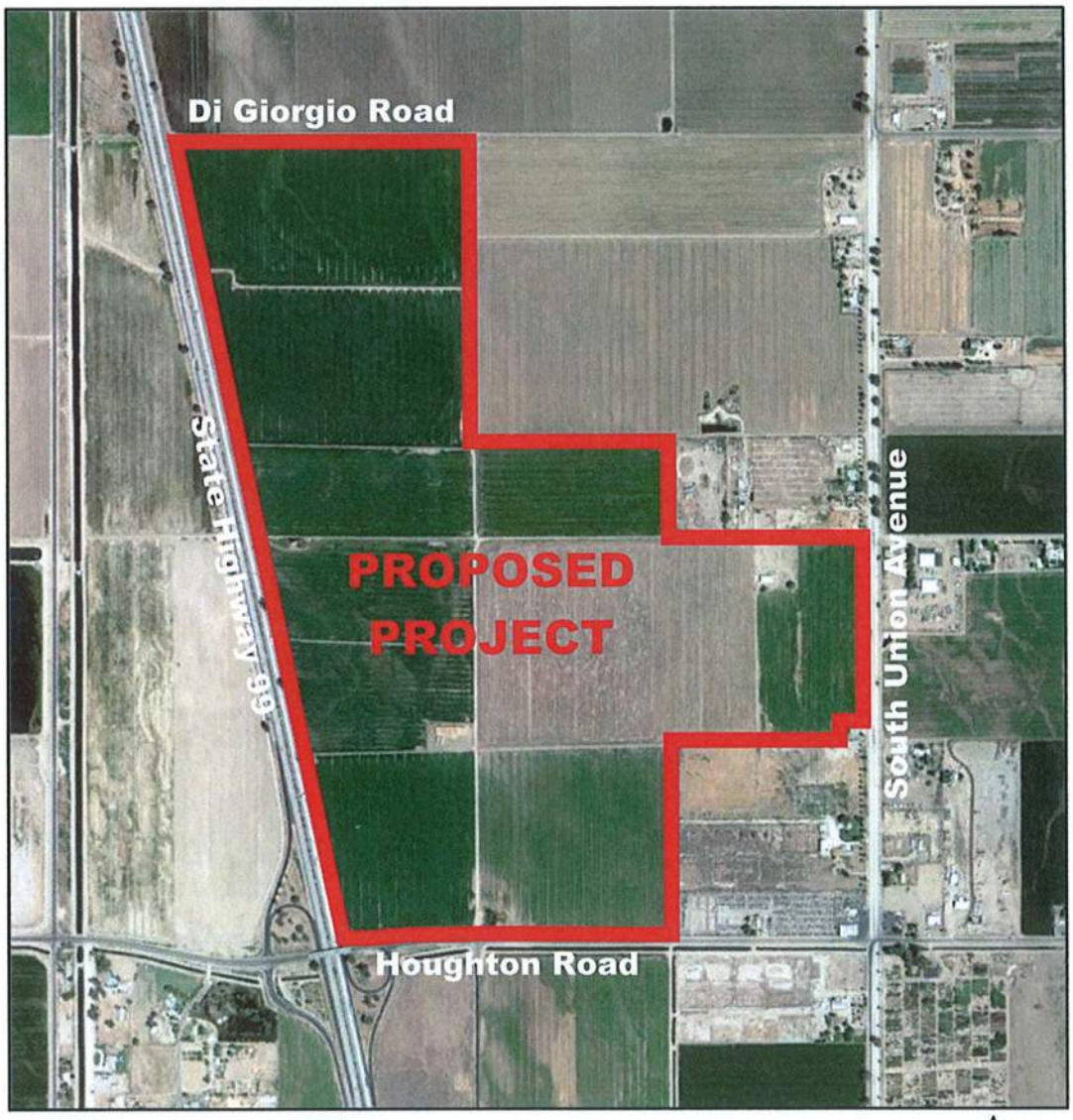


Photo Date: 08/07/2012

2012 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure B-4 – 2012 Aerial Photograph



Google Earth

Photo Date: 07/30/2013

N

2013 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure B-5 – 2013 Aerial Photograph



Google Earth

Photo Date: 04/15/2014

N

2014 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure B-6 – 2014 Aerial Photograph



Photo Date: 03/26/2015

2015 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure B-7 – 2015 Aerial Photograph



Photo Date: 10/20/2016

2016 Aerial Photograph

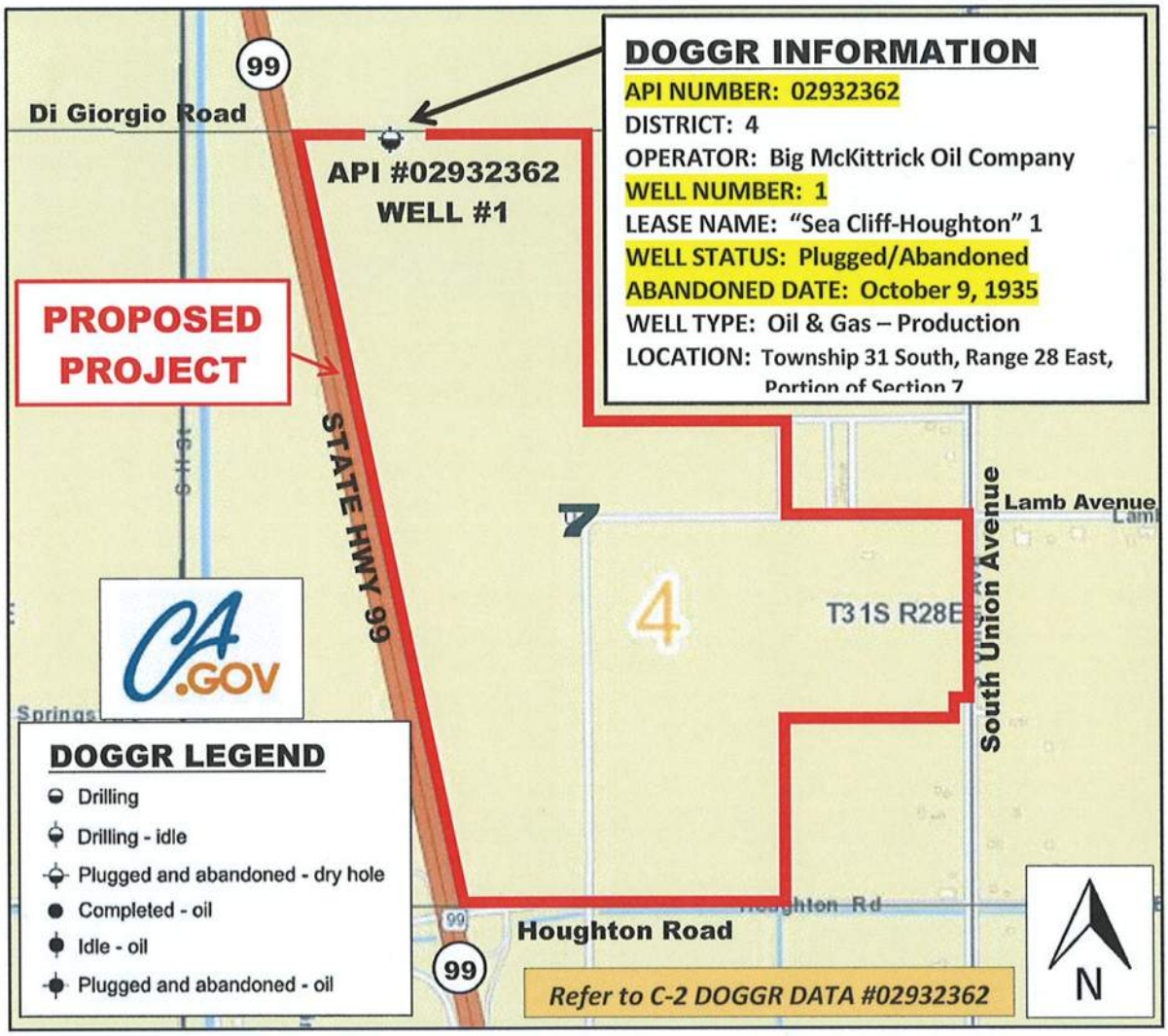
PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure B-8 – 2016 Aerial Photograph

APPENDIX C

Figures



State of California – Department of Conservation
Division of Oil, Gas and Geothermal Resources (DOGGR)
District 4 – County of Kern – State of California

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure C-1 – Division of Oil, Gas and Geothermal Resources (DOGGR) Map

API Number 02932362
Well Number: 1
Lease Name: "Sea Cliff-Houghton" 1

Quitclaimed to landowner immediately
after abandonment of well. Letter - file 32 - May 11, 1937

C-2 DOGGR DATA #02932362

FORM 102. 68273 6-29 10M
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

LOG OF OIL OR GAS WELL

FIELD Kern County COMPANY Big McKittrick Oil Company

Sec. 7, T. 31S., R. 28E., M. D. B. & M., Well No. "Sea Cliff-Houghton" 1

In compliance with the provisions of Chapter 718, Statutes 1915, as amended, the information given herewith is a complete and correct record of all work done on the well since the previous record, dated July 10, 1935, was filed.

SIGNED Nick Gerard

Date December 4, 1935 Title (President, Secretary or Agent)

October 11, 1935 - Found hole full of heavy mud to surface.
Screwed tight cap on 9" casing and abandoned.

12/

DIVISION OF OIL AND GAS
RECEIVED
DEC 4 1935
BAKERSFIELD, CALIFORNIA

FORM 111, 23469 7-35 20M
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Report on Proposed Operations

121

No. P -4-16808

Bakersfield, Cal. October 10, 1935

MR. N. P. Gerard
(Hotel El Tejon, Bakersfield, Cal.
217 Bakersfield Hotel)
Agent for Big McKittrick Oil Company

DEAR SIR:

Your proposal to abandon Well No. "Sea Cliff-Houghton" 1

Section 7, T. 31S., R. 28E., M.D.B. & M., ~~~~ Oil Field, Kern County,

dated Oct. 9, 1935, received Oct. 9, 1935, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

THE NOTICE STATES:

"The present condition of the well is as follows:
Total Depth 6756'.
13" cemented 610'.
9" cemented 685'.
Hole standing filled with heavy mud.
No oil or gas showings of any kind were encountered."

PROPOSAL:

"The proposed work is as follows:
1. See that heavy mud stands at surface.
2. Weld tightly a steel cap on the top of the 9" casing.
3. Report the work done on form 102, in duplicate."

DECISION:

THE PROPOSAL IS APPROVED.

Want to convert to water well, Perf

CC-E. H. Musser, Taft

PJH:SED

R. D. BUSH
State Oil and Gas Supervisor

By E. H. Musser Deputy

FORM 108. 11499 4-34 5M
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Notice of Intention to Abandon Well

This notice must be given at least five days before work is to begin

Oct. 9 — Cal. ~~DIVISION OF OIL AND GAS~~ 19 35

RECEIVED
OCT 9 1935
BAKERSFIELD, CALIFORNIA

MR. E.H. Musser

Deputy State Oil and Gas Supervisor

Bakersfield Cal.

DEAR SIR:

In compliance with Section 16, Chapter 718, Statutes of 1915, as amended, notice is hereby given that it is our intention to abandon well No. "Sea Cliff-Houghton" 1, Sec. 7, T. 31S. R. 28E., MD. B. & M., ——— Oil Field, Kern County, commencing work on the 10th day of October 19 35

The present condition of the well is as follows:

T.D. 6756'.
13" cem. 610'.
9" cem. 685'.
Hole standing filled with heavy mud.
No oil or gas showings of any kind were encountered

P.A. 16808

The proposed work is as follows:

1. See that heavy mud stands at surface
2. Weld tightly a steel cap on the top of the 9" casing
3. Report the work done on form 102, in duplicate.

Reference to file of data

Maps	Model	Cross Section	Cards	Forms 114	Forms 121
			✓	577	

Respectfully yours

Big McKittrick Oil Company
Name of Company or Operator

By Nick Herard

217 Humberfeld Bldg.

ADDRESS NOTICE TO DEPUTY STATE OIL AND GAS SUPERVISOR IN CHARGE OF DISTRICT WHERE WELL IS LOCATED

Oil & Gas

FORM 169

Sheet 1

COMPLETION REPORT—NEW WELL

BIG McKITTRICK OIL COMPANY
CHANSLOR-CANFIELD-MIDWAY OIL COMPANY

FIELD Greenfield ~~Sea Cliff~~

PROPERTY Houghton WELL NO. 1 SEC. 7 T. 31-S R. 28-E M.D. B & M

LOCATION 340' S. & 3630' W. of N.E. Cor. ELEV. 342'

FOLLOWING IS COMPLETE AND CORRECT RECORD OF ALL WORK DONE ON THIS WELL

COMMENCED: RIGGING UP - COMMENCED DRILLING Nov. 25, 1934

COMPLETED: RIGGING UP - COMPLETED DRILLING June 5, 1935

DEPTH 6756' PLUGGED TO DATE OF INITIAL PRODUCTION None.

PRODUCTION (DAILY AVERAGE 1ST 30 DAYS) {FLOWING / PUMPING} BBL. OIL: BBL. WATER: °A.P.I.

GAS PRODUCTION (DAILY AVERAGE 1ST 30 DAYS) M. CU. FEET GALS. GASOLINE PER M. CUBIC FEET

124 TUBING PRESS. CASINGHEAD PRESS. FLOW NIPPLE

No oil shows. No tests made.

CASING RECORD

SIZE OF CASING	LENGTH OF CASING	DEPTH LANDED	CEMENTED (DEPTH IF THRU PERF.)	WEIGHT PER FOOT	THREADS PER INCH	MAKE OF CASING	SEAMLESS OR LAPWELDED	MAKE OF SHOE
13"		610	610	-	-	-	-	-
9"		685	685	-	-	-	-	-

CEMENTING OR OTHER SHUT-OFF RECORD

SIZE OF CASING	DEPTH LANDED	DEPTH CEMENTED	NO. SACKS USED	NO. SACKS TREATED	KIND OF CEMENT	METHOD	TIME SET, DAYS	RESULT OF TEST
13"	610	610			-			Not tested.
9"	685	685	250	200	-			Not tested.

PERFORATION RECORD

SIZE OF CASING	FROM	TO	SIZE OF HOLES OR SLOTS	NUMBER OF ROWS	SPACING (INCHES)	HOW PERFORATED

PLUG: KIND BOTTOM TOP AT

ADAPTER: KIND SIZE SET AT

ROTARY TOOLS: FROM 0 TO 6756 FEET CABLE TOOLS: FROM - TO - FEET

SIDETRACKED PIPE AND LOST TOOL RECORD

None.

DRILLERS NAMES ON LAST SHEET

DATE July 10, 1935.

BIG McKITTRICK OIL COMPANY
CHANSLOR-CANFIELD-MIDWAY OIL CO.

BY Nick Gerard Pres

ITS AGENT

FORM 170

WELL COMPLETION REPORT
LOG AND HISTORY

WELL NO. Haughton "Sea Cliff" 1

PROPERTY

BIG McKITTRICK OIL COMPANY
CHANSLOR-CANFIELD MIDWAY OIL COMPANY

SEC. 7 T.31S R.28-E M.D. B & M

NOTE: FORMATIONS SHOWING OIL OR GAS SHOULD BE NOTED IN CAPITALS.

FROM	TO	FEET	FORMATION DRILLED AND CORED
			Well originally called Sea Cliff Oil Co. Technical spud made Nov. 25, 1934.
0	50	50	Sand.
			Suspended operations while straightening out leases, etc. Operations resumed by BIG McKITTRICK OIL COMPANY in January, 1935.
50	615	565	Sand and clay.
January ?, 1935,			cemented 13" second hand casing at 610'.
February 6, 1935,			drilled out cement and drilled ahead with 11 5/8" bit.
615	1016	401	Sand and gravel.
1016	2595	1579	Sand and sandy shale.
CORED			
2595	2618	23	No recovery. Core No. 1. Logged sandy shale.
DRILLED			
2618	3255	637	Sandy shale w/s sand.
CORED			
3255	3275	20	No recovery. Core No. 2. Logged sandy shale.
			Measured out. Measurements O.K.
3275	3286	11	8' Recovered. Core No. 3.
		1	Shell, clay, siliceous, lite brown, hard, massive, dense.
		2	Silt, lite brown, clayey and fine sandy. Friable - rather sticky.
		4	Sand, lite brown, fine to medium grained, fairly well sorted. Massive. Friable. Micaceous.
		1	Silt, ditto 2' above.

FORM 170

WELL COMPLETION REPORT
LOG AND HISTORY

"Sea Cliff - "
WELL NO. Haughton 1

BIG MOKITRICK OIL COMPANY
CHANSLOR-CANFIELD-MIDWAY OIL COMPANY

PROPERTY

SEC. 7 T. 31S R. 28E M.D. B. & M.

NOTE: FORMATIONS SHOWING OIL OR GAS SHOULD BE NOTED IN CAPITALS.

FROM	TO	FEET	FORMATION DRILLED AND CORED
DRILLED			
3286	3470	184	Shale and sandy shale w/s sand.
CORED			
3470	3490	20	11' Recovered. Core No. 4
		11	Sand, yellow, very clayey & silty, generally fine grained. Massive. Firm - but readily friable. Few streaks reddish brown clay.
DRILLED			
3490	3645	155	Sand and sandy shale.
February 24, 1935, 13" casing collapsed at 30'.			
February 25, 1935 to February 27, 1935, milling thru collapsed casing.			
February 28, 1935, 9" casing cemented at 685' with 250-sxs., last 200 treated.			
March 14, 1935.			Found top of cement at 648'. Drilled out and drilled new hole.
DRILLED	7 5/8"	hole	
685	2077	1392	Shale and sand.
2077	2079	2	Hard sand. Gas showing.
2079	2725	646	Sand and shale.
CORED			
2725	2745	20	18' recovered. Core No. 5.
		11	Sand, yellow, very clayey & silty, generally fine grained, unsorted, scattered granules. Massive. Firm - but readily friable.
		5	Siltstone, blue-grey, well sorted, faintly bedded in top 1' (cross-bedding?), remainder massive. Bone ? fragments in upper 1'. Firm - but readily friable. No dip measureable.
		2	Claystone, blue-grey. Silty and fine sandy. Massive. Firm - difficultly crumbly.
2745	2768	23	17' recovered. Core No. 6.
		2	Claystone, blue-grey, silty, crumbly.
		3	Clay, green, soft, rather sticky. Bottom 6" lite yellowish-green.
		1	Sand, limey grey (nearly white), medium-grained, friable.
		3	Siltstone, lite grey, fine sandy, firm, compact.

FORM 170

WELL COMPLETION REPORT
LOG AND HISTORY

"Sea Cliff"-

WELL NO. Haughton 1 — BIG McKITTRICK OIL COMPANY, CHANSLOR-CANFIELD MIDWAY OIL COMPANY

PROPERTY — SEC. 7 T31S R.28E B & M. M. D.

NOTE: FORMATIONS SHOWING OIL OR GAS SHOULD BE NOTED IN CAPITALS.

FROM	TO	FEET	FORMATION DRILLED AND CORED
2745	2768	23	17' recovered. Core No. 6 (Cont'd).
		2	Sand, greenish-grey, medium grain, friable. 6" streak lite grey bentonitic ? clay at bottom.
		3	Sand, lite grey, fine to medium, fairly well sorted, faintly cross-bedded, friable.
		3	Clay, lite grey-brown to yellow-brown, firm, compact, massive, silty and fine sandy.
2768	2788	20	15' recovered. Core No. 7.
		10	Clayey silt, yellow brown, fine sandy, firm, compact.
		5	Siltstone, medium grey, fine sandy, firm, compact, massive.
2788	2809	21	12' recovered. Core No. 8.
		2	Claystone, very lite grey, rather lite weight (ashy?), massive, very firm.
		10	Siltstone, grading from blue-grey to yellow brown, very clayey, massive, firm, compact.
2809	2831	22	17' recovered. Core No. 9.
		17	Sand, yellow-brown when wet - very lite grey (nearly white) when dry, fine to coarse grain, unsorted, friable.
DRILLED			
2831	3809	978	Sand and shale.
CORED			
3809	3827	18	18' recovered. Core No. 10.
		16	Siltstone, blue-grey, fine very sandy, micaceous, firm. Lite brown streaks thruout.
		1	Claystone, lite brown, sandy, firm.
		1	Siltstone - ditto top 16'.
3827	3849	22	3' recovered. Core No. 11.
		1	Siltstone, medium grey, fine sandy, faintly bedded, firm.
		2	Claystone, yellow-brown, waxy luster, firm. 6" lite grey clayey sand at bottom.
3849	3871	22	21' recovered. Core No. 12.
		12	Sand, very lite grey (Nearly white), unsorted, pebbly, very friable.
		3	Sand, greenish-grey, fine grained, well sorted, friable. Faintly bedded. Dip 5° approx.
		4	Sand, ditto top 12'.
		2	Sand, green, very clayey, firm.
3871	3891	20	6' recovered. Core No. 13.
		1	Claystone, yellow-brown, waxy luster.

FORM 170

WELL COMPLETION REPORT
LOG AND HISTORY

"Sea Cliff"

WELL NO. Haughton 1 — BIG LAKE KITTRICK OIL COMPANY
CHANSLOR-CANFIELD MIDWAY OIL COMPANY

PROPERTY — SEC. 7 T.31S R.28E M.D. B & M

NOTE: FORMATIONS SHOWING OIL OR GAS SHOULD BE NOTED IN CAPITALS.

FROM	TO	FEET	FORMATION DRILLED AND CORED
3871	3891	20	6' recovered. Core No. 13 (Cont'd)
		2	Sand, lite grey, fine to medium grained, friable.
		3	Siltstone, lite grey, fine sandy firm.
3891	3913	22	9' recovered. Core No. 14.
		9	Siltstone, lite grey, fine sandy, mottled with lite brown streaks. Firm.
3913	3922	9	6' recovered. Core No. 15.
		6	Siltstone - ditto 9' above. Few streaks greenish-grey unsorted sand.
DRILLED			
3922	3957	35	Sand and shale.
CORED			
3957	3977	20	11' recovered. Core No. 16.
		1	Claystone, yellow-brown, very sandy, firm.
		10	Siltstone, lite grey with streaks and spots yellow-brown, firm to readily friable.
3977	4000	23	6' recovered. Core No. 17.
		1	Siltstone, ditto 10' above.
		5	Sand, greenish grey when fresh (lite grey when dry) fine to coarse grained, poorly sorted, very friable.
4000	4015	15	9' recovered. Core No. 18.
		6	Sand, green when fresh - lite grey when dry - unsorted, granuliferous and pebbly, very friable.
		3	Siltstone, dark greenish-grey, fine sandy, firm. Streaks yellow-brown.
4015	4030	15	7' recovered. Core No. 19.
		3	Claystone, lite brown, gritty, firm.
		4	Siltstone, lite grey, fine sandy, firm.
DRILLED			
4030	4512	482	Sand and shale.
CORED			
4512	4528	16	6' recovered. Core No. 20.
		6	Sand, green (fresh), unsorted, granuliferous, porous, friable. Fragment hard clayey siltstone on bottom.
DRILLED			
4528	4644	116	Sand and shale.

FORM 170

WELL COMPLETION REPORT
LOG AND HISTORY

WELL NO. "Sea Cliff-" Haughton 1

PROPERTY

BIG MOKITTRICK OIL COMPANY
~~CHANSLOR-CANFIELD MIDWAY OIL COMPANY~~

SEC. 7 T. 31S R. 23E B & M. M.D.

NOTE: FORMATIONS SHOWING OIL OR GAS SHOULD BE NOTED IN CAPITALS.

FROM	TO	FEET	FORMATION DRILLED AND CORED
CORED			
4644	4665	21	10' recovered. Core No. 21.
		10	Claystone - very sandy, greenish brown w/ reddish brown spots. Firm - readily friable. Streaks green fine grained silty sand.
4665	4682	17	5' recovered. Core No. 22.
		3	Sand - green, very fine grained, silty and clayey. Firm.
		2	Sand, clayey, lite yellow-brown, unsorted, granuliferous. Firm.
DRILLED			
4682	4861	179	Sand and shale. Hole measured O.K.
CORED			
4861	4881	20	4' recovered. Core No. 23.
		2	Sand, clayey, green, unsorted. Firm.
		2	Sand, lite green-grey, fine to medium, very friable.
DRILLED			
4881	4988	107	Sandy shale.
CORED			
4988	5000	12	6' recovered. Core No. 24.
		5	Sand, lite green-grey, unsorted, pebbly, very friable.
		1	Clay, reddish-brown, fine sandy, rather soft.
DRILLED			
5000	5010	10	Sandy shale.
CORED			
5010	5030	20	6' recovered. Core No. 25.
		6	Sand, green-grey, unsorted, granuliferous. Top 3' very friable, lower 3' firm - may be due to drilling.
DRILLED			
5030	5057	27	Sand.
CORED			
5057	5078	21	9' recovered. Core No. 26.
		8	Siltstone, green, fine sandy, firm. Streaks red-

FORM 170

WELL COMPLETION REPORT
LOG AND HISTORY

"Sea Cliff"

WELL NO. Haughton 1

BIG McKITTRICK OIL COMPANY
~~CHANSLOR-CANFIELD-MIDWAY OIL COMPANY~~

PROPERTY

SEC. 7 T. 31S R. 28E M.D. B. & M.

NOTE: FORMATIONS SHOWING OIL OR GAS SHOULD BE NOTED IN CAPITALS.

FROM	TO	FEET	FORMATION DRILLED AND CORED
5057	5078	21	9' recovered. Core No. 26 (Cont'd)
			dish brown clay.
		4	Clay, green, silty, soft.
		2	Sand, lite grey, fine grain, firm - readily friable.
			3" streak reddish-brown clay on bottom.
DRILLED			
5078	5082	4	Hard sand.
CORED			
5082	5097	15	12' recovered. Core No. 27.
		6	Sand, lite grey, unsorted, fine to very coarse, friable.
		3	Siltstone, medium grey with red-brown streaks, fine sandy, micaceous, firm.
		3	Sand, ditto upper 6'.
DRILLED			
5097	5116	19	Hard sand.
CORED			
5116	5136	20	13' recovered. Core No. 28.
		4	Sand, medium grey, clayey and silty, medium grained, friable.
		3	Clay, reddish brown, sticky
		6	Sand, grey - slite greenish cast, unsorted, fine to coarse, friable.
			1/2" streak red-brown clay at bottom.
5136	5157	21	18' recovered. Core No. 29.
		18	Sand, greenish-grey, unsorted, fine to coarse, friable.
5157	5167	10	7' recovered. Core No. 30.
		6 1/2	Sand, limey grey, unsorted, fine to coarse, friable.
		1/2	Siltstone, greenish-grey and reddish-brown, fine sandy, firm.
5167	5186	19	6' recovered. Core No. 31.
		6	Claystone, reddish-brown, scattered coarse grains, firm.
5186	5195	9	5' recovered. Core No. 32.
		5	Sand, lite grey (slite greenish cast) unsorted, fine to coarse, clayey, firm but readily friable.

FORM 170

WELL COMPLETION REPORT
LOG AND HISTORY

WELL NO. Haughton 1

BIG MUSKITTRICK OIL COMPANY
CHANSLOR CANFIELD MIDWAY OIL COMPANY

PROPERTY

SEC. 7 T. 31SR. 28E B & M. M.D.

NOTE: FORMATIONS SHOWING OIL OR GAS SHOULD BE NOTED IN CAPITALS.

FROM	TO	FEET	FORMATION DRILLED AND CORED
6446	6464	18	9' recovered. Core No. 70.
		1	Siltstone, greenish grey - fine, very sandy, compact.
		8	Sand, limey grey, clayey, unsorted, fine to coarse, firm - readily friable.
			Mr. Hackworth - Tool Pusher - reported hole surveyed by Alex Anderson 5/20/35, showed bottom 150' practically due east of D.F.
DRILLED			
6464	6493	29	Tough shale.
CORED			
6493	6503	10	10' recovered. Core No. 71.
		10	Claystone, lite green, brittle.
DRILLED			
6503	6523	20	Tough shale.
CORED			
6523	6536	13	2' recovered. Core No. 72.
		2	Claystone, lite grey. Streaks lite grey silt.
DRILLED			
6536	6539	3	Sand.
CORED			
6539	6558	19	12' recovered. Core No. 73.
		8	Siltstone, medium grey (greenish cast in part) fine sandy, compact, hard.
		4	Sand, limey grey (greenish cast in part) very clayey unsorted, fine to coarse, friable.
6558	6568	10	5' recovered. Core No. 74.
		2	Sand in clay matrix - green w/ streaks red-brown clay, unsorted, compact, firm.
		3	Claystone, green w/s red-brown, compact, firm.
6568	6583	15	13' recovered. Core No. 75.
		1	Sand, limey grey, clayey, unsorted, compact, firm.
		12	Claystone, green w/s reddish brown, compact, firm.
6583	6601	18	13' recovered. Core No. 76.
		4	Claystone, green w/s reddish brown, unsorted very sandy, compact, firm.

FORM 170

WELL COMPLETION REPORT
LOG AND HISTORY

Sheet 15

WELL NO. Haughton 1 — BIG MOMITTRICK OIL COMPANY
PROPERTY — CHANSLOR-CANFIELD-MIDWAY OIL COMPANY

SEC. 7 T. 31S R. 23E B & M

NOTE: FORMATIONS SHOWING OIL OR GAS SHOULD BE NOTED IN CAPITALS.

FROM	TO	FEET	FORMATION DRILLED AND CORED
6583	6601	18	13' recovered. Core No. 76 (Cont'd)
		1	Sand, grey, unsorted fine and medium grained.
		5	Claystone, green w/s reddish brown. Streaks lite grey, well sorted, very fine grained sand.
		1	Claystone, reddish-brown, unsorted sandy.
		2	Sand - very clayey, greenish-grey, firm - friable.
6601	6619	18	6' recovered. Core No. 77.
		3	Siltstone, medium grey w/ reddish-brown stains, well sorted, micaceous, compact, firm.
		3	Siltstone, greenish-grey and reddish brown, unsorted very sandy, compact, firm.
			Two untagged trays probably belonging to this core.
			1' claystone - reddish brown, unsorted sandy.
			2' siltstone - greenish-grey, fine sandy.
			1' sand, medium grey, well sorted, vine grained.
			2' sand, limey grey, clayey, unsorted fine to coarse
6619	6638	19	9' recovered. Core No. 78.
		1	Claystone, reddish-brown, sand, compact, firm.
		4	Siltstone, greenish-grey, clayey, compact, firm.
		3	Sand, medium grey, silty, fair sorted, fine grained.
		1	Sand, limey grey, clayey, very unsorted.
6638	6644	6	6' recovered. Core No. 79.
		6	Sand, greenish-grey (fresh), limey grey (dry), very clayey, poorly sorted, fine & medium grained, friable.
DRILLED			
6644	6665	21	Sand and shale.
CORED			
6665	6684	19	13' recovered. Core No. 80.
		2	Siltstone, medium grey, fine sandy, compact, firm.
		4	Sand, medium grey, fair sorted, silty, generally fine grained, firm - friable.
		1	Claystone, green and red-brown, brittle, compact, firm.
		6	Sand, limey grey, clayey & silty, generally fine grained, firm - friable. Streaks green-grey claystone.
6684	6702	18	14' recovered. Core No. 81.
		7	Sand, green (fresh), limey grey (dry), clayey & silty, very unsorted, granuliferous, friable.
		6	Claystone, dark grey, unsorted sandy, compact, firm.
		1	Claystone, lite grey, scattered medium grains, compact, very firm.
		2	Claystone, dark grey, brittle, firm.

FORM 170

WELL COMPLETION REPORT
LOG AND HISTORY

"La Cliff"

WELL NO. Haughton 1

BIG MOKITTRICK OIL COMPANY
CHANSLOR-CANFIELD MIDWAY OIL COMPANY

PROPERTY

SEC. 7 T.31S R.26E M.D. B & M

NOTE: FORMATIONS SHOWING OIL OR GAS SHOULD BE NOTED IN CAPITALS.

FROM	TO	FEET	FORMATION DRILLED AND CORED.
6702	6718	16	11' recovered. Core No. 82.
		3	Sand, lite grey (slite green cast) very unsorted, friable. 3" streak red-brown claystone at top.
		2	Claystone, reddish-brown, compact, firm.
		3	Claystone, green-grey, rather sticky.
		3	Sand, green-grey, clayey and silty, unsorted, friable.
6718	6736	18	4' recovered. Core No. 83.
		4	Sand, lite grey, silty, poorly sorted, fine to coarse grained, friable.
6736	6747	11	4' recovered. Core No. 84.
		1	Sand, ditto 4' above.
		3	Sand, limey grey (slite green cast), clayey and silty, unsorted. Streaks white powdery material (burned drilling fluid?), 3" streak green-grey micaceous siltstone on bottom.
6747	6756	9	0' recovered. Core No. 85.

- - - - - B O T T O M - - - - -

JUNE 5th, 1935. Layed down 4" drill pipe and suspended drilling operations.

FRANK F. MERRIAM
GOVERNOR

R. D. BUSH
STATE OIL AND GAS SUPERVISOR

E. H. MUSSER, DEPUTY

GEORGE D. NORDENHOLT
DIRECTOR OF NATURAL RESOURCES

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

913 Haberfelde Building
Bakersfield, California
July 8, 1935

Graham Loftus Oil Corporation
811 West Seventh St.
Los Angeles, California

Gentlemen:

Sea Cliff Oil Co., Ltd., has requested me to write you concerning the removal of the drilling equipment and machinery from the location of its well No. "Sea Cliff-Houghton" 2, Sec. 7, T. 31S., R. 28E., M. D. B. & M., Kern County.

I have no objection to the removal of your machinery and equipment from this location.

Yours truly,

E. H. Musser

Deputy Supervisor

CC-Taft
EHM:SED

CC-File-46
Well Record ✓

CC-Sea Cliff Oil Co., Ltd.
755 Roosevelt Bldg., L.A.

Gerard - P.J.H. 7/15/35.
Well shut-down June 5, 1935
May start up again
Johnie Stevens is preparing
records.

913 Radersfeldo Building
Bakersfield, California
April 10, 1936,

Mr. L. S. Brockley
Sea Cliff Oil Co., Ltd.
920 Roosevelt Building
Los Angeles, California

Dear Sir:

In accordance with your letter of April 8, 1936, an inspector from this office visited Sea Cliff Oil Co., Ltd., well No. "Sea Cliff-Houghton" 1, Sec. 7, T. 31S., R. 30E., M. D. B. & M., Kern County, on April 9, 1936, and found the well to be 6860 feet deep, by drill pipe measurements.

Yours truly,

Deputy Supervisor

CC-M. P. Corcoran (2)

CC-Taft
AJD:SED

Dick Gerard 7/3/35

13" set 600'
9 5/8" hole to 3600'. 13" collapsed. ✓
Set 700' of 9" & redrilled with
7 7/8" hole to 6800'. First core at
1800'. Scattered cores to 3600'. Almost
continuous cores 3600'-6800'. No oil
or gas. No fossils reported. No
marine beds. Probably in Kern River
series at 6800'. Well filled with
mud to abandon by leaving
hole full of heavy mud & cement plug
at the surface. OK.
DAM.

B.M. Mitchel - P.J.H. 6/28/35

6860' deep. Have been
shut down for 2 weeks.
No oil showings. Have
about 700'± of surface casing.
First string collapsed. Ran 9"
surface pipe. 8 size.

TRinity 0262

SEA CLIFF OIL CO., LTD.

ROOSEVELT BUILDING
LOS ANGELES

April 8, 1935

RECEIVED
APR 9 1935
BAKERSFIELD, CALIFORNIA

Division of Oil and Gas
Bakersfield
California

Gentlemen:

The writer is a personal friend of Mr J B Case here in Los Angeles, and by virtue of that friendship is going to presume upon your good offices to ask your assistance in a matter concerning the Sea Cliff-Houghton No.1 well now drilling at Greenfield, Kern County, California.

We obtained a subordination agreement from the Bank of America with reference to the E and Mary Souza property in Section 6, Township 31 south, Range 28 east, MDB&M. The escrow instructions provided that as, when and if the well had reached a depth of five thousand feet and we made an affidavit accompanied by a letter from the local representative of the Division of Oil and Gas that said subordination would be forthwith delivered to us.

The well has now reached a depth of five thousand feet and we ask you to verify this by seeing Mr J W Hackworth, Superintendent in charge and when convinced of this fact be good enough to forthwith write a letter to the Title Insurance & Trust Company at Bakersfield that you have verified this fact.

Thanking you for this courtesy and we would appreciate your immediate action in this regard.

Very truly yours,

SEA CLIFF OIL CO. LTD.

By: J B Case

LWF O'S

Franklin came in & told him to let us know when he was ready to measure out

FORM 111. 14410 8-34 20M
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Report on Proposed Operations

121

No. P -4- 16282

Bakersfield, Cal. November 8, 19 34

MR. Glen H. Mitchel

340 Roosevelt Bldg., Los Angeles, Cal. Big McKittrick Oil Co. 9/12/35 -

Agent for ~~Sea Cliff Oil Co. Ltd.~~ Company

DEAR SIR:

Your proposal to drill Well No. "Sea Cliff-Houghton" 1

Section 7, T. 31S., R. 28E., M.D. B. & M., ---- Oil Field, Kern County,

dated Oct. 31, 19 34, received Nov. 5, 19 34, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

THE NOTICE STATES:

"Lease consists of Eighty Acres: The NE¼ of the NW¼ of Sec. 7, plus 40 acres in Sec. 7.
The well is 340 feet S., and 3630 feet W. from NE. Corner of Sec. 7.
The elevation of the derrick floor above sea level is 345 feet.
Well is to be drilled with rotary tools.
We estimate that the first productive oil or gas sand should be encountered at a depth of about 5300 feet, more or less."

PROPOSAL:

"We propose to use the following strings of casing, either cementing or landing them as herein indicated:

Size of Casing, Inches	Weight, Lb. Per Foot	New or Second Hand	Depth	Landed or Cemented
13-3/8"		New	600'	Cemented

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing."

DECISION:

Insufficient data are available to determine accurately the depths at which oil or gas-bearing strata should be encountered at this location.

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. The 13-3/8" casing is cemented not higher than 600'.
2. The fluid content of each porous formation encountered is determined as definitely as possible.
3. Every possible step is taken to prevent damage:
   a. To oil or gas-bearing strata by infiltrating water.
   b. To underground water suitable for irrigation.
4. The well is equipped and drilled in such a manner as to prevent waste of oil or gas by blow-out or fire.
5. THIS DIVISION IS NOTIFIED as follows:
   a. When a showing of oil or gas is encountered.
   b. Before landing or cementing any casing in the well.
   c. TO WITNESS a bailing test of each possible water shut-off with the hole open not more than 5' below the cementing depth.

CC-Sea Cliff Oil Co. Ltd.
765 Roosevelt Bldg., L.A.
E. H. Musser, Taft
CVB:SED

R. D. BUSH
State Oil and Gas Supervisor

By E. H. Musser Deputy

FORM 113. 704 2-33 1M
CALIFORNIA STATE PRINTING OFFICE

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Bakersfield, Cal. November 2, 19 34

Mr. Glen H. Mitchel, Pres.
Sea Cliff Oil Co. Ltd.
340 Roosevelt Bldg.
Los Angeles, California

DEAR SIRS:

I am in receipt of your notice dated OCTOBER 31, 1934, of intention to drill Well No. "Sea Cliff-Houghton" 1

Sec. 7 T. 31S. R. 26E., M.D. B. & M.

This proposal cannot be considered until a drilling bond is filed.

Drilling on the above well must not start until this bond is filed.

Please inform me the legal description of the land under lease.

Bond received November 5, 1934

CC- E. H. Musser, Taft

CVB:SED

Yours truly
R. D. BUSH
State Oil and Gas Supervisor

By E. H. Musser Deputy

FORM 105. 6018 8-33 10M
(CALIFORNIA STATE PRINTING OFFICE)

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well

This notice must be given before drilling begins

29-32362

Los Angeles, Cal. October 31, 1934

MR. E. H. MUSSER

Deputy State Oil and Gas Supervisor

313 Haberfeld Building,

DEAR SIR: Bakersfield, California

RECEIVED
NOV 5 1934

In compliance with Section 17, Chapter 718, Statutes of 1915, as amended, notice is hereby given that it is our intention to commence the work of drilling well No. Sea Cliff-Houghton #1, Sec. 7, T. 31 S R. 28 E, M.D. B. & M., ~~Greenfield~~ Oil Field, Kern County.

Lease consists of Eighty Acres

The well is 340 feet ~~N. or~~ S., and 3630 feet ~~E. or~~ W. from N E corner of Sect. 7, T-31-R-28
(Give location in distance from section corners or other corners of legal subdivision)

The elevation of the derrick floor above sea level is 345 feet.

We propose to use the following strings of casing, either cementing or landing them as herein indicated:

Size of Casing, Inches	Weight, Lb. Per Foot	New or Second Hand	Depth	Landed or Cemented
13-3/8"		New.	600	Cemented
(Requires not Less than 600')				

Well is to be drilled with ~~cable~~ rotary tools.

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing.

We estimate that the first productive oil or gas sand should be encountered at a depth of about 5300 feet, more or less.

Respectfully yours

Address 340 Roosevelt Bldg.
Los Angeles, California.

SEA CLIFF OIL CO. LTD.
(Name of Company or Operator)

Telephone number TUCKER 1161

By [signature]

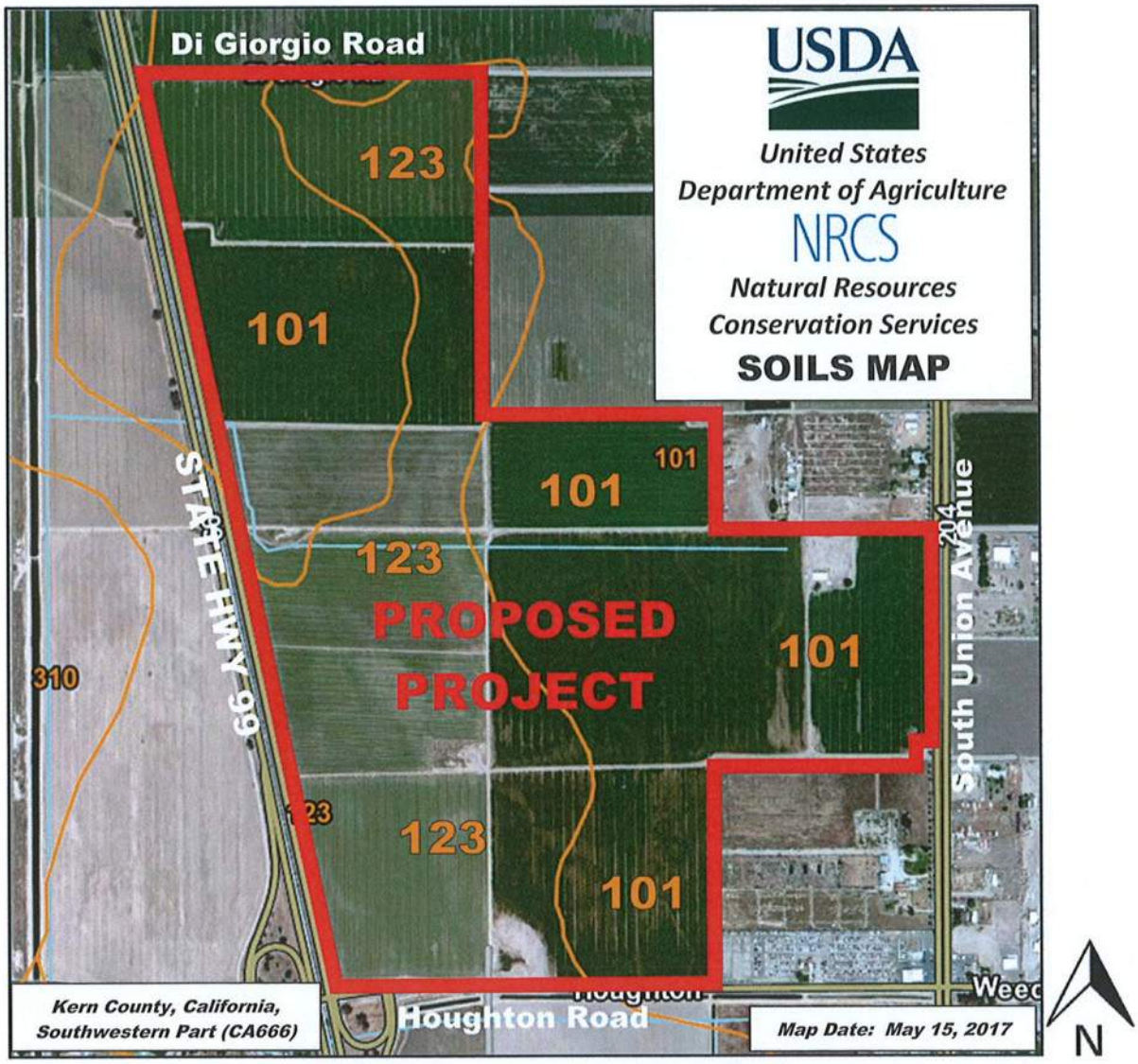
ADDRESS NOTICE TO DEPUTY STATE OIL AND GAS SUPERVISOR IN CHARGE OF DISTRICT WHERE WELL IS LOCATED

Reference to file of data

Maps	Address	Notice	Cards	114	121
47	Model Book	Section			
cub	Gas Book		✓	528	✓

APPENDIX D

Figures



PROPOSED PROJECT – MAP UNIT LEGEND		
Map Unit Symbol	Map Unit Name	Description
101	Bakersfield fine sandy loam, drained, 0 to 1 percent slopes	This somewhat poorly drained soil is found on flood plains. It is formed in alluvium derived from granitoid rock. The average frost-free season is 250-300 days
123	Granoso sandy loam, 0 to 2 percent slopes, overwash	This soil somewhat excessively drained, found on alluvial fans and floodplains, derived from mixed rock sources. Runoff is very low.

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7
County of Kern, State of California

Figure D-1 – United States Department of Agriculture (USDA) - Soils Map

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Kern County, California, Southwest Part



May 15, 2017

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

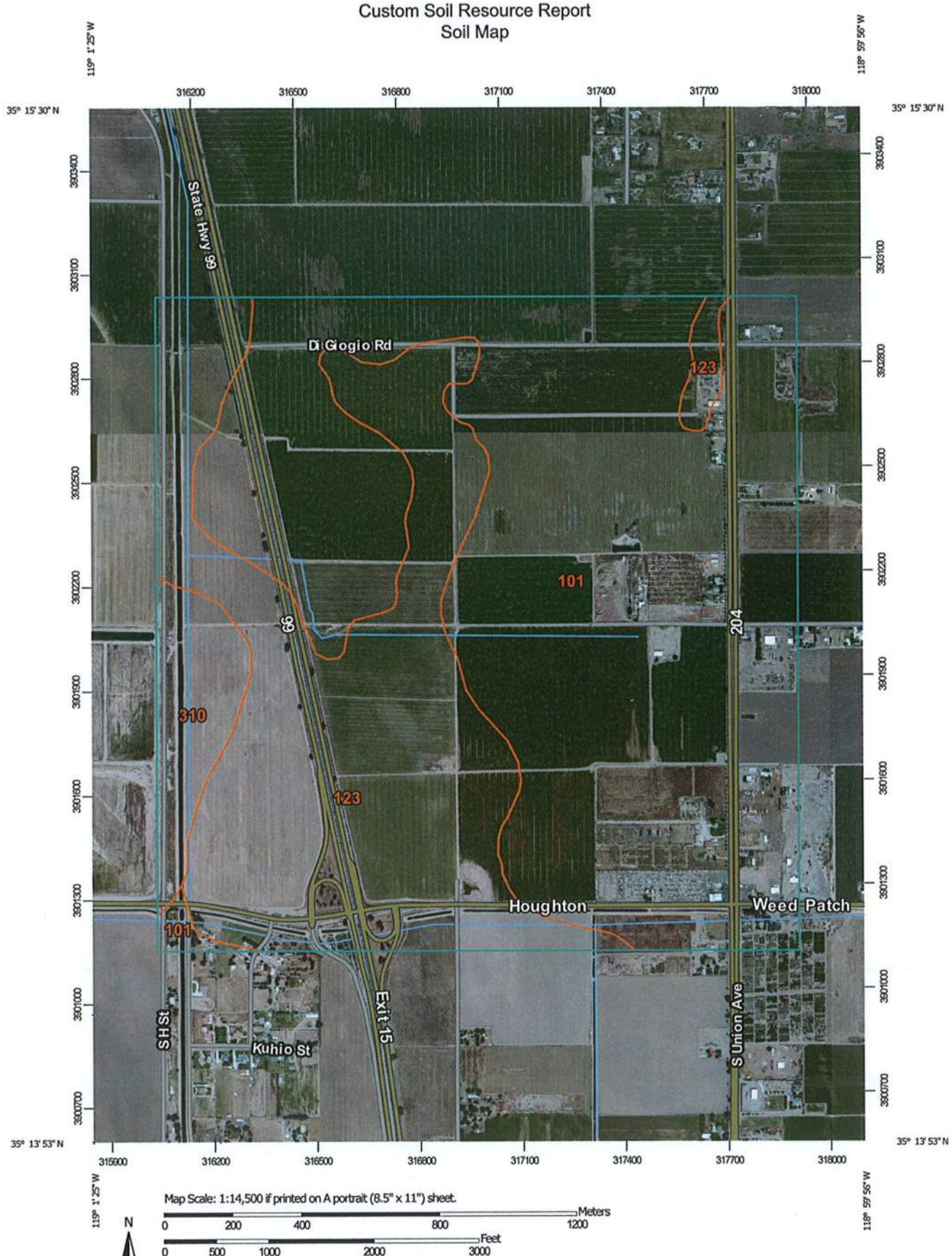
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:14,500 if printed on A portrait (8.5" x 11") sheet.

Meters: 0 200 400 800 1200

Feet: 0 500 1000 2000 3000

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Kern County, California, Southwest Part
Survey Area Data: Version 7, Sep 12, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 5, 2010---Mar 10, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Kern County, California, Southwest Part (CA691)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
101	Bakersfield fine sandy loam, drained, 0 to 1 percent slopes	536.7	61.3%
123	Granoso sandy loam, 0 to 2 percent slopes, overwash	298.9	34.2%
310	Vineland loamy sand, drained, 0 to 1 percent slopes	39.3	4.5%
Totals for Area of Interest		874.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Kern County, California, Southwest Part

101—Bakersfield fine sandy loam, drained, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: hnck
Elevation: 290 to 410 feet
Mean annual precipitation: 5 to 6 inches
Mean annual air temperature: 62 to 65 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Bakersfield, drained, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bakersfield, Drained

Setting

Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granitoid rock

Typical profile

Ap1 - 0 to 3 inches: fine sandy loam
Ap2 - 3 to 10 inches: fine sandy loam
A - 10 to 16 inches: fine sandy loam
C1 - 16 to 29 inches: stratified sand to loam
C2 - 29 to 45 inches: stratified sand to loam
Ck - 45 to 51 inches: loam
C'1 - 51 to 58 inches: stratified sandy loam to silt loam
C'2 - 58 to 66 inches: stratified sand to loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 3 percent
Salinity, maximum in profile: Nonsaline to slightly saline (1.0 to 5.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 12.0
Available water storage in profile: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B

Hydric soil rating: Yes

Minor Components

Bakersfield, saline-sodic
Percent of map unit: 4 percent
Landform: Flood plains
Landform position (three-dimensional): Talf
Hydric soil rating: Yes

Oldriver
Percent of map unit: 4 percent
Landform: Flood plains
Landform position (three-dimensional): Talf
Hydric soil rating: Yes

Vineland
Percent of map unit: 4 percent
Landform: Flood plains
Landform position (three-dimensional): Talf
Hydric soil rating: Yes

Granoso, overwash
Percent of map unit: 4 percent
Landform: Flood plains
Landform position (three-dimensional): Talf
Hydric soil rating: No

Granoso
Percent of map unit: 4 percent
Landform: Flood plains
Landform position (three-dimensional): Talf
Hydric soil rating: No

123—Granoso sandy loam, 0 to 2 percent slopes, overwash

Map Unit Setting
National map unit symbol: hncr
Elevation: 300 to 490 feet
Mean annual precipitation: 5 to 7 inches
Mean annual air temperature: 62 to 65 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Granoso and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Granoso

Setting

Landform: Flood plains, alluvial fans
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed rock sources

Typical profile

Ap - 0 to 10 inches: sandy loam
C1 - 10 to 20 inches: loamy sand
C2 - 20 to 36 inches: sand
C3 - 36 to 62 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 3 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.1 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 4.0
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Excelsior

Percent of map unit: 3 percent
Landform: Flood plains, alluvial fans
Landform position (three-dimensional): Talf
Hydric soil rating: No

Bakersfield

Percent of map unit: 3 percent
Landform: Flood plains, alluvial fans
Landform position (three-dimensional): Talf
Hydric soil rating: Yes

Kimberlina

Percent of map unit: 3 percent
Landform: Flood plains, alluvial fans
Landform position (three-dimensional): Talf
Hydric soil rating: No

Milagro, fine sandy loam
Percent of map unit: 3 percent
Landform: Alluvial fans, fan skirts
Landform position (three-dimensional): Talf
Hydric soil rating: No

Wasco
Percent of map unit: 2 percent
Landform: Flood plains, alluvial fans
Landform position (three-dimensional): Talf
Hydric soil rating: No

Unnamed, slough
Percent of map unit: 1 percent
Landform: Sloughs
Hydric soil rating: Yes

310—Vineland loamy sand, drained, 0 to 1 percent slopes

Map Unit Setting
National map unit symbol: hnbf
Elevation: 280 to 340 feet
Mean annual precipitation: 5 to 6 inches
Mean annual air temperature: 62 to 65 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition
Vineland, drained, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vineland, Drained

Setting
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granitoid rock

Typical profile
Ap - 0 to 6 inches: loamy sand
A - 6 to 14 inches: loamy sand
C1 - 14 to 22 inches: stratified coarse sand to fine sandy loam
C2 - 22 to 26 inches: stratified coarse sand to fine sandy loam
C3 - 26 to 38 inches: stratified sand to loam
C4 - 38 to 43 inches: stratified sand to loam
C5 - 43 to 54 inches: stratified sand to loam
C6 - 54 to 58 inches: stratified sand to loam
C7 - 58 to 64 inches: stratified sand to loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.57 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline (0.2 to 0.7 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 5.0
Available water storage in profile: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Hydric soil rating: Yes

Minor Components

Excelsior

Percent of map unit: 10 percent
Landform: Alluvial fans
Landform position (three-dimensional): Talf
Hydric soil rating: No

Granoso

Percent of map unit: 3 percent
Landform: Flood plains
Landform position (three-dimensional): Talf
Hydric soil rating: No

Milagro

Percent of map unit: 2 percent
Landform: Fan skirts
Hydric soil rating: No

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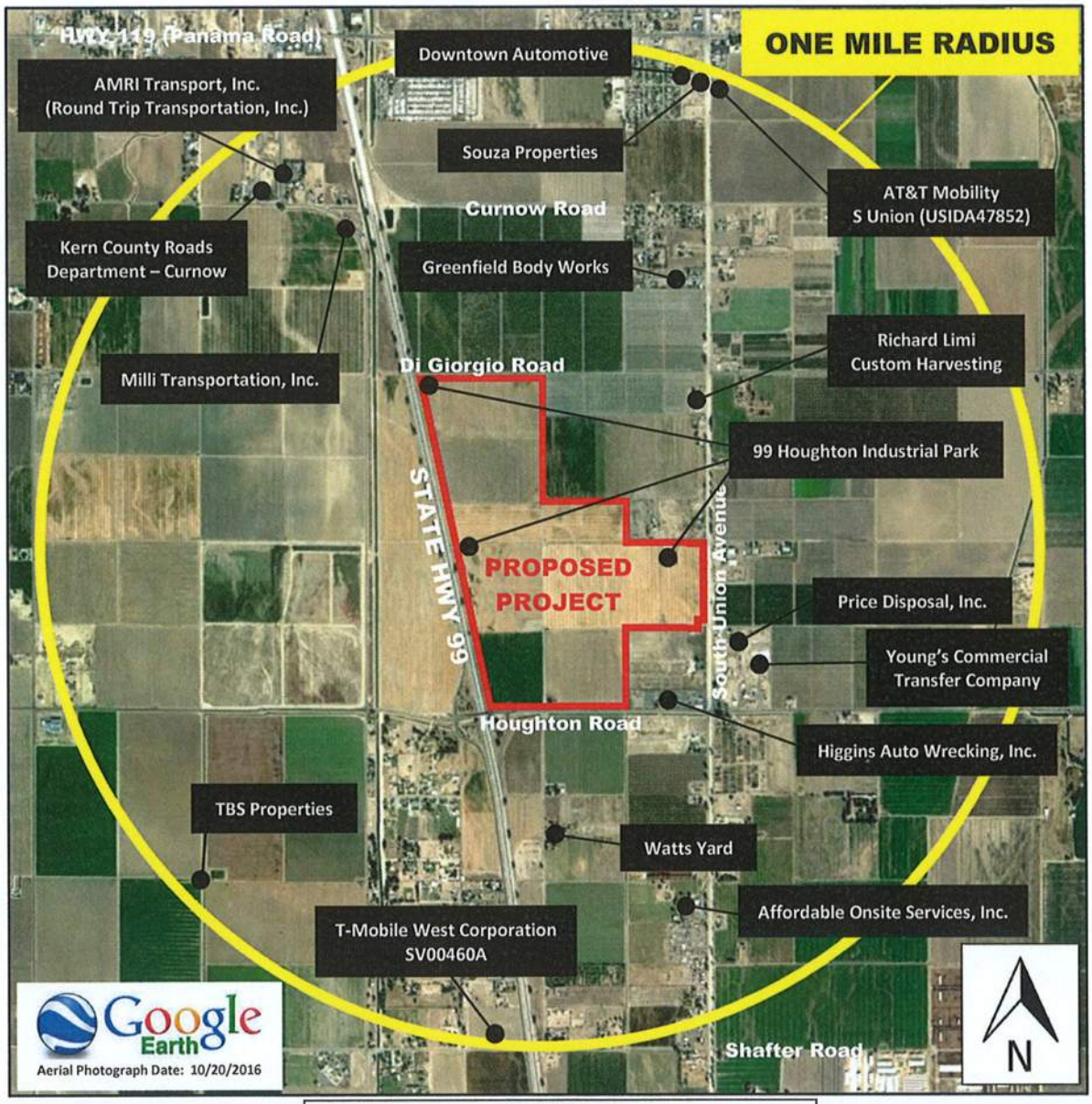
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APPENDIX E

Figures



County of Kern Environmental Health Services Department
DATE: JUNE 2017

2016 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7

County of Kern, State of California

Figure E-1 - Aerial Photograph – One Mile Radius

RESOURCE MANAGEMENT AGENCY

RANDALL L. ABBOTT
DIRECTOR

DAVID PRICE III
ASSISTANT DIRECTOR

Environmental Health Services Department
STEVE McCALLEY, REHS, DIRECTOR

Air Pollution Control District
WILLIAM J. RODDY, APCO

Planning & Development Services Department
TED JAMES, AICP, DIRECTOR

ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

October 8, 1991

Richard Limi Custom Harvesting
Louie Limi
435 E. Panama Lane
Bakersfield, California 93307

CLOSURE OF 1 UNDERGROUND HAZARDOUS SUBSTANCE STORAGE TANK LOCATED AT 11437 SOUTH UNION AVENUE IN BAKERSFIELD, CALIFORNIA.
PERMIT # A1565-32/320026

This is to advise you that this Department has reviewed the project results for the preliminary assessment associated with the closure of the tank noted above.

Based upon the sample results submitted, this Department is satisfied that the assessment is complete. Based on current requirements and policies, no further action is indicated at this time.

It is important to note that this letter does not relieve you of further responsibilities mandated under the California Health and Safety Code and California Water Code if additional or previously unidentified contamination at the subject site causes or threatens to cause pollution or nuisance or is found to pose a significant threat to public health.

Thank you for your cooperation in this matter.

Laurel Funk

LAUREL FUNK, HAZARDOUS MATERIALS SPECIALIST

cc: Wegener Construction
1719 Calloway
Bakersfield, CA 93312

Richard Limi Custom Harvesting

E-2

2700 "M" STREET, SUITE 300 BAKERSFIELD, CALIFORNIA 93301 (805) 861-3636
FAX: (805) 861-3429

PRINTED ON RECYCLED PAPER

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

FACILITY INFORMATION:

Facility Name: RICHARD LIMI CUSTOM HARVESTING, FA0004712
Physical Location:
City: BAKERSFIELD, CA
Facility Phone: (805) 838-0005
Latitude: 35.250900
Longitude: -119.003200

OWNER INFORMATION:
RICHARD LIMI

435 E PANAMA RD
BAKERSFIELD, CA 93311
(805) 838-0005

BILLING INFORMATION:
RICHARD LIMI CUSTOM HARVESTING

435 E PANAMA ROAD
BAKERSFIELD, CA 93311
(805) 838-0005

ENVIRONMENTAL CONTACT INFORMATION:
RICHARD LIMI
11359 SOUTH UNION AVENUE
BAKERSFIELD, CA 93307
(805) 838-0005

Environmental Contact's E-Mail Address:

EMERGENCY CONTACT INFORMATION:

NAME: TITLE:
RICHARD LIMI, OWNER
Day Phone: (805) 838-0005
24 hr Phone: (805) 838-0005

NAME: TITLE:
ROBERTO PEEBLES, FORMAN
Day Phone: (661) 699-7474
24 hr Phone: -

REGULATED ACTIVITIES AT THIS FACILITY:

BUS PLAN SMALL LOW RISK 1 UNIT
SMALL QUANTITY HAZARDOUS WASTE GENERATOR EPA ID #: CAL000352668

NOTES:

Last CERS Submittal: 03/01/2016
Signature: Richard Limi
Account Balance: $324.00

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY

INVENTORY:

FARM YARD AND SHOP;BY SHOP BUILDING

GEAR OIL	55.00 GALLONS	Steel Drum
GEAR OIL		
HYDRAULIC OIL	55.00 GALLONS	Steel Drum
HYDRAULIC OIL		
MOTOR OIL	55.00 GALLONS	Steel Drum
MOTOR OIL		
USED OIL FILTERS	350.00 POUNDS	Steel Drum
USED OIL FILTERS		
WASTE OIL	500.00 GALLONS	AST
WASTE OIL		

FARM YARD AND SHOP;INSIDE SHOP

OXYGEN	250.00 CUBIC FEET	Steel Drum
OXYGEN		

ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

STEVE McCALLEY, R.E.H.S.
DIRECTOR

2700 "M" Street, Suite 300
Bakersfield, CA 93301
(805) 861-3636
(805) 861-3429 FAX

August 11, 1994

Mr. Larry Young
Young's Commercial Transfer
300 Buena Vista
Bakersfield, CA 93307

SUBJECT: Site Closure Report for Young's Commercial Transfer Facility located at 300 Buena Vista, Bakersfield, CA

Dear Mr. Young:

The laboratory results of soil samples retrieved from the bioremediation cell on site have been reviewed. Based on the results, this Department concurs with Holguin, Fahan & Associates' recommendation that no further action is needed at this site in relation to the former diesel underground tank. However, before issuance of a closure letter, the monitoring well previously installed must be properly abandoned.

Please notify this office at least 48 hours prior to initiating well abandonment activities. If you have any questions regarding this correspondence, I can be reached at (805) 861-3636.

Sincerely,

Steve McCalley, Director

Dolores Gough
By: Dolores Gough
Hazardous Materials Specialist II
Hazardous Materials Management Program

DG:ch

cc: Holguin, Fahan & Associates

gough\620011b.clt

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

FACILITY INFORMATION:

Facility Name: HIGGINS AUTO WRECKING, FA0001874
Physical Location:
City: BAKERSFIELD, CA
Facility Phone: (661) 831-2411
Latitude: 35.238500
Longitude: -119.003200

OWNER INFORMATION:
HIGGINS AUTO WRECKING INC
PHILLIP BALL
12825 S UNION AVE
BAKERSFIELD, CA 93307
(661) 831-2411

BILLING INFORMATION:
HIGGINS AUTO WRECKING
PHILLIP BALL
12825 S UNION AVE
BAKERSFIELD, CA 93307
(661) 831-2411

ENVIRONMENTAL CONTACT INFORMATION:
PHILLIP BALL
12825 S. UNION AVE.
BAKERSFIELD, CA 93307
(661) 831-2411

Environmental Contact's E-Mail Address: phillip@higginsauto.com

EMERGENCY CONTACT INFORMATION:

NAME: TITLE:
PHILLIP BALL, PRESIDENT
Day Phone: (661) 831-2411
24 hr Phone: (661) 201-3914

NAME: TITLE:
TIM AUSTIN, VICE PRESIDENT
Day Phone: (661) 831-2411
24 hr Phone: (661) 201-4936

REGULATED ACTIVITIES AT THIS FACILITY:

BUS PLAN SMALL LOW RISK 1 UNIT
SMALL QUANTITY HAZARDOUS WASTE GENERATOR EPA ID #: CAL000318368

NOTES:

Last CERS Submittal: 06/14/2016
Signature: PHILLIP BALL
Account Balance: $324.00

Higgins Auto Wrecking, Inc.

E-4

Report # 7010

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY

INVENTORY:

Fixed Containers at Site;BEHIND SALES OF

ARGON	155.00 CUBIC FEET	Cylinder
ARGON		
USED BRAKE FLUID	55.00 GALLONS	Steel Drum
USED OIL FILTERS	13.00 POUNDS	Steel Drum
Drained Used Oil Filters		
WASTE GASOLINE	55.00 GALLONS	Steel Drum
WASTE OIL	300.00 GALLONS	Steel Drum
Non-rcra Hazardous Waste Liquid (waste Oil)		

Fixed Containers at Site;BEHIND SALES OFFICE

WASTE ANTIFREEZE	55.00 GALLONS	Plastic Drum
WASTE ANTIFREEZE		

Fixed Containers at Site;CANOPY ATTACHED

FREON	240.00 POUNDS	Cylinder
FREON		

Fixed Containers at Site;INSIDE SHOP SE

ACETYLENE	107.00 CUBIC FEET	Cylinder
Acetylene		
OXYGEN	282.00 CUBIC FEET	Cylinder
Oxygen Difluoride		

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

06/28/2017 **Site ID: HAZMAT** **CERS ID: 10672591**

FACILITY INFORMATION:

Facility Name: WATTS YARD, FA0043551
Physical Location: 13267 Chevalier Rd
City: Bakersfield, CA
Facility Phone: (661) 836-1556
Latitude: 35.234300
Longitude: -119.012100

OWNER INFORMATION:

Garry Watts

13214 Eberle Road
Bakersfield, CA 93307
(661) 836-1556

BILLING INFORMATION:

Hayley Watts
WATTS YARD
13214 Eberle Road
Bakersfield, CA 93307
(661) 836-1556

ENVIRONMENTAL CONTACT INFORMATION:

Jeremy Watts
13214 Eberle Road
Bakersfield, CA 93307
(661) 979-0402

Environmental Contact's E-Mail Address:

EMERGENCY CONTACT INFORMATION:

NAME: TITLE:
Jeremy Watts, Vice President
Day Phone: (661) 836-1556
24 hr Phone:

NAME: TITLE:
Justin Watts, VP
Day Phone: (661) 836-1556
24 hr Phone: (661) 979-0402

REGULATED ACTIVITIES AT THIS FACILITY:

APSA 10,000-99,999 GALLON CAPACITY
BUS PLAN MED LOW RISK 1 UNIT

NOTES:

Last CERS Submittal: 08/12/2016
Signature: Bradley Skenfield
Account Balance: $460.00

Watts Yard

E-5

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY
H084	**Aboveground valves, piping, and appurtenances are regularly inspected** OBSERVATION: At the time of the inspection it was evident that the inspections are not being conducted. There was an excess of debris and liquid inside of secondary containment. The outside of the containment wall shows evidence of discharge along the outside of the wall. ***CORRECTIVE ACTION: Begin conducting inspection as per SPCC plan provided by your professional engineer. Document the inspections and send a copy of the reports to shamoone@co.kern.ca.us	2	11/02/2016
H063	**Adequate secondary containment provided and maintained** OBSERVATION: At the time of the inspection, there was a heavy accumulation of black sludgy material, excess debris and liquid inside of secondary containment. The liquid accumulation had a sheen indicating that there has been a discharge into secondary containment. ***CORRECTIVE ACTION: Pump out the liquid/sludge material and remove as hazardous waste. Contact a hazardous waste hauler to remove the waste and send me a copy of the manifest. Take a photograph of the inside of secondary containment after it has been cleaned. Send the manifest AND photograph to shamoone@co.kern.ca.us	2	11/02/2016
H077	**Cause(es) of leaks promptly corrected** OBSERVATION: At the time of the inspection, there was a heavy accumulation of black sludgy material, excess debris and liquid inside of secondary containment. The liquid accumulation had a sheen indicating that there has been a discharge into secondary containment. ***CORRECTIVE ACTION: Pump out the liquid/sludge material and remove as hazardous waste. Contact a hazardous waste hauler to remove the waste and send me a copy of the manifest. Take a photograph of the inside of secondary containment after it has been cleaned. Send the manifest AND photograph to shamoone@co.kern.ca.us	1	11/02/2016
H004	**SPCC has been prepared and implemented** OBSERVATION: Failure to conduct inspections of the tank/containers resulted in the loss of farming exemption. This site shall prepare a full Spill Prevention Countermeasures Control (SPCC) plan. ***CORRECTIVE ACTION: As a result of this failure, Watts Yard has lost its farming exemption and is now required to prepare a full Spill Prevention Countermeasures Control (SPCC) Plan. Contact a Professional Engineer to prepare an SPCC plan unique to Watts Yard. A list of professional engineers will be sent to Mr. Jeremy Watts.	2	11/02/2016
H093	**Exempt facility conducted daily inspections of all containers/tanks**	9	11/02/2016

Watts Yard

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY
	OBSERVATION: Failure to conduct daily inspections of the tanks and secondary containment. At the time of the inspection it was evident that the inspections are not being conducted. There was an excess of debris and liquid inside of secondary containment. The outside of the containment wall shows evidence of discharge along the outside of the wall.t.		
	***CORRECTIVE ACTION: As a result of this failure, Watts Yard has lost its farming exemption and is now required to prepare a full Spill Prevention Countermeasures Control (SPCC) Plan. Contact a Professional Engineer to prepare an SPCC plan unique to Watts Yard.		

INVENTORY:

West of House

Diesel Fuel No. 2	12,000.00 GALLONS	AST
Diesel Fuel No. 2		
Hyrdaulic Fluid	200.00 GALLONS	AST
Phenol, isobutylenated, phosphate (3:1)		
Motor Oil	200.00 GALLONS	AST
Lube Oil		

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

FACILITY INFORMATION:

Facility Name: AFFORDABLE ONSITE SERVICE INC., FA0005905
Physical Location:
City: BAKERSFIELD, CA
Facility Phone: (661) 201-4775
Latitude: 35.229600
Longitude: -119.003200

OWNER INFORMATION:
AFFORDABLE ONSITE SERVICE
EFRAIN INIGUEZ
13801 SOUTH UNION AVE
BAKERSFIELD, CA 93307
(661) 201-4775

BILLING INFORMATION:
AFFORDABLE ONSITE SERVICE
13801 SOUTH UNION AVE
BAKERSFIELD, CA 93307
(661) 845-3962

ENVIRONMENTAL CONTACT INFORMATION:
EFRAIN INIGUEZ
13801 SOUTH UNION AVE
BAKERSFIELD, CA 93307
(661) 201-4775

Environmental Contact's E-Mail Address: elsauz@ymail.com

EMERGENCY CONTACT INFORMATION:

NAME:	TITLE:	NAME:	TITLE:
ROSALBA INIGUEZ, SEC		Efrain Iniguez, Owner	
Day Phone: (661) 903-6444		Day Phone: (661) 834-0657	
24 hr Phone: (661) 845-3962		24 hr Phone: (661) 201-4775	

REGULATED ACTIVITIES AT THIS FACILITY:

APSA 1,320-9,999 GALLON CAPACITY
BUS PLAN SMALL LOW RISK 1 UNIT
SMALL QUANTITY HAZARDOUS WASTE GENERATOR EPA ID #: CAL000275072

NOTES:

Last CERS Submittal: 03/15/2016
Signature: Efrain Iniguez
Account Balance: $475.00

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY
H346	**Adequate completion and electronic submission of a Site Map with all required** OBSERVATION: The annotated site map is missing the storage location for the compressed gases and the spent batteries. ***CORRECTIVE ACTION: Upload a revised annotated site map in CERS then resubmit. Please notify Evie Shamoon via email (shamoone@co.kern.ca.us) when submittal is complete.	2	12/07/2016
H260	**Generator properly labeled all containers or tanks containing hazardous waste** OBSERVATION: The hazardous waste antifreeze container does not proper labeling affixed to the outside of the container. This container is missing the "Hazardous Waste" label along with starting accumulation date for this waste stream. ***CORRECTIVE ACTION: Please contact your hazardous waste hauler to remove all of the waste antifreeze. Send a copy of the manifest to shamoone@co.kern.ca.us You are also required to send a photograph of the container with proper labels affixed.	2	12/07/2016
H250	**Failed to retain copy of manifest or bill of lading for spent lead acid batteries fo** OBSERVATION: ***CORRECTIVE ACTION:	2	12/07/2016
H261	**Generator follows all spent lead-acid battery storage requirements** OBSERVATION: THe facility failed to properly segregate the spent lead acid batteries from the retail lead acid batteries. ***CORRECTIVE ACTION: A copy of the DTSC spent lead acid batteries will be sent in an email. Follow proper storage requirements. Send a photograph of the corrected issue to shamoone@co.kern.ca.us	2	12/07/2016

INVENTORY:

ACETYLENE	1,000.00 CUBIC FEET	Cylinder
ANTIFREEZE	55.00 GALLONS	Steel Drum
ARGON	2,500.00 CUBIC FEET	Cylinder
BATTERIES	320.00 POUNDS	Unknown
HYDRAULIC OIL	55.00 GALLONS	Steel Drum
LUBRICANT	35.00 GALLONS	Steel Drum
NITROGEN	1,380.00 CUBIC FEET	Cylinder
OXYGEN	2,000.00 CUBIC FEET	Cylinder
WASTE OIL	750.00 GALLONS	AST

Inside the shop

Universal Waste (Aresol Cans)	10.00 POUNDS	Steel Drum
Universal Waste (Aresol Cans)		
Waste Antifreeze	55.00 GALLONS	Steel Drum
Waste Antifreeze		
WASTE OIL FILTERS	350.00 POUNDS	Steel Drum
WASTE OIL FILTERS		

outside of shop

used Absorbent material	275.00 POUNDS	Steel Drum
used Absorbent material		

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

FACILITY INFORMATION:

Facility Name: Round Trip Transportation, Inc., FA0036654
Physical Location:
City: BAKERSFIELD, CA
Facility Phone: (661) 836-1065
Latitude: 35.260500
Longitude: -119.025700

OWNER INFORMATION:
Round Trip Transportation, Inc.

BILLING INFORMATION:
ROUND TRIP TRANSPORTATION
10402 CAMPAGNONI STREET
BAKERSFIELD, CA 93313

ENVIRONMENTAL CONTACT INFORMATION:

JESSIE ATHWAL
10402 COMPAGNONI ST
BAKERSFIELD, CA 93313
(661) 496-1292

Environmental Contact's E-Mail Address: amritransport@gmail.com

EMERGENCY CONTACT INFORMATION:

NAME: TITLE:
CRISTINA ATHWAL, OWNER
Day Phone: (661) 836-1065
24 hr Phone:

NAME: TITLE:
AMRICK S ATHWAL, OWNER
Day Phone: (661) 836-1065
24 hr Phone: (661) 319-1124

REGULATED ACTIVITIES AT THIS FACILITY:

BUS PLAN SMALL LOW RISK 1 UNIT
SMALL QUANTITY HAZARDOUS WASTE GENERATOR

EPA ID #: Not entered in CERS

NOTES:

Last CERS Submittal: 02/26/2015
Signature: VERONICA ONTIVEROS
Account Balance: $324.00

AMRI Transportation, Inc. (Round Trip Transportation Inc.)

E-7

Report # 7010

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY
H236	**The facility has an active EPA ID number (unless exempted HSC 25143.13)** The facility's EPA ID number (CAL000280432) in currently inactive. Please contact the Department of Toxic Substances Control (DTSC) and request to have the number re-activated. Once the number is re-activated, please notify this department. Additionally, please upload the EPA ID number in CERS and submit.	2	03/28/2015
H260	**Generator properly labeled all containers or tanks containing hazardous waste** The 55 gallon drum of used oil does not have a "Hazardous Waste" label on it. Please place a "Hazardous Waste" label on the drum, take a photograph of the labeled drum, and submit the photo to this department.	2	03/28/2015

INVENTORY:

STORAGE CONTAINER

HEAVY DUTY DIESEL OIL	250.00 GALLONS	Tote Bin
HEAVY DUTY DIESEL OIL		
MOTOR OIL	55.00 GALLONS	Steel Drum
MOTOR OIL		
WASTE MOTOR OIL	55.00 GALLONS	Steel Drum
WASTE MOTOR OIL		
WASTE OIL FILTERS	350.00 POUNDS	Steel Drum
WASTE OIL FILTERS		

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

FACILITY INFORMATION:

Facility Name: AT&T MOBILITY - S UNION (USID47852), FA0026905
Physical Location: 9834 S Union Ave
City: Bakersfield, CA
Facility Phone: (800) 638-2822
Latitude: 35.265700
Longitude: -119.002100

OWNER INFORMATION:

New Cingular Wireless PCS, LLC dba AT&T Mobility

308 S. Akard St., 17th Floor
Dallas, TX 75202
(214) 741-0630

BILLING INFORMATION:

AT&T Mobility Manager EH&S EPCRA
SHEILA CABALLERO
5001 Executive Pkwy, RM 4W2001
San Ramon, CA 94583
(214) 741-0460

ENVIRONMENTAL CONTACT INFORMATION:

Grant Armstrong
4540 California Avenue Ste. 400
Bakersfield, CA 93309
(661) 327-6903

Environmental Contact's E-Mail Address: SC618J@ATT.COM;steve.skanderson@stantec.com

EMERGENCY CONTACT INFORMATION:

NAME:	TITLE:	NAME:	TITLE:
Grant Armstrong,	Environmental Site Manager	Wireless Network Control Center,	Call Center
Day Phone: (661) 327-6903		Day Phone: (800) 566-9347	
24 hr Phone: (800) 566-9347		24 hr Phone: (800) 638-2822	

REGULATED ACTIVITIES AT THIS FACILITY:

BUS PLAN SMALL LOW RISK 1 UNIT

NOTES:

Last CERS Submittal: 01/11/2017
Signature: Tameka Jackson
Account Balance: $134.00

American Telephone and Telegraph (AT&T) - S Union (USID47852)

E-8

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY

INVENTORY:

INSIDE CELL SITE, (Outdoor cabinets)

Lead-Acid Batteries	59.10 GALLONS	Unknown
Lead-Acid Batteries		

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

FACILITY INFORMATION:

Facility Name: DOWNTOWN AUTOMOTIVE, FA0001869
Physical Location:
City: BAKERSFIELD, CA
Facility Phone: (661) 833-8076
Latitude: 35.266100
Longitude: -119.004500

OWNER INFORMATION:

WAYLAND R BOLEN
WAYLAND BOLEN
9757 BACE AVE
BAKERSFIELD, CA 93307
(661) 835-5711

BILLING INFORMATION:

WAYLAND R. BOLEN
DOWNTOWN AUTO
9757 BACE AVE
BAKERSFIELD, CA 93307
(661) 845-5920

ENVIRONMENTAL CONTACT INFORMATION:

WAYLAND BOLEN
9757 BACE AVE.
BAKERSFIELD, CA 93307
(661) 833-8076

Environmental Contact's E-Mail Address: downtownautomotive@sbcglobal.net

EMERGENCY CONTACT INFORMATION:

NAME:	TITLE:	NAME:	TITLE:
Wayland Bolen, owner		DUSTIN BOLEN	
Day Phone: (661) 833-8076		Day Phone: (661) 345-2474	
24 hr Phone: (661) 301-1316		24 hr Phone: (661) 345-2474	

REGULATED ACTIVITIES AT THIS FACILITY:

BUS PLAN SMALL LOW RISK 1 UNIT
SMALL QUANTITY HAZARDOUS WASTE GENERATOR EPA ID #: cal000212081

NOTES:

Last CERS Submittal: 05/05/2016
Signature: WAYLAND BOLEN
Account Balance: $324.00

Downtown Automotive

E-9

Report # 7010

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY

INVENTORY:

north wall between 2 doors		
ACETYLENE	200.00 CUBIC FEET	Cylinder
Acetylene		
ARGON	500.00 CUBIC FEET	Cylinder
ARGON		
north wall between 2doors		
STARGON	310.00 CUBIC FEET	Cylinder
northwest corner inside north door		
NITROUS OXIDE / SULFUR DIOXIDE MIX	750.00 CUBIC FEET	Cylinder
northwest corner outside		
USED OIL FILTERS	10.00 POUNDS	Steel Drum
Drained Used Oil Filters		
WASTE ANTIFREEZE	55.00 GALLONS	AST
WASTE OIL	85.00 GALLONS	AST
Non-rcra Hazardous Waste Liquid (waste Oil)		
noth wall between 2 doors		
OXYGEN	500.00 CUBIC FEET	Cylinder
Oxygen Difluoride		
southwest corner inside wesr wall		
MOTOR OIL	205.00 GALLONS	AST
Motor Oil		
southwest corner inside west wall		
TRANSMISSION FLUID	55.00 GALLONS	AST

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

FACILITY INFORMATION:

Facility Name: GREENFIELD BODY WORKS, FA0005747
Physical Location:
City: BAKERSFIELD, CA
Facility Phone: (661) 831-6260
Latitude: 35.256200
Longitude: -119.003400

OWNER INFORMATION:
GREENFIELD BODY WORKS
JOSHUA JAMES
10825 S UNION AVE
BAKERSFIELD, CA 93307
(661) 444-3198

BILLING INFORMATION:
GREENFIELD BODY WORKS
JOSHUA JAMES
10825 SOUTH UNION AVE
BAKERSFIELD, CA 93307
(661) 831-6260

ENVIRONMENTAL CONTACT INFORMATION:
AMANDA JAMES
10825 SOUTH UNION AVE
BAKERSFIELD, CA 93307
(661) 742-9757

Environmental Contact's E-Mail Address: gbw@bak.rr.com

EMERGENCY CONTACT INFORMATION:

NAME: TITLE:
JOSH JAMES, OWNER
Day Phone: (661) 831-6260
24 hr Phone: (661) 444-3198

NAME: TITLE:
AMANDA JAMES, co-owner
Day Phone: (661) 831-6260
24 hr Phone: (661) 742-9757

REGULATED ACTIVITIES AT THIS FACILITY:

BUS PLAN SMALL LOW RISK 1 UNIT
SMALL QUANTITY HAZARDOUS WASTE GENERATOR EPA ID #: CAL000214920

NOTES:

Last CERS Submittal: 06/21/2016
Signature: Amanda James
Account Balance: $324.00

Greenfield Body Works

E-10

Report # 7010

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY

INVENTORY:

1;

ACETYLENE	530.00 CUBIC FEET	Cylinder
ACETYLENE		
ARGON	704.00 CUBIC FEET	Cylinder
ARGON		
OIL BASED AUTO PAINT WASTE	95.00 GALLONS	Steel Drum
OIL BASED AUTO PAINT WASTE		
OXYGEN	1,500.00 CUBIC FEET	Cylinder
OXYGEN		
USED OIL	300.00 GALLONS	Plastic Drum
USED OIL		
USED OIL FILTERS	350.00 GALLONS	Steel Drum
USED OIL FILTERS		
WATER BASED AUTO PAINT WASTE	40.00 GALLONS	Plastic Drum
WATER BASED AUTO PAINT WASTE		

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

FACILITY INFORMATION:

Facility Name: PRICE DISPOSAL INC., FA0002501
Physical Location:
City: BAKERSFIELD, CA
Facility Phone: (661) 831-2321
Latitude: 35.276700
Longitude: -119.003100

OWNER INFORMATION:

E J PRICE
ELMER J PRICE JR
8665 S UNION AVE
BAKERSFIELD, CA 93307
(661) 831-4620

BILLING INFORMATION:

PRICE DISPOSAL INC
ELMER J. PRICE JR
8665 S UNION AVE
BAKERSFIELD, CA 93307
(661) 831-2321

ENVIRONMENTAL CONTACT INFORMATION:

Jon Price
8665 S. UNION AVE
BAKERSFIELD, CA 93307
(661) 831-2321

Environmental Contact's E-Mail Address: tsouthsidesani@bak.rr.com

EMERGENCY CONTACT INFORMATION:

NAME: TITLE:
RAY SCOTT, ADMIN. SERV. MGR.
Day Phone: (661) 831-2321
24 hr Phone: (661) 703-0646

NAME: TITLE:
JAY PRICE, OWNER
Day Phone: (661) 831-2321
24 hr Phone: (661) 703-2535

REGULATED ACTIVITIES AT THIS FACILITY:

APSA 1,320-9,999 GALLON CAPACITY
BUS PLAN MED LOW RISK 2-5 UNITS
SMALL QUANTITY HAZARDOUS WASTE GENERATOR

EPA ID #: CAL000014901

NOTES:

Last CERS Submittal: 11/30/2016
Signature: Ray Scott
Account Balance: $735.00

Price Disposal, Inc.

E-11

Report # 7010

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY
H249	**Owner/Operator retained paperwork documenting disposal of used oil for 3 yea** OBSERVATION: Failure to provide copies of the hazardous waste manifests. ***CORRECTIVE ACTION: Send copies of the hazardous waste manifests for the waste oil, used filters and sump water removal. Manifests shall be sent to shamoone@co.kern.ca.us	2	12/07/2016
H002	**SPCC maintained onsite (If facility staffed 4 hrs/day)** OBSERVATION: Failure to provide a copy of the SPCC plan. ***CORRECTIVE ACTION: Send a copy of Price Disposal's SPCC plan to shamoone@co.kern.ca.us	2	12/07/2016

INVENTORY:

#7 TRUCK WASH SLAB;		
DIESEL	7,500.00 GALLONS	AST
Diesel Fuel		
WASTE WATER FROM TRUCK WASH	7,500.00 GALLONS	AST
#7 TRUCK WASH SLAB;N CNTR OF WASH SLAB		
PROPANE	1,000.00 GALLONS	AST
Cyclopropanedicarboxylic Acid (1,1-)		
Fuel Station		
DEF	330.00 GALLONS	Carboy
Lube Bay		
Ethylene Glycol	110.00 GALLONS	Steel Drum
Ethylene Glycol		
SHOP #3;N END OF WELDING SHOP #3		
ACETYLENE	1,125.00 CUBIC FEET	Cylinder
Acetylene		
CARBON DIOXIDE	1,000.00 CUBIC FEET	Cylinder
Carbon Dioxide-nitrous Oxide Mixture		
OXYGEN	2,100.00 CUBIC FEET	Cylinder
Oxygen Difluoride		
SHOP #6 LUBE BAY;		
WASTE OIL FILTERS	700.00 POUNDS	Steel Drum
SHOP #6 LUBE BAY;LUBE BAY		
Degreaser	55.00 GALLONS	Plastic Drum
GEAR LUBE	110.00 GALLONS	Steel Drum
Olefin Salside		
SHOP #6 LUBE BAY;NE WALL IN LUBE BAY		
HYDRAULIC OIL	300.00 GALLONS	AST
Phosph Orodithoic Acido,o-dici-14-Alryl Esters		
MOTOR OIL	300.00 GALLONS	Steel Drum
Zinc Dithiophsphate		
Transmission Fluid	110.00 GALLONS	Steel Drum
Diphenylamine		
SHOP #6 LUBE BAY;OUTSIDE OF THE LUBE BAY		
WASTE COOLANT/ANTIFREEZE	110.00 GALLONS	Steel Drum
WASTE OIL	750.00 GALLONS	Steel Drum
Non-rcra Hazardous Waste Liquid (waste Oil)		
welding shop		
Trimix Carbon Dioxzied Argon Helium	3,000.00 CUBIC FEET	Cylinder

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

FACILITY INFORMATION:

Facility Name: K C ROAD DEPT - CURNOW, FA0000899
Physical Location:
City: BAKERSFIELD, CA
Facility Phone: (661) 832-1493
Latitude: 35.259700
Longitude: -119.027600

OWNER INFORMATION:
KERN COUNTY ROADS DEPT
RICK WESTBROOK
1900 ROBERTS LN
BAKERSFIELD, CA 93308
(661) 862-8891

BILLING INFORMATION:
KERN COUNTY ROADS DEPT
2700 M ST SUITE 400
BAKERSFIELD, CA 93301
(661) 862-8850

ENVIRONMENTAL CONTACT INFORMATION:
Adam Jones
1900 ROBERTS LANE
BAKERSFIELD, CA 93308
(661) 862-8891

Environmental Contact's E-Mail Address: westbrookr@co.kern.ca.us

EMERGENCY CONTACT INFORMATION:

NAME:	TITLE:	NAME:	TITLE:
DAVID LOPEZ, SRMW II		MARIO ROJAS, RMW III	
Day Phone: (661) 832-1493		Day Phone: (661) 832-1493	
24 hr Phone: (661) 203-1046		24 hr Phone: (661) 301-1088	

REGULATED ACTIVITIES AT THIS FACILITY:

APSA 1,320-9,999 GALLON CAPACITY
BUS PLAN MED LOW RISK 1 UNIT
SMALL QUANTITY HAZARDOUS WASTE GENERATOR EPA ID #: CAL000358843

NOTES:

Last CERS Submittal: 03/30/2017
Signature: Adam Jones
Account Balance: $525.00

Kern County Roads Department - Curnow

E-12

Report # 7010

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY

INVENTORY:

HYDRAULIC OIL	55.00 GALLONS	Steel Drum
Fixed Containers at Site;		
USED ANTIFREEZE	55.00 GALLONS	Steel Drum
USED ANTIFREEZE		
Fixed Containers at Site;E OF STOREROOM		
DIESEL	2,000.00 GALLONS	AST
Diesel Fuel		
UNLEADED GASOLINE	1,000.00 GALLONS	AST
Fixed Containers at Site;N EQUIP STALLS		
CSS-1	3,800.00 GALLONS	AST
Fixed Containers at Site;SERVICE AREA		
MOTOR OIL	55.00 GALLONS	Steel Drum
MOTOR OIL		
Fixed Containers at Site;WORK BAY		
WASTE OIL	30.00 GALLONS	Steel Drum
WASTE OIL		
WASTE OIL FILTERS	350.00 POUNDS	Steel Drum
WASTE OIL FILTERS		
Oil Stall		
Degreaser	55.00 GALLONS	Steel Drum
Naturalizer vc		
Grease	30.00 GALLONS	Steel Drum
Grease		

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

FACILITY INFORMATION:

Facility Name: Milli Transportation, Inc, FA0043819
Physical Location: 10604 S H St
City: Bakersfield, CA
Facility Phone: (661) 837-1834
Latitude: 35.258200
Longitude: -119.021700

OWNER INFORMATION:
Julio Miranda

10604 S H St
Bakersfield, CA 93313
(661) 706-7571

BILLING INFORMATION:
JULIO MIRANDA
MILLI TRANSPORTATION
10604 S H STREET
BAKERSFIELD, CA 93313
(661) 706-7571

ENVIRONMENTAL CONTACT INFORMATION:
Luis Santamaria
10604 S H Street
Bakersfield, CA 93313
(661) 837-1834

Environmental Contact's E-Mail Address:

EMERGENCY CONTACT INFORMATION:

NAME: Julio Miranda, Owner TITLE:
Day Phone: (661) 706-7571
24 hr Phone:

NAME: Luis Santamaria, Dispatch TITLE:
Day Phone: (661) 837-1834
24 hr Phone: (661) 303-3079

REGULATED ACTIVITIES AT THIS FACILITY:

BUS PLAN SMALL LOW RISK 1 UNIT
SMALL QUANTITY HAZARDOUS WASTE GENERATOR EPA ID #: CAL000414772

NOTES:

Last CERS Submittal: 09/30/2016
Signature: Julio Miranda
Account Balance: $324.00

Milli Transportation, Inc.

E-13

Report # 7010

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY

INVENTORY:

Shop south of yard

Argon-Carbon Dioxide	735.00 CUBIC FEET	Cylinder
Argon, mixt. with carbon dioxide		
Grease	600.00 POUNDS	Steel Drum
Grease		
Motor Oil	110.00 GALLONS	Cylinder
Motor Oil		
Oxygen	250.00 CUBIC FEET	Cylinder
Oxygen		
Used Oil Filters (Drained)	700.00 POUNDS	Steel Drum
Used Oil Filters (Drained)		
Waste Oil	165.00 GALLONS	Cylinder

ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

STEVE McCALLEY, R.E.H.S.
DIRECTOR

2700 "M" Street, Suite 300
Bakersfield, CA 93301
(805) 861-3636
(805) 861-3429 FAX

UNDERGROUND STORAGE TANK CLOSURE

November 15, 1994

Terri Geivett
P. O. Box 816
Lebec, CA 93243

SUBJECT: CASE NO: 320065
Location: 9869 So. Union Avenue, Bakersfield, CA

Dear Ms. Geivett:

This letter confirms the completion of site investigation and remedial action for the underground storage tank(s) formerly located at the above-described location.

Based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground storage tank release is required.

This notice is issued pursuant to a regulation contained in Title 23, California Code of Regulations, Division 3, Chapter 16, Section 2721 (e).

Please telephone Flora Darling at (805) 861-3636, if you have any questions regarding this matter.

Sincerely,

Steve McCalley, Director
Environmental Health Services Department

SMc:ch

darling\geivett.100

Souza Properties

E-14

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

06/28/2017 **Site ID: HAZMAT** **CERS ID: 10445257**

FACILITY INFORMATION:

Facility Name: TBS Properties, FA0038505
Physical Location: 2909 Houghton Rd
City: Bakersfield, CA
Facility Phone: (661) 834-5173
Latitude: 35.237800
Longitude: -119.034700

OWNER INFORMATION:
TBS Properties LLC
10457 Van Horn Road
Bakersfield, CA 93313
(661) 834-5173

BILLING INFORMATION:
Tim Antongiovanni
TBS PROPERTIES
10457 Van Horn Road
Bakersfield, CA 93313
(661) 834-5173

ENVIRONMENTAL CONTACT INFORMATION:
Tim Antogniovanni
10457 VAn Horn Road
Bakersfield, CA 93313
(661) 834-5173

Environmental Contact's E-Mail Address:

EMERGENCY CONTACT INFORMATION:

NAME: TITLE:
Kevin Antongiovanni, President
Day Phone: (661) 834-5173
24 hr Phone:

NAME: TITLE:
Tim Antongiovanni, Manager
Day Phone: (661) 834-5173
24 hr Phone: (661) 343-7529

REGULATED ACTIVITIES AT THIS FACILITY:

BUS PLAN SMALL LOW RISK 1 UNIT

NOTES:

Last CERS Submittal: 06/12/2017
Signature: Tim Antongiovanni
Account Balance: $134.00

TBS Properties

E-15

Report # 7010

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY

INVENTORY:

2909 Houghton Road

Liquefied Petroleum Gas (lpg)	500.00 GALLONS	AST
Propane		

KERN COUNTY ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

HAZARDOUS MATERIALS BUSINESS INVENTORY

FACILITY INFORMATION:

Facility Name: T-Mobile West Corporation SV00460A, FA0044759
Physical Location: 1260 Shafter Rd
City: Bakersfield, CA
Facility Phone: (888) 662-4662
Latitude: 35.371800
Longitude: -118.973500

OWNER INFORMATION:

T-MOBILE WEST, LLC
DONNA KELLISON
12920 SE 38th Street
Bellevue, WA 98006
(425) 383-4000

BILLING INFORMATION:

Elizabeth Nygard
T-MOBILE WEST, LLC
4100 Guardian Street, Suite 101
Simi Valley, CA 93063
(805) 584-5749

ENVIRONMENTAL CONTACT INFORMATION:

Elizabeth Nygard
4100 Guardian Street, Suite 101
Simi Valley, CA 93063
(805) 584-5749

Environmental Contact's E-Mail Address:

EMERGENCY CONTACT INFORMATION:

NAME:	TITLE:	NAME:	TITLE:
Miguel Martinez,	Engineer -Field Operations Manager	T-MOBILE WEST NOCC	
Day Phone: (805) 584-5716		Day Phone: (888) 662-4662	
24 hr Phone:		24 hr Phone: (888) 662-4662	

REGULATED ACTIVITIES AT THIS FACILITY:

BUS PLAN SMALL LOW RISK 1 UNIT

NOTES:

Last CERS Submittal: 05/10/2017
Signature: Kelly Michaels
Account Balance: $0.00

T-Mobile West Corporation SV00460A

E-16

Report # 7010

OPEN VIOLATIONS:

CODE	VIOLATION DESCRIPTION	DEGREE	COMPLY BY

INVENTORY:

At grade in fenced area in cabinet on rack or shelves

Electrolyte/sulfuric Acid	25.90 GALLONS	Unknown
Electrolyte/sulfuric Acid		

APPENDIX F

Figures



CalEPA
California Environmental Protection Agency
DATE: JUNE 2017

2016 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7

County of Kern, State of California

Figure F-1 - Aerial Photograph – One Mile Radius

Pacific Gas and Electric Company Hydrostatic T-355-14

8 April 2014

F-2

Jeffrey Smyly, Water Quality Manager
Pacific Gas and Electric Company
3401 Crow Canyon Road
San Ramon, CA 94583

NOTICE OF TERMINATION OF COVERAGE UNDER WATER QUALITY ORDER 2003-0003-DWQ-0050, STATEWIDE WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES TO LAND WITH A LOW THREAT TO WATER QUALITY, PACIFIC GAS AND ELECTRIC COMPANY, NATURAL GAS PIPELINE SEGMENT T-355-14 - HYDROSTATIC TEST DISCHARGE, KERN COUNTY

On 24 October 2013, the Central Valley Water Board issued a Notice of Applicability (NOA) for coverage under Water Quality Order No. 2003-0003-DWQ, *Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality* (hereafter General Order) for the discharge of hydrostatic test water from PG&E's Hydrostatic Test Project of Natural Gas Transmission Line Segment T-355-14 to agricultural land in Kern County.

On 10 February 2014, PG&E submitted the monitoring results and a Notice of Termination (NOT) form to terminate coverage of the above project under the General Order, enrollee number 2003-0003-DWQ-0050. According to the request, the discharge of hydrostatic test water from segment T-355-14 occurred between 30 October and 9 November 2013. About 768,400 gallons of hydrostatic test water was discharged following the hydrostatic test. According to the NOT, the hydrostatic testing is complete and no further discharge is expected. Therefore, coverage under the General Order is terminated.

If you have any questions, please contact Katie Carpenter at (559) 445-5551 or via email at kcarpenter@waterboards.ca.gov.

for Pamela C. Creedon
Executive Officer

cc: Paul Scherbak, CH2M Hill (email)

CalEPA
California Environmental Protection Agency

YOUNGS COMMERCIAL TRANSFER CO. (T0602900089) - (MAP)

SIGN UP FOR EMAIL ALERTS

300 BUENA VISTA
BAKERSFIELD, CA 93307
KERN COUNTY
LUST CLEANUP SITE
PRINTABLE CASE SUMMARY / CSM REPORT

CLEANUP OVERSIGHT AGENCIES
KERN COUNTY (LEAD) - CASE #: 620011
CASEWORKER: CARRIE GEORGI
CENTRAL VALLEY RWQCB (REGION 5F) - CASE #: 5T15000089
CASEWORKER: JOHN WHITING

Summary | Cleanup Action Report | Regulatory Activities | Environmental Data (ESI) | Site Maps / Documents | Community Involvement | Related Cases

Regulatory Profile

PRINTABLE CASE SUMMARY

CLEANUP STATUS - DEFINITIONS

COMPLETED - CASE CLOSED AS OF 10/3/1994 - CLEANUP STATUS HISTORY

POTENTIAL CONTAMINANTS OF CONCERN

DIESEL

POTENTIAL MEDIA OF CONCERN

SOIL

FILE LOCATION

USER DEFINED BENEFICIAL USE

NONE SPECIFIED

DESIGNATED BENEFICIAL USE(S) - DEFINITIONS

MUN, AGR, IND, PROC, WILD, REC_1, REC_2

DWR GROUNDWATER SUB-BASIN NAME

San Joaquin Valley - Kern County (5-22.14)

CALWATER WATERSHED NAME

South Valley Floor - Kern Delta (557.10)

Site History

No site history available

Cleanup Status History

DATE	STATUS
10/3/1994	Completed - Case Closed
2/18/1992	Open - Case Begin Date

YOUNGS COMMERCIAL TRANSFER CO. (T0602900089)
300 BUENA VISTA
BAKERSFIELD, CA 93307

LUST Cleanup Site

Cleanup Status: Completed - Case Closed
RB Case #: 5T15000089
Loc Case #: 620011

YOUNG'S COMMERCIAL TRANSFER COMPANY

CalEPA
California Environmental Protection Agency

SOUZA PROPERTIES (T0602900554) - (MAP)

SIGN UP FOR EMAIL ALERTS

9869 UNION AVE S
BAKERSFIELD, CA 93307
KERN COUNTY
LUST CLEANUP SITE
PRINTABLE CASE SUMMARY / CSM REPORT

CLEANUP OVERSIGHT AGENCIES
KERN COUNTY (LEA) - CASE #: 320065
CASEWORKER: LAUREL FUNK
CENTRAL VALLEY RWQCB (REGION 5R) - CASE #: 5T15000571
CASEWORKER: JOHN WHITING
CUF Claim #: 8634
CUF Priority Assigned: C
CUF Amount Paid: $41,610

Summary | Cleanup Action Report | Regulatory Activities | Environmental Data (ESI) | Site Maps / Documents | Community Involvement | Related Cases | LUST CUF Data

Regulatory Profile — PRINTABLE CASE SUMMARY

CLEANUP STATUS - DEFINITIONS
COMPLETED - CASE CLOSED AS OF 11/15/1994 - CLEANUP STATUS HISTORY

POTENTIAL CONTAMINANTS OF CONCERN
GASOLINE

POTENTIAL MEDIA OF CONCERN
SOIL

FILE LOCATION

USER DEFINED BENEFICIAL USE
NONE SPECIFIED

DESIGNATED BENEFICIAL USE(S) - DEFINITIONS
MUN, AGR, IND, PROC, WILD, REC_1, REC_2

DWR GROUNDWATER SUB-BASIN NAME
San Joaquin Valley - Kern County (6-22.14)

CALWATER WATERSHED NAME
South Valley Floor - Kern Delta (557.10)

Site History

No site history available

Cleanup Status History

DATE	STATUS
11/15/1994	Completed - Case Closed
8/26/1994	Open - Remediation
8/30/1993	Open - Site Assessment
6/18/1993	Open - Site Assessment
6/8/1993	Open - Site Assessment
5/21/1993	Open - Site Assessment
5/21/1993	Open - Case Begin Date

SOUZA PROPERTIES (T0602900554)
9869 UNION AVE S
BAKERSFIELD, CA 93307

LUST Cleanup Site

Cleanup Status: Completed - Case Closed
RB Case #: 5T15000571
Loc Case #: 320065

SOUZA PROPERTIES

CalEPA
California Environmental Protection Agency

H & H TRUCK SERVICE (SLT5FU065560) - (MAP)

SIGN UP FOR EMAIL ALERTS

9889 S UNION AVE
GREENFIELD, CA 93927
KERN COUNTY
CLEANUP PROGRAM SITE
PRINTABLE CASE SUMMARY / CSM REPORT

CLEANUP OVERSIGHT AGENCIES
CENTRAL VALLEY RWQCB (REGION 5F) (LEAD) - CASE #: SLT5FU006
CASEWORKER: JAN ALFSON

Summary | Cleanup Action Report | Regulatory Activities | Environmental Data (ESI) | Site Maps / Documents | Community Involvement | Related Cases

PRINTABLE CASE SUMMARY

Regulatory Profile

CLEANUP STATUS - DEFINITIONS

COMPLETED - CASE CLOSED AS OF 5/15/2014 - CLEANUP STATUS HISTORY

POTENTIAL CONTAMINANTS OF CONCERN

PETROLEUM/FUELS/OILS

POTENTIAL MEDIA OF CONCERN

UNDER INVESTIGATION

FILE LOCATION

USER DEFINED BENEFICIAL USE

SW - AGRICULTURAL SUPPLY; SW - MUNICIPAL AND DOMESTIC SUPPLY

DESIGNATED BENEFICIAL USE(S) - DEFINITIONS

MUN, AGR, IND, PROC, WILD, REC_1, REC_2

DWR GROUNDWATER SUB-BASIN NAME

San Joaquin Valley - Kern County (5-22.14)

CALWATER WATERSHED NAME

South Valley Floor - Kern Delta (557.10)

Site History

Site was referred to Regional Board from Kern Co. Environmental Health Department. A truck service steam cleaning the exterior of oil field tankers used a sump for disposal of wastewater. The Central Valley Water Board asked the owner to sample sediment from the sump for selected metals and for volatile hydrocarbons. Analytical results in the file do not indicate any constituents at concentrations of concern. A letter in the file indicated that the operator was installing a new water filtration system to recycle wash water. Wastewater filtered from the wash water was to be separated and piped to an above ground storage tank. A drive by site visit indicated that the sump no longer exists. The owner of the site cooperated with the Central Valley Water Board and provided all information requested from him.

Cleanup Status History

DATE	STATUS
5/15/2014	Completed - Case Closed
1/2/1990	Open - Inactive
1/6/1987	Open - Site Assessment
1/6/1987	Open - Case Begin Date

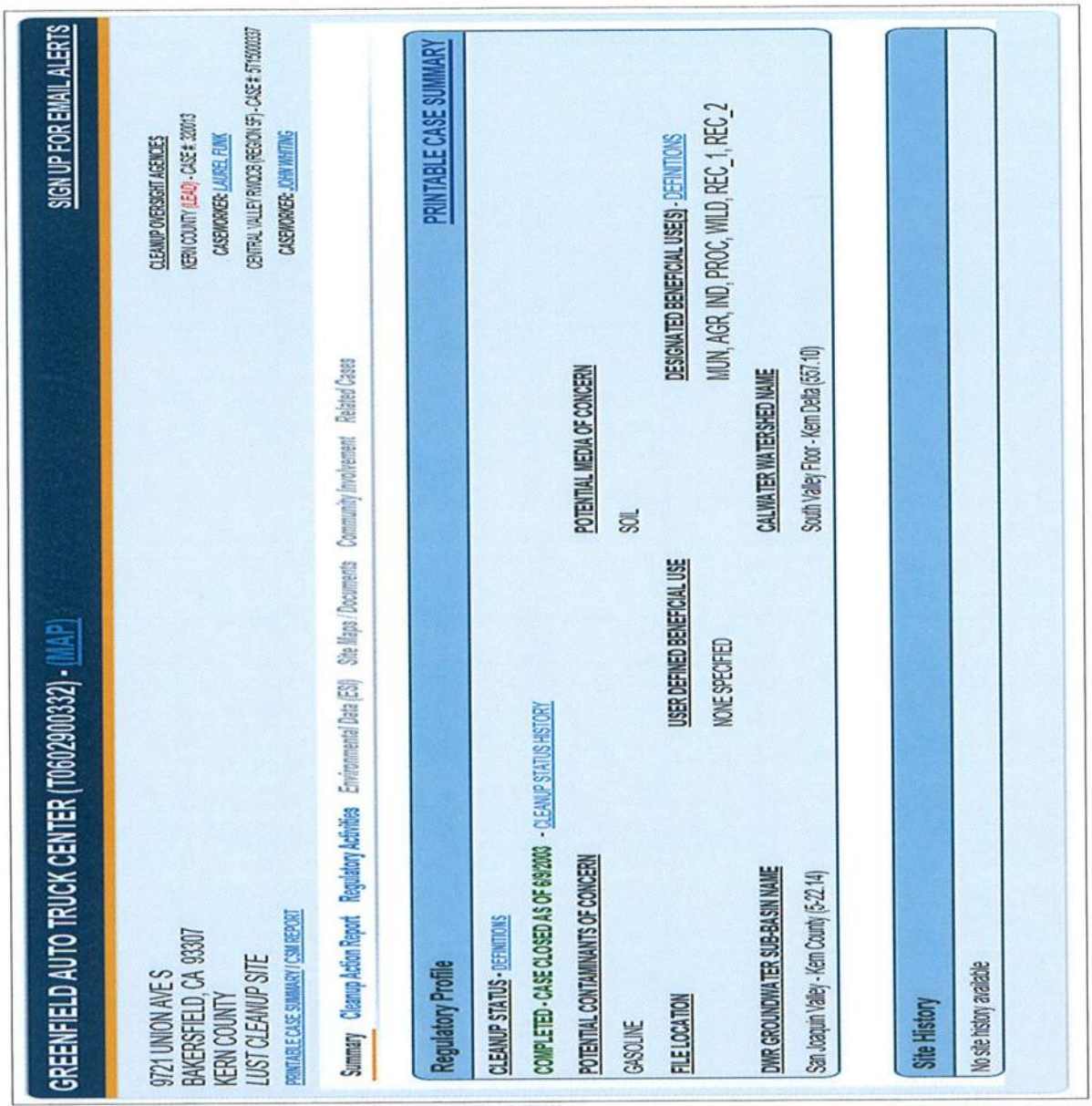
H & H Truck Service (SLT5FU065560)
9889 S UNION AVE
GREENFIELD, CA 93927

Cleanup Program Site

Cleanup Status: Completed - Case Closed
RB Case #: SLT5FU006

H & H TRUCK SERVICE

CalEPA
California Environmental Protection Agency



Cleanup Status History

DATE	STATUS
6/9/2003	Completed - Case Closed
2/11/1991	Open - Site Assessment
6/1/1990	Open - Site Assessment
5/25/1990	Open - Site Assessment
5/15/1990	Open - Site Assessment
5/15/1990	Open - Case Begin Date

GREENFIELD AUTO TRUCK CENTER (T0602900332)
9721 UNION AVE S
BAKERSFIELD, CA 93307

LUST Cleanup Site

Cleanup Status: Completed - Case Closed
RB Case #: 5T15000337
Loc Case #: 320013

GREENFIELD AUTO TRUCK CENTER

CalEPA
California Environmental Protection Agency

KERN DELTA WATER DISTRICT (T0602900556) - (MAP)

SIGN UP FOR EMAIL ALERTS

501 TAFT HWY
BAKERSFIELD, CA 93307
KERN COUNTY
LUST CLEANUP SITE
PRINTABLE CASE SUMMARY / CSM REPORT

CLEANUP OVERSIGHT AGENCIES
KERN COUNTY (LEAD) - CASE #: 320039
CASEWORKER: LAUREL FUNK
CENTRAL VALLEY RWQCB (REGION 5R) - CASE #: 5T15000573
CASEWORKER: JOHN WHITING

Summary | Cleanup Action Report | Regulatory Activities | Environmental Data (ESI) | Site Maps / Documents | Community Involvement | Related Cases

PRINTABLE CASE SUMMARY

Regulatory Profile

CLEANUP STATUS - DEFINITIONS
COMPLETED - CASE CLOSED AS OF 1/7/1994 - CLEANUP STATUS HISTORY

POTENTIAL CONTAMINANTS OF CONCERN
DIESEL

POTENTIAL MEDIA OF CONCERN
SOIL

FILE LOCATION

USER DEFINED BENEFICIAL USE
NONE SPECIFIED

DESIGNATED BENEFICIAL USE(S) - DEFINITIONS
MUN, AGR, IND, PROC, WILD, REC_1, REC_2

DWR GROUNDWATER SUB-BASIN NAME
San Joaquin Valley - Kern County (5-22.14)

CALWATER WATERSHED NAME
South Valley Floor - Kern Delta (557.10)

Site History

No site history available

Cleanup Status History

DATE	STATUS
1/7/1994	Completed - Case Closed
6/22/1993	Open - Site Assessment
6/8/1993	Open - Case Begin Date

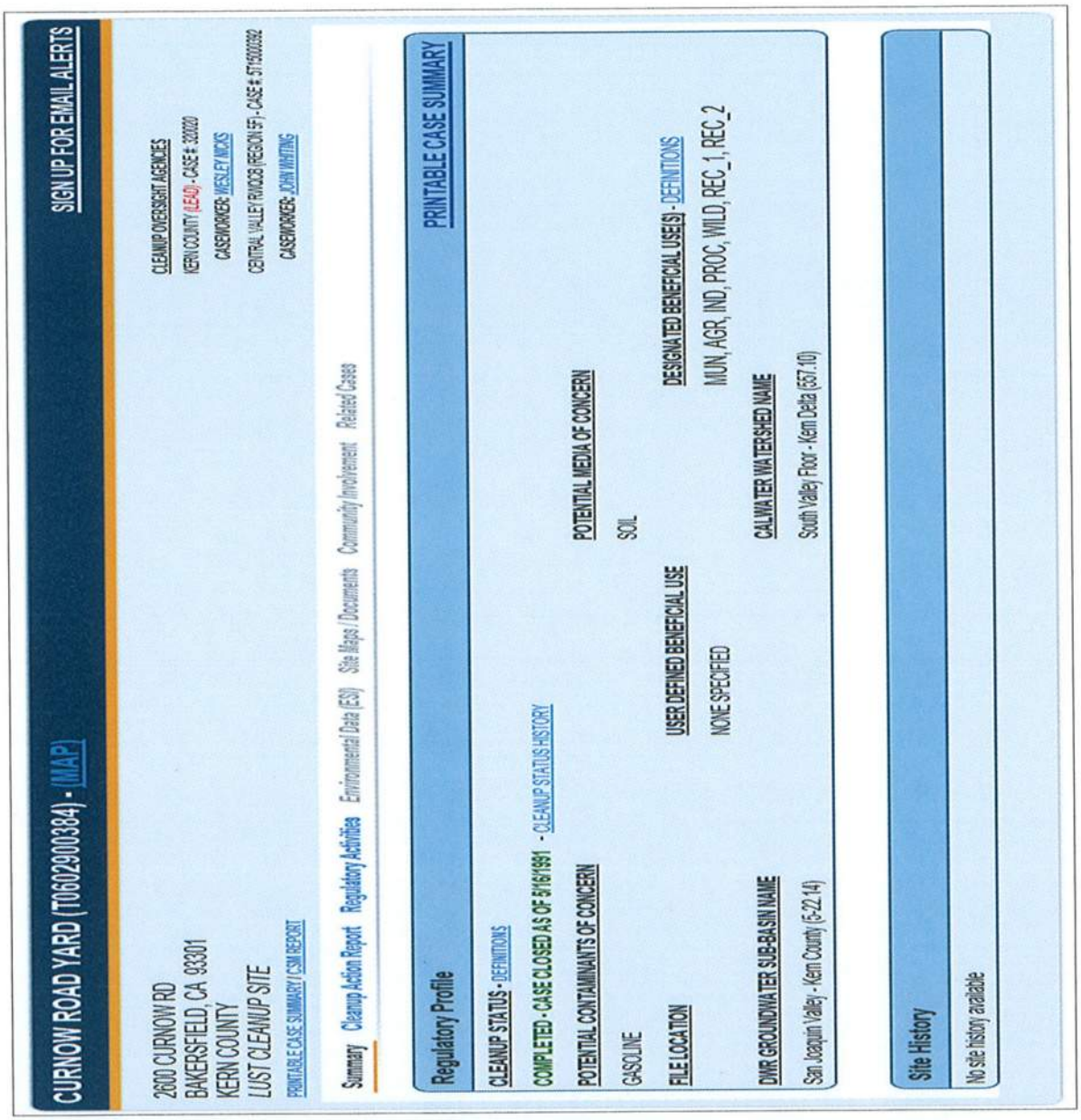
KERN DELTA WATER DISTRICT (T0602900556)
501 TAFT HWY
BAKERSFIELD, CA 93307

LUST Cleanup Site

Cleanup Status: Completed - Case Closed
RB Case #: 5T15000573
Loc Case #: 320039

KERN DELTA WATER DISTRICT

CalEPA
California Environmental Protection Agency



Cleanup Status History

DATE	STATUS
5/16/1991	Completed - Case Closed
10/9/1990	Open - Remediation
9/20/1990	Open - Site Assessment
9/20/1990	Open - Case Begin Date

CURNOW ROAD YARD (T0602900384)
2600 CURNOW RD
BAKERSFIELD, CA 93301

LUST Cleanup Site

Cleanup Status: Completed - Case Closed
RB Case #: 5T15000392
Loc Case #: 320020

CURNOW ROAD YARD

CalEPA
California Environmental Protection Agency

B S BALDWIN DAIRY (T0602900471) - (MAP)

SIGN UP FOR EMAIL ALERTS

3151 ENGLE RD
BAKERSFIELD, CA 93313
KERN COUNTY
LUST CLEANUP SITE

PRINTABLE CASE SUMMARY / CSM REPORT

CLEANUP OVERSIGHT AGENCIES
KERN COUNTY (LEAD) - CASE #: 320061
CASEWORKER: BRIAN PITTS
CENTRAL VALLEY RWQCB (REGION 5F) - CASE #: 5T15000485
CASEWORKER: JOHN WHITING

Summary | Cleanup Action Report | Regulatory Activities | Environmental Data (ESI) | Site Maps / Documents | Community Involvement | Related Cases

Regulatory Profile — PRINTABLE CASE SUMMARY

CLEANUP STATUS - DEFINITIONS
COMPLETED - CASE CLOSED AS OF 1/24/1997 - CLEANUP STATUS HISTORY

POTENTIAL CONTAMINANTS OF CONCERN
GASOLINE

POTENTIAL MEDIA OF CONCERN
SOIL

FILE LOCATION

USER DEFINED BENEFICIAL USE
NONE SPECIFIED

DESIGNATED BENEFICIAL USE(S) - DEFINITIONS
MUN, AGR, IND, PROC, WILD, REC_1, REC_2

DWR GROUNDWATER SUB-BASIN NAME
San Joaquin Valley - Kern County (5-22.14)

CALWATER WATERSHED NAME
South Valley Floor - Kern Delta (557.10)

Site History

No site history available

Cleanup Status History

DATE	STATUS
1/24/1997	Completed - Case Closed
10/28/1993	Open - Remediation
8/1/1993	Open - Site Assessment
12/19/1991	Open - Site Assessment
12/2/1991	Open - Site Assessment
11/26/1991	Open - Site Assessment
11/26/1991	Open - Case Begin Date

B S BALDWIN DAIRY (T0602900471)
3151 ENGLE RD
BAKERSFIELD, CA 93313

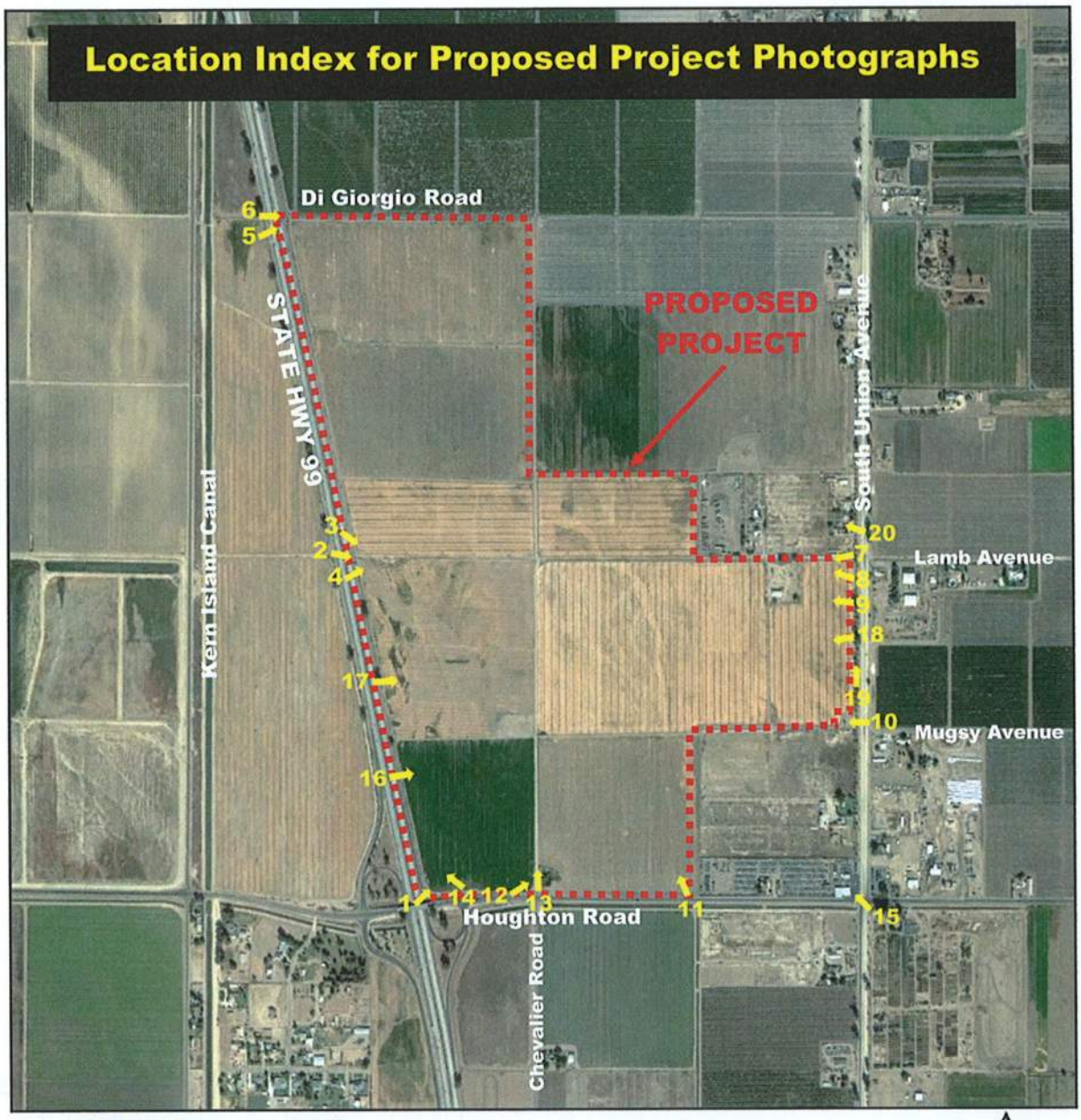
LUST Cleanup Site

Cleanup Status: Completed - Case Closed
RB Case #: 5T15000485
Loc Case #: 320061

B S BALDWIN DAIRY

APPENDIX G

Figures



2016 Aerial Photograph

PROPOSED PROJECT

Township 31 South, Range 28 East, Portion of Section 7

County of Kern, State of California

Figure G-1 – Aerial Photograph Index for Site Photos

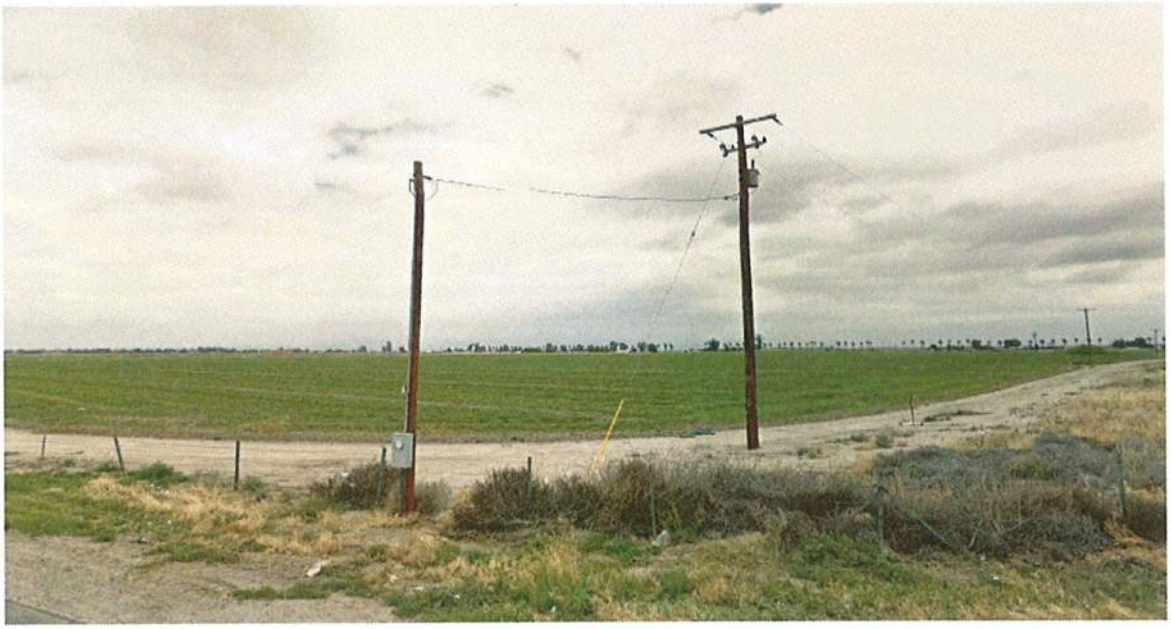


Photo 1

Looking northeast at (1) PMT pole mounted electrical transformer located on the southwest corner of the proposed project along State Highway 99

(Refer to Figure A-11 Pole Mounted Electrical Transformers Map)



Photo 2

Looking east at (2) PMT pole mounted electrical transformer located along the west boundary and approximately in the center of the proposed project along State Highway 99

(Refer to Figure A-11 Pole Mounted Electrical Transformers Map)



Photo 3

Looking east at irrigation water well with Aboveground Storage Tank mounted on a flatbed trailer, and steel irrigation standpipes located approximately in the center of proposed project along the west boundary of State Highway 99



Photo 4

Looking east at irrigation water well with Aboveground Storage Tank mounted on a flatbed trailer, and decomposing concrete lined irrigation ditch located approximately in the center of the proposed project along the west boundary of State Highway 99



Photo 5

Looking northeast at irrigation water well that has been abandoned at the northwest corner of the proposed project along the west boundary of State Highway 99



Photo 6

Looking east at unlined ditch on the south side of the Di Giorgio Road unpaved alignment at the northwest corner of the proposed project along the west boundary of State Highway 99



Photo 7

Looking northwest at the northeast corner intersection of Mugsy Avenue and Highway 204 (South Union Avenue) at the proposed project



Photo 8

Looking northwest at an electrically operated domestic water well with associated pressure and a storage tank on the north side of the easternmost portion of the proposed project along Highway 204 (South Union Avenue)



Photo 9

Looking northwest at the steel shop building, propane Aboveground Storage Tank, open canopied carport, and (5) PMT one pole mounted electrical transformers locate on the north side at the easternmost portion of the proposed project along Highway 204 (South Union Avenue)
(Refer to Figure A-11 Pole Mounted Electrical Transformers Map)



Photo 10

Looking west at the offsite Pacific Gas and Electric Company, (South Union Avenue natural gas meter and regulation Station 269.45-B) located at the northwest corner of Highway 204 (South Union Avenue) and Mugsy Avenue which is located 1,333 feet north of Houghton Road



Photo 11
Looking northwest along south boundary of the proposed project along Houghton Road



Photo 12
Looking northeast along south boundary of the proposed project along Houghton Road at brushy retention basin and wooden beehives



Photo 13

Looking north along south boundary of the proposed project along Houghton Road at brushy retention basin and (6) PMT one pole mounted electrical transformer
(Refer to Figure A-11 Pole Mounted Electrical Transformers Map)

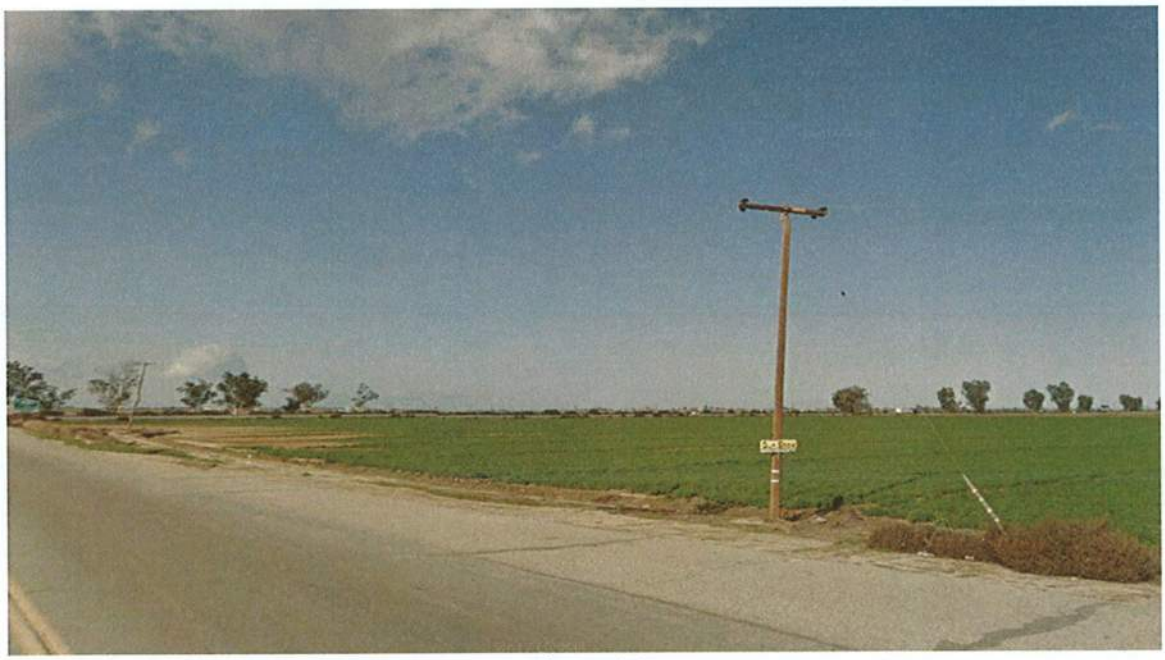


Photo 14

Looking west along south boundary of the proposed project along Houghton Road towards State Highway 99



Photo 15

Looking northwest at the intersection of Highway 204 (South Union Avenue and Houghton Road at the automobile wrecking yard (Higgins Auto Wrecking, 12825 South Union Avenue) located adjacent to the southeast portion of the proposed project



Photo 16

Looking east along west boundary of State Highway 99 at the proposed project and the crop is alfalfa



Photo 17

Looking east along west boundary of State Highway 99 at the proposed project and the property is not cultivated



Photo 18

Looking west along east boundary of Highway 204 (South Union Avenue) at the proposed project that has been cultivated for growing crops, and old tires, debris and palm fronds are along the east edge of the proposed project

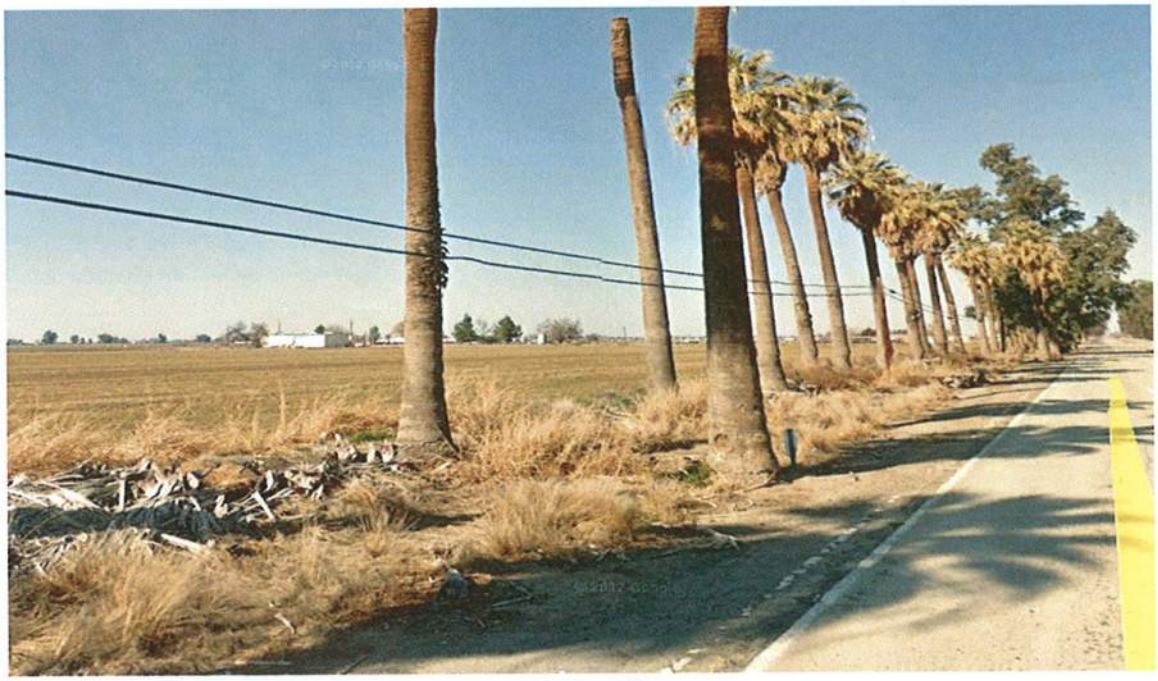


Photo 19

Looking north along east boundary of Highway 204 (South Union Avenue) at the row of palm trees along the east edge of the proposed project

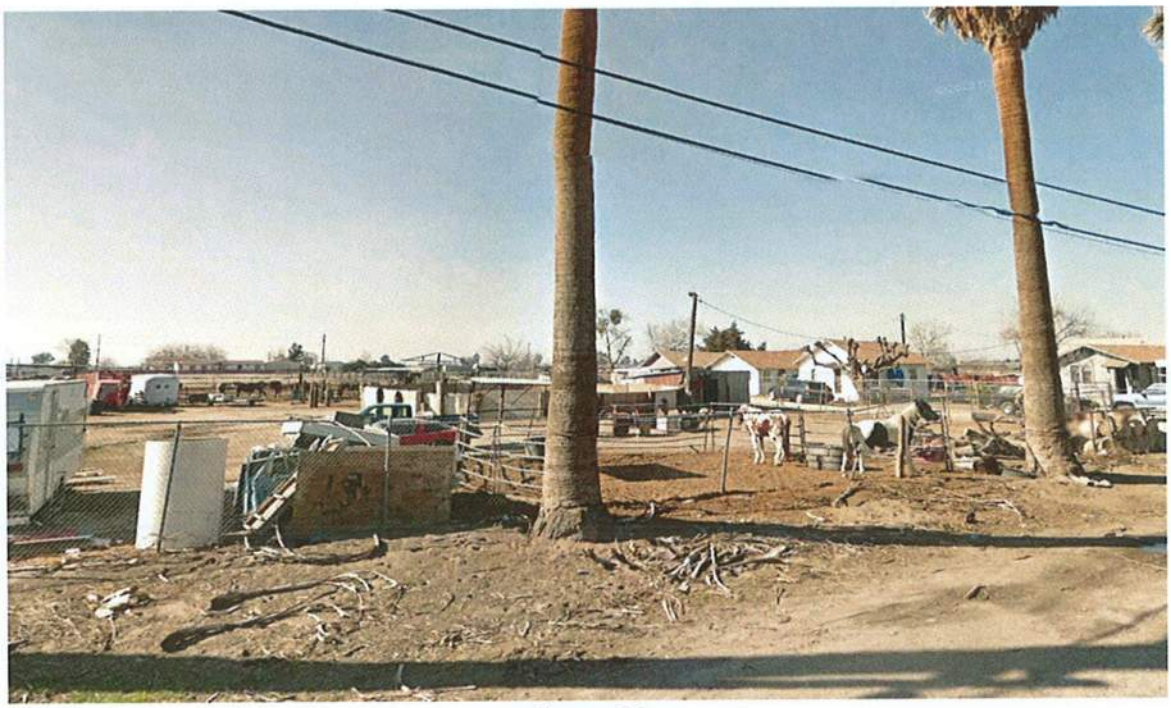


Photo 20

Looking north along Highway 204 (South Union Avenue) at the rural residential property with corrals and equestrian facilities adjacent to proposed project along the east edge

APPENDIX H

Figures

STATEMENT OF QUALIFICATIONS

Roger A. McIntosh, R.C.E., L.S.

PRINCIPAL

Mr. McIntosh has been in the field of engineering since 1973. Mr. McIntosh serves as the principal in charge of several master planned communities in the southwest United States. Mr. McIntosh's responsibility is the management of the various aspects of these projects including the planning, engineering, surveying, construction management, and contract administration.

Mr. McIntosh is very involved in community and professional affiliations. He is past President of the Kern County Building Industry Association (B.I.A.) and is a founding member of the Kern Transportation Foundation. Mr. McIntosh, as well as **McIntosh & Associates**, maintains active memberships in the Bakersfield Chamber of Commerce, the Kern Economic Development Corporation, CELSOC, APWA, ACSM, CLSA and ASCE.

EDUCATION

- Associate's Degree: Construction Technology - Iowa State University
- Active participant in continuing education in engineering, management and surveying

QUALIFICATIONS AND AFFILIATIONS

- Licensed Land Surveyor: California - L.L.S. 4383
  Arizona - R.L.S. 28224
- Registered Civil Engineer: California - R.C.E. 33322
  Nevada - R.C.E. 10245
  Arizona - R.C.E. 27727
- Certified Engineering Technician: California - C.E.T. 58065
- Certified SWPPP Developer/Practitioner: QSD/QSP

- Member - California Land Surveyors Association - Past President, Chapter Representative - Bakersfield Chapter; Past Secretary - State Board of Directors and Past State Director
- Member - California Council of Civil Engineers and Land Surveyors -
- Member - Academy of Surveyors Committee 1990-1991
- Member - American Congress of Surveying and Mapping
- Member - Institute of the Certification of Engineering Technicians
- Member - American Society Certification of Engineering Technicians
- Member - American Society of Civil Engineers
- Member - California State Board of Registration for Professional Engineers and Land Surveyors - Land Surveyors Technical Advisory Committee May 1984 to January 1986
- Member - Kern County Building Industry Association - Director 1988 - Present, Secretary 1991; Treasurer 1992; Vice-President 1993; President 1994-1995.
- Member - Planning and Land Use Committee 1988 - Present, Chairman 1990 - 1991
- Member - Kern County Board of Supervisors "To Plan for Growth" Technical Advisory Committee

McINTOSH & ASSOCIATES

March 7, 2019

Kern County Planning &
Natural Resources Department
2700 "M" Street
Bakersfield, CA 93301

Attention: Carlos Rojas

Reference: 99 Houghton DEIR
Addendum to Hazardous Materials Evaluation Report
Mc#06-012.01

Dear Carlos:

Please consider the following as an Addendum to the Hazardous Materials Evaluation Report Prepared by McIntosh & Associates, dated July 2017.

In response to Section 4.8 Hazards/Hazardous Materials of the Draft EIR for 99 Houghton Industrial Park located in a portion of Section 7, Township 31 South, Range 28 East, M. D. B. & M., and as Addendum to the Hazardous Materials Evaluation Report we offer the following corrections:

Section 4.2 Proposed Project – Onsite Observation, Page 37, third paragraph, first sentence is hereby corrected to read: "The proposed project had an irrigation water well at the northwest corner of the proposed project that is idle." Note: The well has not been abandoned.

Included herewith are photographs from the Final Hazardous Materials Study G-2 Site Photographs, Photo No. 5 and Photo No. 6 depicting the existing northwest irrigation water well and corrected to read "water well that is idle".

Please contact us if you have any questions regarding this matter.

Sincerely,
McIntosh & Associates

Roger A. McIntosh

Land Surveying

Civil Engineering

Photogrammetry

G P S

Planning

Environmental

Landscape Architecture

Petroleum Engineering

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Photo 5
Looking northeast at irrigation water well that is idle at the northwest corner of the proposed project along the west boundary of State Highway 99



Photo 6
Looking east at unlined ditch on the south side of the Di Giorgio Road unpaved alignment at the northwest corner of the proposed project along the west boundary of State Highway 99

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