To:	Karen Kendall	From:	Richard Miller and Debbie Johnson
	Derrel's Mini Storage Inc.		Johnson Johnson and Miller Air Quality Consulting Services
File:	Derrel's Mini Storage and Residential Project	Date:	November 5, 2021

Subject: Air Quality Analysis for the Derrel's Mini Storage and Residential Project

This memorandum documents the results of the potential impacts related to the generation of air pollutant emissions for Derrel's Mini Storage and Residential Project (proposed project). This Air Quality memorandum quantifies the air quality emissions associated with the proposed project and includes analysis to demonstrate how the project would not cause a significant impact to the air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA) (California Public Resources Code Sections 21000, et seq.). The assessment is consistent with the methodology and emission factors endorsed by San Joaquin Valley Air Pollution Control District (SJVAPCD).

Project Location and Description

The proposed project site is comprised of approximately 25.83 gross acres located northeast of the intersection of Berkshire Road and South H Street in Bakersfield, California. The project is a concurrent General Plan Amendment, Zone Change and PCD Plan approval. The parcel is vacant and is covered by two General Plan Designations (Low Density Residential (LR) and Low Medium Density Residential (LMR)) and two Zones (R-1 (single family residential) and R-1 PUD (single family residential Planned Unit Development combining).

Development being proposed involves the construction of two projects each developed by separate entities. The first of these two projects would be developed by Derrel's Mini Storage Inc., and includes the construction and operation of a Darrel's Mini Storage facility located on approximately 12.22 acres. The second of these would be developed by Eagle Land Development, Inc. and involves the construction of 68 dwelling units in 34 residential buildings on approximately 9.5 acres adjacent to the proposed Derrel's Mini Storage facility. Both proposed developments would occur on APN 516-010-36 (located at the northeast corner of H Street and Berkshire Road in Bakersfield). Although there are two separate development projects, the proposed zoning change and general plan amendment that would allow these two developments to proceed are considered a single project. As such, the development projects are considered together as the single proposed project for the purposes of evaluating impacts to air quality resources in this analysis.

Executive Summary of Findings

A summary of the analysis is provided below.

Construction-Source Emissions

Project construction-source emissions would not exceed applicable regional thresholds of significance established by the SJVAPCD. For localized emissions, the project will not exceed applicable localized screening thresholds established by the SJVAPCD.

Project construction-source emissions would not conflict with any applicable Air Quality Plan (AQP). As discussed herein, the project will comply with all applicable SJVAPCD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

Operational-Source Emissions

The project operational-sourced emissions would not exceed applicable regional thresholds of significance established by the SJVAPCD. Project operational-source emissions would not result in or cause a significant localized air quality impact as discussed in this memorandum. Additionally, project-related traffic will not cause or result in CO concentrations exceeding applicable state and/or federal standards (CO "hotspots"). Project operational-source emissions would therefore not adversely affect sensitive receptors within the vicinity of the project.

Project operational-source emissions would not conflict with the current AQPs. The project's emissions meet SJVAPCD regional thresholds and will not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less-than significant. Project-related GHG emissions are also considered to be less than significant, as discussed in detail in the GHG Memorandum prepared for the project (included as Attachment B).

CEQA Impact Checklist Questions

The following is a summary of the analysis results as they pertain to the CEQA impact checklist questions. As shown below, the project will be less than significant for air quality impacts and less than significant for the GHG impact criteria analyzed.

Impact AIR-1: The project would not conflict with or obstruct implementation of the applicable air quality plan. **Less than significant impact.**

Impact AIR-2: The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors). **Less than significant impact.**

Impact AIR-3: The project would not expose sensitive receptors to substantial pollutant concentrations. **Less than significant impact.**

Impact AIR-4: The project would not create objectionable odors affecting a substantial number of people. **Less than significant impact.**

Impact GHG-1: The project would not generate direct or indirect greenhouse gas emissions that would result in a significant impact on the environment. **Less than significant impact.**

Impact GHG-2: The project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases. **Less than significant impact**.

Modeling Parameters and Assumptions

The following modeling parameters and assumptions were used to generate air quality emissions for the proposed project, are consistent with those used in the project-specific Greenhouse Gas Assessment, dated July 12, 2021. Please refer to the Derrel's Mini Storage and Residential Project Greenhouse Gas Memorandum, included as Attachment B to this memorandum.

Air Pollutants Assessed

Criteria Pollutants Assessed

The following criteria air pollutants were assessed in this analysis: reactive organic gases (ROG), oxides of nitrogen (NO_X), particulate matter less than 10 microns in diameter (PM_{10}), and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). Note that the proposed project would emit ozone precursors ROG and NO_X. However, the proposed project would not directly emit ozone since it is formed in the atmosphere during the photochemical reaction of ozone precursors.

GHGs Assessed

Please refer to the Derrel's Mini Storage and Residential Project Greenhouse Gas Memorandum, included as Attachment B to this memorandum.

Air Quality Emissions Impact Analysis

CEQA Guidelines

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- 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;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, SJVAPCD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the Lead Agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts.

Thresholds of Significance

San Joaquin Valley Air Pollution Control District

Air pollutant emissions have regional effects and localized effects. This analysis assesses the regional effects of the project's criteria pollutant emissions in comparison to SJVAPCD thresholds of significance for short-term construction activities and long-term operation of the project. Localized emissions from project construction and operation are also assessed using concentration-based thresholds that determine if the project would result in a localized exceedance of any ambient air quality standards or would make a cumulatively considerable contribution to an existing exceedance.

The primary pollutants of concern during project construction and operation are ROG, NO_x, PM_{10}, and $PM_{2.5}$. The SJVAPCD GAMAQI adopted in 2015 contains thresholds for ROG and NO_x; SO_X, CO, PM_{10}, and $PM_{2.5}$.

Ozone is a secondary pollutant that can be formed miles away from the source of emissions through reactions of ROG and NO_X emissions in the presence of sunlight. Therefore, ROG and NO_x are termed ozone precursors. The SJVAB often exceeds the state and national ozone standards. Therefore, if the project emits a substantial quantity of ozone precursors, the project may contribute to an exceedance of the ozone standard. The SJVAB also exceeds air quality standards for PM_{10}, and $PM_{2.5}$; therefore, substantial project emissions may contribute to an exceedance for these pollutants.

The SJVAPCD adopted significance thresholds for construction-related and operational ROG, NO_X, PM, CO, and SO_X, these thresholds are included in Table 1.

Table 1: SJVAPCD Proposed Project-Level Air Quality CEQA Thresholds of Significance

Pollutant	Significance Threshold	
	Construction Emissions (tons/year)	Operational Emission (tons/year)
CO	100	100
NO_X	10	10
ROG	10	10
SO_X	27	27
PM_{10}	15	15
$PM_{2.5}$	15	15
Source: SJVAPCD. 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed September 29, 2021		

Regulations

Fugitive Dust

Construction

Fugitive dust would be generated from site grading and other earth-moving activities. Most of this fugitive dust would remain localized and would be deposited near the project site. However, the potential for impacts from fugitive dust exists unless control measures are implemented to reduce the emissions from the project site. Therefore, adherence to Regulation VIII would be required during construction of the proposed project. Regulation VIII would require fugitive dust control measures that are consistent with best management practices (BMPs) established by the SJVAPCD to reduce the proposed project's construction-generated fugitive dust impacts to a less than significant level.

The SJVAPCD (SJVAPCD or District) adopted Regulation VIII in 1993 and its most recent amendments became effective on October 1, 2004. This is a basic summary of the regulation's requirements as they apply to construction sites. These regulations affect all workers at a regulated construction site, including everyone from the landowner to the subcontractors. Violations of Regulation VIII are subject to enforcement action including fines.[1]

Visible Dust Emissions may not exceed 20% opacity during periods when soil is being disturbed by equipment or by wind at any time. Visible Dust Emissions opacity of 20% means dust that would obstruct an observer's view of an object by 20%. District inspectors are state certified to evaluate visible emissions. Dust control may be achieved by applying water before/during earthwork and onto unpaved traffic areas, phasing work to limit dust, and setting up wind fences to limit windblown dust.

Soil Stabilization is required at regulated construction sites after normal working hours and on weekends and holidays. This requirement also applies to inactive construction areas such as phased projects where disturbed land is left unattended. Applying water to form a visible crust on the soil and restricting vehicle access are often effective for short-term stabilization of disturbed surface areas. Long-term methods including applying dust suppressants and establishing vegetative cover.

[1] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2007. Compliance Assistance Bulletin. Website: http://www.valleyair.org/busind/comply/pm10/forms/RegVIIICAB.pdf. Accessed September 27, 2021.

Carryout and Trackout occur when materials from emptied or loaded vehicles falls onto a paved surface or shoulder of a public road or when materials adhere to vehicle tires and are deposited onto a paved surface or shoulder of a public road. Should either occur, the material must be cleaned up at least daily, and immediately if it extends more than 50 feet from the exit point onto a paved road. The appropriate clean-up methods require the complete removal and cleanup of mud and dirt from the paved surface and shoulder. Using a blower device or dry sweeping with any mechanical device other than a PM10-efficient street sweeper is a violation. Larger construction sites, or sites with a high amount of traffic on one or more days, must prevent carryout and trackout from occurring by installing gravel pads, grizzlies, wheel washers, paved interior roads, or a combination thereof at each exit point from the site. In many cases, cleaning up trackout with water is also prohibited as it may lead to plugged storm drains. Prevention is the best method.

Unpaved Access and Haul Roads, as well as unpaved vehicle and equipment traffic areas at construction sites must have dust control. Speed limit signs limiting vehicle speed to 15 mph or less at construction sites must be posted every 500 feet on uncontrolled and unpaved roads.

Storage Piles and Bulk Materials have handling, storage, and transportation requirements that include applying water when handling materials, wetting or covering stored materials, and installing wind barriers to limit visible dust emissions. Also, limiting vehicle speeds, loading haul trucks with a freeboard of six inches or greater along with applying water to the top of the load, and covering the cargo compartments are effective measures for reducing visible dust emissions and carryout from vehicles transporting bulk materials.

Demolition activities require the application of water to the exterior of the buildings and to unpaved surfaces where materials may fall. A Dust Control Plan will be required for large demolition projects. Consider all structures slated for demolition as possibly being regulated due to potential asbestos, per District Rule 4002 - National Emission Standards for Hazardous Air Pollutants. Contact the SJVAPCD well before starting because a 10 working-day notice will likely be required before a demolition can begin.

Dust Control Plans identify the dust sources and describe the dust control measures that will be implemented before, during, and after any dust generating activity for the duration of the project. Owners or operators are required to submit plans to the SJVAPCD at least 30 days prior to commencing the work for the following:

- Residential developments of ten or more acres of disturbed surface area.
- Non-residential developments of five or more acres of disturbed surface area.
- The relocation of more than 2,500 cubic yards per day of materials on at least three days.

Operations may not commence until the SJAVPCD has approved the Dust Control Plan. A copy of the plan must be on site and available to workers and District employees. All work on the site is subject to the requirements of the approved dust control plan. A failure to abide by the plan by anyone on site may be subject to enforcement action. Owners or operators of construction projects that are at least one acre in size and where a Dust Control Plan is not required, must provide written notification to the SJVAPCD at least 48 hours in advance of any earthmoving activity.

Record Keeping is required to document compliance with the rules and must be kept for each day any dust control measure is used. The SJVAPCD has developed record forms for water application, street sweeping, and "permanent" controls such as applying long term dust palliatives, vegetation, ground cover materials, paving, or other durable materials. Records must be kept for one year after the end of dust generating activities (Title V sources must keep records for five years).

Exemptions exist for several activities. Those occurring above 3,000 feet in elevation are exempt from all Regulation VIII requirements. Further, Rule 8021 – Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities exempts the following construction and earthmoving activities:

- Blasting activities permitted by California Division of Industrial Safety.
- Maintenance or remodeling of existing buildings provided the addition is less than 50% of the size of the existing building or less than 10,000 square feet (due to asbestos concerns, contact the SJVAPCD at least two weeks ahead of time).
- Additions to single family dwellings.
- The disking of weeds and vegetation for fire prevention on sites smaller than ½ acre.
- Spreading of daily landfill cover to preserve public health and safety and to comply with California Integrated Waste Management Board requirements.

Nuisances are prohibited at all times because District Rule 4102 – Nuisance applies to all construction sources of fugitive dust, whether or not they are exempt from Regulation VIII. It is important to monitor dust-generating activities and implement appropriate dust control measures to limit the public's exposure to fugitive dust.

Criteria Pollutant Emission Estimates

Construction Emissions (Regional)

Construction emissions associated with the project are shown in Table 2. As shown in Table 2, the emissions are below the significance thresholds and, therefore, are less than significant on a project basis.

Table 2: Summary of Construction-Generated Emissions of Criteria Air Pollutants – Unmitigated

Emissions Source	Emissions (Tons/Year)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2022 Construction	0.27	2.56	2.14	0.01	0.42	0.21
2023 Construction	0.38	3.21	3.28	0.01	0.54	0.21
2024 Construction	3.22	1.10	1.16	0.00	0.20	0.07
Total Construction	**3.86**	**6.86**	**6.57**	**0.02**	**1.15**	**0.50**
Significance Thresholds	10	10	100	27	15	15
Any Year Exceed Significance Thresholds?	No	No	No	No	No	No

Notes:
PM_{10} and $PM_{2.5}$ emissions are from the mitigated output to reflect compliance with Regulation VIII—Fugitive PM_{10} Prohibitions.
Totals use unrounded numbers; therefore, totals may not appear to sum exactly due to rounding.
Source of Emissions: CalEEMod Output (Attachment A).
Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed September 27, 2021.

Operational Emissions (Regional)

Operational emissions occur over the lifetime of the project and are from two main sources: area sources and motor vehicles, or mobile sources. Operational emissions are shown in Table 3. The SJVAPCD considers construction and operational emissions separately when making significance determinations.

The emissions output for project operation at full buildout for 2024 are summarized in Table 3. As shown in Table 3, the operational emissions would be less than the thresholds of significance for all criteria air pollutants. The impact is less than significant.

Table 3: Summary of Operational Emissions of Criteria Air Pollutants – Unmitigated

Source	Emissions (tons/year)					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Area	1.85	0.01	0.51	0.00	0.00	0.00
Energy	0.03	0.27	0.21	0.00	0.02	0.02
Mobile (Automobiles)	0.23	1.79	2.47	0.01	0.94	0.26
Total Operations	**2.11**	**2.07**	**3.19**	**0.01**	**0.96**	**0.28**
Significance Thresholds	10	10	100	27	15	15
Exceed Significance Thresholds?	No	No	No	No	No	No

Notes:
Totals may not sum exactly due to rounding.
The unmitigated scenario uses mitigated emissions in CalEEMod, as CalEEMod mitigation accounts for locational features, project design features, and compliance with regulations that are not otherwise accounted for in CalEEMod.
Source: CalEEMod Output (Attachment A).

Localized Impacts

Emissions occurring at or near the project have the potential to create a localized impact also referred to as an air pollutant hotspot. Localized emissions are considered significant if when combined with background emissions, they would result in exceedance of any health-based air quality standard. In locations that already exceed standards for these pollutants, significance is based on a significant impact level (SIL) that represents the amount that is considered a cumulatively considerable contribution to an existing violation of an air quality standard. The pollutants of concern for localized impact in the SJVAB are NO_2, SO_X, and CO.

The SJVAPCD has provided guidance for screening localized impacts in the GAMAQI that establishes a screening threshold of 100 pounds per day of any criteria pollutant. If a project exceeds 100 pounds per day of any criteria pollutant, then ambient air quality modeling would be necessary. If the project does not exceed 100 pounds per day of any criteria pollutant, then it can be assumed that it would not cause a violation of an ambient air quality standard.

Construction: Localized Concentrations of PM_{10}, $PM_{2.5}$, CO, and NO_X

Local construction impacts would be short-term in nature lasting only during the duration of construction. As shown in Table 4 below, construction emissions would be less than 100 pounds per day for each of the criteria pollutants. The emissions below include on-site and off-site construction emissions. Therefore, it follows that on-site only emissions would be lower and would remain below the screening thresholds. Based on the SJVAPCD's guidance the construction emissions would not cause an ambient air quality standard violation.

Table 4: Localized Concentrations of PM_{10}, $PM_{2.5}$, CO, and NO_X for Construction

Source	Emissions (pounds per day)			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
2022 Construction	67.06	56.19	14.20	7.73
2023 Construction	34.30	40.45	4.82	2.12
2024 Construction	24.28	28.01	4.68	1.74
Total Construction Duration (2022-2024)				
Maximum Daily Emissions	**67.06**	**56.19**	**14.20**	**7.73**
Significance Thresholds	100	100	100	100
Exceed Significance Thresholds?	No	No	No	No

Source of Emissions: CalEEMod Output (Attachment A).
Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed September 27, 2021.

Operation: Localized Concentrations of PM_{10}, $PM_{2.5}$, CO, and NO_X

Localized impacts could occur in areas with a single large source of emissions such as a power plant or with multiple sources concentrated in a small area such as a distribution center. Operational modeling of total emissions for the project indicate that the project would not exceed 100 pounds per day for each of the criteria pollutants, as shown in Table 5 below. Therefore, based on the SJVAPCD's guidance, the operational emissions would not cause an ambient air quality standard violation. Impacts would be less than significant.

Table 5: Localized Concentrations of PM_{10}, $PM_{2.5}$, CO, and NO_X for Operations

Source	Emissions (pounds per day)			
	NOx	**CO**	**PM_{10}**	**$PM_{2.5}$**
Area	0.07	5.68	0.03	0.03
Energy	1.51	1.13	0.12	0.12
Mobile (Automobiles)	9.99	16.19	5.58	1.52
Total Operations	**11.56**	**23.00**	**5.73**	**1.67**
Significance Thresholds	100	100	100	100
Exceed Significance Thresholds?	No	No	No	No

Source of Emissions: CalEEMod Output (Attachment A).
Source of Thresholds: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. February 19. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed September 27, 2021.

Carbon Monoxide Hot Spot Analysis

A CO hotspot represents a condition wherein high concentrations of CO may be produced by motor vehicles accessing a congested traffic intersection under heavy traffic volume conditions. It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Accordingly, vehicle emissions standards have become increasingly more stringent.

Since the first regulation of CO emissions from vehicles (model year 1966) in California, vehicle emissions standards for CO applicable to light duty vehicles have decreased by 96 percent for automobiles, and new cold weather CO standards have been implemented, effective for the 1996 model

year. With the turnover of older vehicles, introduction of cleaner fuels and implementation of control technology on industrial facilities, CO concentrations throughout California have steadily declined.

Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. The SJVAPCD provides screening criteria to determine when to quantify local CO concentrations based on impacts to the level of service (LOS) of intersections in the project vicinity.

Construction of the project would result in minor increases in traffic for the surrounding road network during the duration of construction. Motor vehicles accessing the site when it becomes operational would result in a minor increase in daily trips that would not substantially reduce the LOS. Relative to other areas of California, the project is located in an area with relatively low traffic volumes. No congested conditions that would result in a CO hotspot are expected to occur in the project region. Therefore, the project would not significantly contribute to an exceedance of state or federal CO standards.

Construction: Toxic Air Contaminants

Project construction would involve the use of diesel-fueled vehicles and equipment that emit DPM, which is considered a toxic air containment (TAC). The SJVAPCD's current threshold of significance for TAC emissions is an increase in cancer risk for the maximally exposed individual of 20 in a million (formerly 10 in a million). The SJVAPCD's 2015 GAMAQI does not currently recommend analysis of TAC emissions from project construction activities, but instead focuses on projects with operational emissions that would expose sensitive receptors over a typical lifetime of 70 years. The project would not have a lengthy multi-year construction period that would warrant further evaluation. Moreover, based on the screening analyzes presented in Table 4, estimated localized emissions generated by the proposed project would not reach levels high enough to necessitate further analysis. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project.

Operation: Toxic Air Contaminants

PM_{10} and $PM_{2.5}$ are commonly used as proxies for Diesel Particulate Matter (DPM), which would be the toxic air containment of concern emitted by the project. Based on the screening analyzes presented in Table 5, estimated localized emissions generated by the proposed project would not reach levels high enough to necessitate further analysis. As such, it is expected that any TAC concentrations would reach levels that would cause an exceedance of the SJVAPCD's health risk thresholds.

Unlike warehouses or distribution centers, the daily vehicle trips generated by the proposed project would be primarily generated by passenger vehicles. Passenger vehicles typically use gasoline engines rather than the diesel engines that are found in heavy-duty trucks. Gasoline-powered vehicles do emit TACs in the form of toxic organic gases, some of which are carcinogenic. Compared to the combustion of diesel, the combustion of gasoline had relatively low emissions of TACs. Thus, residential and most neighborhood commercial projects produce limited amounts of TAC emissions during operation and thus have not been subject to project TAC analysis. Consistent with SJVAPCD guidance, an operational Health Risk Assessment would not be necessary for the land uses associated with the proposed project. Furthermore, the proposed project contemplates the development of residential uses and commercial uses (self-storage).

Consistency with Air Quality Plan

The CEQA Guidelines indicate that a significant impact would occur if the project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI indicates that projects that do not exceed SJVAPCD regional criteria pollutant emissions quantitative thresholds would not conflict with or obstruct the applicable air quality plan (AQP).

As shown in Table 2 and Table 3, the project would not exceed SJVAPCD's regional criteria pollutant emissions quantitative thresholds during either construction or operations of the proposed project. Therefore, the proposed project would not conflict with or obstruct implementation of any applicable air quality plan. Impacts would be less than significant.

Objectionable Odors

Odors During Project Construction

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project.

Odors During Project Operations

The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies. The project is residential in nature, and project operations would not be anticipated to produce odorous emissions. Therefore, project operations would not create objectionable odors affecting a substantial number of people; the impact would be less than significant.

Attachments:

- Attachment A – CalEEMod Results
- Attachment B – Greenhouse Gas Memorandum for Derrel's Mini Storage and Residential Project

ATTACHMENT A
CalEEMod Results

CalEEMod Output

Table of Contents

Derrel's Mini Storage and Residential Project - Construction & Buildout Operations

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	0.80	1000sqft	0.02	804.00	0
Unrefrigerated Warehouse-No Rail	244.75	1000sqft	5.62	244,747.00	0
Other Asphalt Surfaces	8.99	Acre	8.99	391,604.40	0
Other Non-Asphalt Surfaces	1.29	Acre	1.29	14,050.00	0
Parking Lot	10.00	Space	0.09	4,000.00	0
Condo/Townhouse	68.00	Dwelling Unit	9.50	136,000.00	194
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	3

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)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Derrel’s Mini Storage and Residential Project - Construction & Buildout Operations
CO2 intensity factor adjusted based on Renewable Energy Portfolio and PG&E's Corporate Responsibility and Sustainability Report.

Land Use - Development contemplated by the proposed project
Darrel’s Mini Storage facility and 68 dwelling units in 32 residential buildings (duplexes)
25.83 gross acres

Construction Phase - Start dates of September 2022 with total project completion of 2nd quarter of 2024.
CalEEMod phase durations retained.
No demolition

Trips and VMT - Additional truck trips were added to each phase for mobilization/demobilization of on-site equipment (two trips per piece of equipment).

Grading - Cut/fill assumed to be balanced on site.

Vehicle Trips - Adjusted trip generation to match project-specific information.
404 daily trips for the mini storage use and ITE rates for the residential portion.

Woodstoves - SJVAPCD Rule 4901 Woodburning

Energy Use -

Construction Off-road Equipment Mitigation - Compliance with SJVAPCD Regulation VIII

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation - 20% of electricity use assumed to be generated by on-site renewable energy to account for the project's inclusion of on-site solar

Water Mitigation - Compliance with Green Building Code Standards and California Model Water Efficient Landscape Ordinance

Fleet Mix - SJVAPCD-approved Residential Fleet Mix for the 2024 operational year applied to the multi-family residential development.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFleetMix	HHD	0.15	0.02
tblFleetMix	LDA	0.49	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	9.0000e-004
tblFleetMix	LHD2	5.2590e-003	9.0000e-004

tblFleetMix	MCY	5.6980e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	7.1100e-004	2.0000e-003
tblFleetMix	MHD	0.02	8.0000e-003
tblFleetMix	OBUS	1.5990e-003	0.00
tblFleetMix	SBUS	8.9600e-004	2.0000e-004
tblFleetMix	UBUS	1.5700e-003	4.3000e-003
tblLandUse	LandUseSquareFeet	800.00	804.00
tblLandUse	LandUseSquareFeet	244,750.00	244,747.00
tblLandUse	LandUseSquareFeet	56,192.40	14,050.00
tblLandUse	LandUseSquareFeet	68,000.00	136,000.00
tblLandUse	LotAcreage	4.25	9.50
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblTripsAndVMT	HaulingTripNumber	0.00	14.00
tblTripsAndVMT	HaulingTripNumber	0.00	18.00
tblTripsAndVMT	HaulingTripNumber	0.00	16.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblVehicleTrips	ST_TR	5.67	8.14
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	ST_TR	1.68	1.65
tblVehicleTrips	SU_TR	4.84	6.28
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	SU_TR	1.68	1.65
tblVehicleTrips	WD_TR	5.81	7.32

tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblVehicleTrips	WD_TR	1.68	1.65
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	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	0.2714	2.5633	2.1391	5.7700e-003	0.5297	0.0964	0.6261	0.2219	0.0895	0.3114	0.0000	518.0115	518.0115	0.0941	0.0000	520.3645
2023	0.3770	3.2055	3.2755	0.0109	0.4402	0.0977	0.5379	0.1192	0.0918	0.2110	0.0000	988.1384	988.1384	0.1021	0.0000	990.6905
2024	3.2152	1.0959	1.1592	3.9200e-003	0.1664	0.0308	0.1972	0.0450	0.0291	0.0741	0.0000	355.4229	355.4229	0.0352	0.0000	356.3017
Maximum	**3.2152**	**3.2055**	**3.2755**	**0.0109**	**0.5297**	**0.0977**	**0.6261**	**0.2219**	**0.0918**	**0.3114**	**0.0000**	**988.1384**	**988.1384**	**0.1021**	**0.0000**	**990.6905**

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	0.2714	2.5633	2.1391	5.7700e-003	0.3230	0.0964	0.4194	0.1227	0.0895	0.2122	0.0000	518.0112	518.0112	0.0941	0.0000	520.3642
2023	0.3770	3.2055	3.2755	0.0109	0.4402	0.0977	0.5379	0.1192	0.0918	0.2110	0.0000	988.1380	988.1380	0.1021	0.0000	990.6901
2024	3.2152	1.0959	1.1592	3.9200e-003	0.1664	0.0308	0.1972	0.0450	0.0291	0.0741	0.0000	355.4228	355.4228	0.0352	0.0000	356.3016
Maximum	**3.2152**	**3.2055**	**3.2755**	**0.0109**	**0.4402**	**0.0977**	**0.5379**	**0.1227**	**0.0918**	**0.2122**	**0.0000**	**988.1380**	**988.1380**	**0.1021**	**0.0000**	**990.6901**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**18.19**	**0.00**	**15.19**	**25.67**	**0.00**	**16.62**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2022**	**11-30-2022**	2.3467	2.3467
2	**12-1-2022**	**2-28-2023**	1.1399	1.1399
3	**3-1-2023**	**5-31-2023**	0.8869	0.8869
4	**6-1-2023**	**8-31-2023**	0.8864	0.8864
5	**9-1-2023**	**11-30-2023**	0.8777	0.8777
6	**12-1-2023**	**2-29-2024**	0.8513	0.8513
7	**3-1-2024**	**5-31-2024**	3.7505	3.7505
		Highest	3.7505	3.7505

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	1.8509	0.0317	0.5255	1.9000e-004		4.9300e-003	4.9300e-003		4.9300e-003	4.9300e-003	0.0000	30.7330	30.7330	1.3900e-003	5.5000e-004	30.9310
Energy	0.0307	0.2749	0.2071	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	554.6578	554.6578	0.0412	0.0129	559.5266
Mobile	0.2366	1.8403	2.6103	0.0135	0.9990	8.3600e-003	1.0073	0.2677	7.7900e-003	0.2755	0.0000	1,248.2361	1,248.2361	0.0624	0.0000	1,249.7947
Waste						0.0000	0.0000		0.0000	0.0000	53.4496	0.0000	53.4496	3.1588	0.0000	132.4190
Water						0.0000	0.0000		0.0000	0.0000	19.4274	31.9167	51.3441	1.9999	0.0480	115.6585
Total	**2.1182**	**2.1470**	**3.3430**	**0.0153**	**0.9990**	**0.0345**	**1.0334**	**0.2677**	**0.0339**	**0.3016**	**72.8770**	**1,865.5435**	**1,938.4205**	**5.2636**	**0.0615**	**2,088.3297**

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	1.8477	5.8900e-003	0.5108	3.0000e-005		2.8300e-003	2.8300e-003		2.8300e-003	2.8300e-003	0.0000	0.8340	0.8340	8.0000e-004	0.0000	0.8541
Energy	0.0307	0.2749	0.2071	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	504.3830	504.3830	0.0341	0.0114	508.6385
Mobile	0.2307	1.7935	2.4696	0.0127	0.9300	7.8400e-003	0.9379	0.2493	7.3100e-003	0.2566	0.0000	1,174.3184	1,174.3184	0.0604	0.0000	1,175.8284
Waste						0.0000	0.0000		0.0000	0.0000	53.4496	0.0000	53.4496	3.1588	0.0000	132.4190
Water						0.0000	0.0000		0.0000	0.0000	15.5420	25.5334	41.0753	1.5999	0.0384	92.5268
Total	**2.1090**	**2.0743**	**3.1875**	**0.0144**	**0.9300**	**0.0318**	**0.9619**	**0.2493**	**0.0313**	**0.2806**	**68.9915**	**1,705.0687**	**1,774.0602**	**4.8540**	**0.0499**	**1,910.2667**

	ROG	NOx	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	**0.43**	**3.39**	**4.65**	**6.27**	**6.90**	**7.60**	**6.92**	**6.90**	**7.61**	**6.98**	**5.33**	**8.60**	**8.48**	**7.78**	**18.89**	**8.53**

3.0 Construction Detail

Construction Phase

Derrel’s Mini Storage and Residential Project - Construction & Buildout Operations - Kern-San Joaquin County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2022	9/28/2022	5	20	
2	Building Construction	Building Construction	9/1/2022	5/8/2024	5	440	
3	Grading	Grading	9/29/2022	11/30/2022	5	45	
4	Paving	Paving	12/1/2022	1/18/2023	5	35	
5	Architectural Coating	Architectural Coating	3/21/2024	5/8/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 10.37

Residential Indoor: 279,045; Residential Outdoor: 93,015; Non-Residential Indoor: 368,327; Non-Residential Outdoor: 122,776; Striped Parking Area: 24,579 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	14.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	324.00	115.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	16.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	12.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	65.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3308	0.1970	3.8000e-004		0.0161	0.0161		0.0148	0.0148	0.0000	33.4394	33.4394	0.0108	0.0000	33.7098
Total	**0.0317**	**0.3308**	**0.1970**	**3.8000e-004**	**0.1807**	**0.0161**	**0.1968**	**0.0993**	**0.0148**	**0.1142**	**0.0000**	**33.4394**	**33.4394**	**0.0108**	**0.0000**	**33.7098**

3.2 Site Preparation - 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	5.0000e-005	1.6200e-003	2.6000e-004	1.0000e-005	1.2000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.5233	0.5233	3.0000e-005	0.0000	0.5240
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	5.9000e-004	3.7000e-004	3.8600e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	3.9000e-004	0.0000	1.2371	1.2371	3.0000e-005	0.0000	1.2378
Total	**6.4000e-004**	**1.9900e-003**	**4.1200e-003**	**2.0000e-005**	**1.5700e-003**	**1.0000e-005**	**1.5900e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.7604**	**1.7604**	**6.0000e-005**	**0.0000**	**1.7618**

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					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3308	0.1970	3.8000e-004		0.0161	0.0161		0.0148	0.0148	0.0000	33.4394	33.4394	0.0108	0.0000	33.7097
Total	**0.0317**	**0.3308**	**0.1970**	**3.8000e-004**	**0.0813**	**0.0161**	**0.0974**	**0.0447**	**0.0148**	**0.0595**	**0.0000**	**33.4394**	**33.4394**	**0.0108**	**0.0000**	**33.7097**

3.2 Site Preparation - 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	5.0000e-005	1.6200e-003	2.6000e-004	1.0000e-005	1.2000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.5233	0.5233	3.0000e-005	0.0000	0.5240
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	5.9000e-004	3.7000e-004	3.8600e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	3.9000e-004	0.0000	1.2371	1.2371	3.0000e-005	0.0000	1.2378
Total	**6.4000e-004**	**1.9900e-003**	**4.1200e-003**	**2.0000e-005**	**1.5700e-003**	**1.0000e-005**	**1.5900e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.7604**	**1.7604**	**6.0000e-005**	**0.0000**	**1.7618**

3.3 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	0.0742	0.6793	0.7118	1.1700e-003		0.0352	0.0352		0.0331	0.0331	0.0000	100.8005	100.8005	0.0242	0.0000	101.4042
Total	**0.0742**	**0.6793**	**0.7118**	**1.1700e-003**		**0.0352**	**0.0352**		**0.0331**	**0.0331**	**0.0000**	**100.8005**	**100.8005**	**0.0242**	**0.0000**	**101.4042**

3.3 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	1.0000e-005	4.1000e-004	7.0000e-005	0.0000	1.2000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1330	0.1330	1.0000e-005	0.0000	0.1332
Vendor	0.0153	0.5214	0.0961	1.4200e-003	0.0334	1.2700e-003	0.0347	9.6400e-003	1.2200e-003	0.0109	0.0000	135.1729	135.1729	0.0100	0.0000	135.4234
Worker	0.0463	0.0291	0.3026	1.0700e-003	0.1136	7.6000e-004	0.1143	0.0302	7.0000e-004	0.0309	0.0000	96.8654	96.8654	2.1300e-003	0.0000	96.9186
Total	**0.0616**	**0.5509**	**0.3987**	**2.4900e-003**	**0.1471**	**2.0300e-003**	**0.1491**	**0.0398**	**1.9200e-003**	**0.0418**	**0.0000**	**232.1714**	**232.1714**	**0.0122**	**0.0000**	**232.4752**

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	0.0742	0.6793	0.7118	1.1700e-003		0.0352	0.0352		0.0331	0.0331	0.0000	100.8004	100.8004	0.0242	0.0000	101.4041
Total	**0.0742**	**0.6793**	**0.7118**	**1.1700e-003**		**0.0352**	**0.0352**		**0.0331**	**0.0331**	**0.0000**	**100.8004**	**100.8004**	**0.0242**	**0.0000**	**101.4041**

3.3 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	1.0000e-005	4.1000e-004	7.0000e-005	0.0000	1.2000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1330	0.1330	1.0000e-005	0.0000	0.1332
Vendor	0.0153	0.5214	0.0961	1.4200e-003	0.0334	1.2700e-003	0.0347	9.6400e-003	1.2200e-003	0.0109	0.0000	135.1729	135.1729	0.0100	0.0000	135.4234
Worker	0.0463	0.0291	0.3026	1.0700e-003	0.1136	7.6000e-004	0.1143	0.0302	7.0000e-004	0.0309	0.0000	96.8654	96.8654	2.1300e-003	0.0000	96.9186
Total	**0.0616**	**0.5509**	**0.3987**	**2.4900e-003**	**0.1471**	**2.0300e-003**	**0.1491**	**0.0398**	**1.9200e-003**	**0.0418**	**0.0000**	**232.1714**	**232.1714**	**0.0122**	**0.0000**	**232.4752**

3.3 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	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3462**	**301.3462**	**0.0717**	**0.0000**	**303.1383**

3.3 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	3.0000e-005	8.4000e-004	1.6000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3847	0.3847	1.0000e-005	0.0000	0.3851
Vendor	0.0324	1.1901	0.2397	4.1500e-003	0.0998	1.1600e-003	0.1010	0.0288	1.1100e-003	0.0299	0.0000	393.9899	393.9899	0.0205	0.0000	394.5019
Worker	0.1287	0.0778	0.8272	3.0800e-003	0.3394	2.2000e-003	0.3416	0.0902	2.0300e-003	0.0922	0.0000	278.5941	278.5941	5.6700e-003	0.0000	278.7360
Total	**0.1611**	**1.2687**	**1.0670**	**7.2300e-003**	**0.4393**	**3.3600e-003**	**0.4427**	**0.1190**	**3.1400e-003**	**0.1222**	**0.0000**	**672.9687**	**672.9687**	**0.0262**	**0.0000**	**673.6229**

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	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3458**	**301.3458**	**0.0717**	**0.0000**	**303.1380**

3.3 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	3.0000e-005	8.4000e-004	1.6000e-004	0.0000	1.4000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3847	0.3847	1.0000e-005	0.0000	0.3851
Vendor	0.0324	1.1901	0.2397	4.1500e-003	0.0998	1.1600e-003	0.1010	0.0288	1.1100e-003	0.0299	0.0000	393.9899	393.9899	0.0205	0.0000	394.5019
Worker	0.1287	0.0778	0.8272	3.0800e-003	0.3394	2.2000e-003	0.3416	0.0902	2.0300e-003	0.0922	0.0000	278.5941	278.5941	5.6700e-003	0.0000	278.7360
Total	**0.1611**	**1.2687**	**1.0670**	**7.2300e-003**	**0.4393**	**3.3600e-003**	**0.4427**	**0.1190**	**3.1400e-003**	**0.1222**	**0.0000**	**672.9687**	**672.9687**	**0.0262**	**0.0000**	**673.6229**

3.3 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	0.0684	0.6251	0.7518	1.2500e-003		0.0285	0.0285		0.0268	0.0268	0.0000	107.8098	107.8098	0.0255	0.0000	108.4472
Total	**0.0684**	**0.6251**	**0.7518**	**1.2500e-003**		**0.0285**	**0.0285**		**0.0268**	**0.0268**	**0.0000**	**107.8098**	**107.8098**	**0.0255**	**0.0000**	**108.4472**

3.3 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	1.0000e-005	2.9000e-004	6.0000e-005	0.0000	1.2000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1365	0.1365	1.0000e-005	0.0000	0.1367
Vendor	0.0113	0.4221	0.0812	1.4700e-003	0.0357	4.1000e-004	0.0361	0.0103	3.9000e-004	0.0107	0.0000	139.8462	139.8462	7.4300e-003	0.0000	140.0320
Worker	0.0431	0.0251	0.2738	1.0600e-003	0.1214	7.7000e-004	0.1222	0.0323	7.1000e-004	0.0330	0.0000	95.8534	95.8534	1.8300e-003	0.0000	95.8991
Total	**0.0544**	**0.4474**	**0.3551**	**2.5300e-003**	**0.1572**	**1.1800e-003**	**0.1584**	**0.0426**	**1.1000e-003**	**0.0437**	**0.0000**	**235.8361**	**235.8361**	**9.2700e-003**	**0.0000**	**236.0677**

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	0.0684	0.6251	0.7518	1.2500e-003		0.0285	0.0285		0.0268	0.0268	0.0000	107.8097	107.8097	0.0255	0.0000	108.4471
Total	**0.0684**	**0.6251**	**0.7518**	**1.2500e-003**		**0.0285**	**0.0285**		**0.0268**	**0.0268**	**0.0000**	**107.8097**	**107.8097**	**0.0255**	**0.0000**	**108.4471**

3.3 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	1.0000e-005	2.9000e-004	6.0000e-005	0.0000	1.2000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1365	0.1365	1.0000e-005	0.0000	0.1367
Vendor	0.0113	0.4221	0.0812	1.4700e-003	0.0357	4.1000e-004	0.0361	0.0103	3.9000e-004	0.0107	0.0000	139.8462	139.8462	7.4300e-003	0.0000	140.0320
Worker	0.0431	0.0251	0.2738	1.0600e-003	0.1214	7.7000e-004	0.1222	0.0323	7.1000e-004	0.0330	0.0000	95.8534	95.8534	1.8300e-003	0.0000	95.8991
Total	**0.0544**	**0.4474**	**0.3551**	**2.5300e-003**	**0.1572**	**1.1800e-003**	**0.1584**	**0.0426**	**1.1000e-003**	**0.0437**	**0.0000**	**235.8361**	**235.8361**	**9.2700e-003**	**0.0000**	**236.0677**

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					0.1952	0.0000	0.1952	0.0809	0.0000	0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0816	0.8740	0.6534	1.4000e-003		0.0368	0.0368		0.0338	0.0338	0.0000	122.7029	122.7029	0.0397	0.0000	123.6950
Total	**0.0816**	**0.8740**	**0.6534**	**1.4000e-003**	**0.1952**	**0.0368**	**0.2319**	**0.0809**	**0.0338**	**0.1148**	**0.0000**	**122.7029**	**122.7029**	**0.0397**	**0.0000**	**123.6950**

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	6.0000e-005	1.8500e-003	2.9000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5980	0.5980	3.0000e-005	0.0000	0.5988
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	1.4800e-003	9.3000e-004	9.6600e-003	3.0000e-005	3.6300e-003	2.0000e-005	3.6500e-003	9.6000e-004	2.0000e-005	9.9000e-004	0.0000	3.0928	3.0928	7.0000e-005	0.0000	3.0945
Total	**1.5400e-003**	**2.7800e-003**	**9.9500e-003**	**4.0000e-005**	**3.7700e-003**	**3.0000e-005**	**3.7900e-003**	**1.0000e-003**	**3.0000e-005**	**1.0300e-003**	**0.0000**	**3.6908**	**3.6908**	**1.0000e-004**	**0.0000**	**3.6933**

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					0.0878	0.0000	0.0878	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0816	0.8740	0.6534	1.4000e-003		0.0368	0.0368		0.0338	0.0338	0.0000	122.7027	122.7027	0.0397	0.0000	123.6948
Total	**0.0816**	**0.8740**	**0.6534**	**1.4000e-003**	**0.0878**	**0.0368**	**0.1246**	**0.0364**	**0.0338**	**0.0703**	**0.0000**	**122.7027**	**122.7027**	**0.0397**	**0.0000**	**123.6948**

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	6.0000e-005	1.8500e-003	2.9000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5980	0.5980	3.0000e-005	0.0000	0.5988
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	1.4800e-003	9.3000e-004	9.6600e-003	3.0000e-005	3.6300e-003	2.0000e-005	3.6500e-003	9.6000e-004	2.0000e-005	9.9000e-004	0.0000	3.0928	3.0928	7.0000e-005	0.0000	3.0945
Total	**1.5400e-003**	**2.7800e-003**	**9.9500e-003**	**4.0000e-005**	**3.7700e-003**	**3.0000e-005**	**3.7900e-003**	**1.0000e-003**	**3.0000e-005**	**1.0300e-003**	**0.0000**	**3.6908**	**3.6908**	**1.0000e-004**	**0.0000**	**3.6933**

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	0.0121	0.1224	0.1604	2.5000e-004		6.2500e-003	6.2500e-003		5.7500e-003	5.7500e-003	0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084
Paving	7.4800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0196**	**0.1224**	**0.1604**	**2.5000e-004**		**6.2500e-003**	**6.2500e-003**		**5.7500e-003**	**5.7500e-003**	**0.0000**	**22.0303**	**22.0303**	**7.1300e-003**	**0.0000**	**22.2084**

3.5 Paving - 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	3.0000e-005	8.7000e-004	1.4000e-004	0.0000	9.0000e-005	0.0000	1.0000e-004	2.0000e-005	0.0000	3.0000e-005	0.0000	0.2819	0.2819	2.0000e-005	0.0000	0.2823
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	3.4000e-004	3.5400e-003	1.0000e-005	1.3300e-003	1.0000e-005	1.3400e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1340	1.1340	2.0000e-005	0.0000	1.1346
Total	**5.7000e-004**	**1.2100e-003**	**3.6800e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4400e-003**	**3.7000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.4159**	**1.4159**	**4.0000e-005**	**0.0000**	**1.4169**

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	0.0121	0.1224	0.1604	2.5000e-004		6.2500e-003	6.2500e-003		5.7500e-003	5.7500e-003	0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084
Paving	7.4800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0196**	**0.1224**	**0.1604**	**2.5000e-004**		**6.2500e-003**	**6.2500e-003**		**5.7500e-003**	**5.7500e-003**	**0.0000**	**22.0303**	**22.0303**	**7.1300e-003**	**0.0000**	**22.2084**

3.5 Paving - 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	3.0000e-005	8.7000e-004	1.4000e-004	0.0000	9.0000e-005	0.0000	1.0000e-004	2.0000e-005	0.0000	3.0000e-005	0.0000	0.2819	0.2819	2.0000e-005	0.0000	0.2823
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	3.4000e-004	3.5400e-003	1.0000e-005	1.3300e-003	1.0000e-005	1.3400e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1340	1.1340	2.0000e-005	0.0000	1.1346
Total	**5.7000e-004**	**1.2100e-003**	**3.6800e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4400e-003**	**3.7000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.4159**	**1.4159**	**4.0000e-005**	**0.0000**	**1.4169**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	4.4200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0111**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.5000e-004	7.0000e-005	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1612	0.1612	1.0000e-005	0.0000	0.1614
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	3.0000e-004	1.8000e-004	1.9100e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6449	0.6449	1.0000e-005	0.0000	0.6452
Total	**3.1000e-004**	**5.3000e-004**	**1.9800e-003**	**1.0000e-005**	**8.8000e-004**	**1.0000e-005**	**8.8000e-004**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.8061**	**0.8061**	**2.0000e-005**	**0.0000**	**0.8066**

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	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	4.4200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0111**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.5000e-004	7.0000e-005	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1612	0.1612	1.0000e-005	0.0000	0.1614
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	3.0000e-004	1.8000e-004	1.9100e-003	1.0000e-005	7.9000e-004	1.0000e-005	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6449	0.6449	1.0000e-005	0.0000	0.6452
Total	**3.1000e-004**	**5.3000e-004**	**1.9800e-003**	**1.0000e-005**	**8.8000e-004**	**1.0000e-005**	**8.8000e-004**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.8061**	**0.8061**	**2.0000e-005**	**0.0000**	**0.8066**

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	3.0860					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**3.0892**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.5000e-004	3.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0718	0.0718	0.0000	0.0000	0.0718
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	3.2500e-003	1.8900e-003	0.0207	8.0000e-005	9.1700e-003	6.0000e-005	9.2200e-003	2.4300e-003	5.0000e-005	2.4900e-003	0.0000	7.2370	7.2370	1.4000e-004	0.0000	7.2405
Total	**3.2500e-003**	**2.0400e-003**	**0.0207**	**8.0000e-005**	**9.1900e-003**	**6.0000e-005**	**9.2400e-003**	**2.4300e-003**	**5.0000e-005**	**2.4900e-003**	**0.0000**	**7.3088**	**7.3088**	**1.4000e-004**	**0.0000**	**7.3123**

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	3.0860					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**3.0892**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.5000e-004	3.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0718	0.0718	0.0000	0.0000	0.0718
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	3.2500e-003	1.8900e-003	0.0207	8.0000e-005	9.1700e-003	6.0000e-005	9.2200e-003	2.4300e-003	5.0000e-005	2.4900e-003	0.0000	7.2370	7.2370	1.4000e-004	0.0000	7.2405
Total	**3.2500e-003**	**2.0400e-003**	**0.0207**	**8.0000e-005**	**9.1900e-003**	**6.0000e-005**	**9.2400e-003**	**2.4300e-003**	**5.0000e-005**	**2.4900e-003**	**0.0000**	**7.3088**	**7.3088**	**1.4000e-004**	**0.0000**	**7.3123**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.2307	1.7935	2.4696	0.0127	0.9300	7.8400e-003	0.9379	0.2493	7.3100e-003	0.2566	0.0000	1,174.3184	1,174.3184	0.0604	0.0000	1,175.8284
Unmitigated	0.2366	1.8403	2.6103	0.0135	0.9990	8.3600e-003	1.0073	0.2677	7.7900e-003	0.2755	0.0000	1,248.2361	1,248.2361	0.0624	0.0000	1,249.7947

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	497.76	553.52	427.04	1,441,284	1,341,835
General Office Building	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	403.84	403.84	403.84	1,179,008	1,097,657
Total	901.60	957.36	830.88	2,620,292	2,439,492

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
Condo/Townhouse	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.527700	0.209000	0.167500	0.055600	0.000900	0.000900	0.008000	0.021400	0.000000	0.004300	0.002500	0.000200	0.002000
General Office Building	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Other Asphalt Surfaces	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Other Non-Asphalt Surfaces	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Parking Lot	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Single Family Housing	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Unrefrigerated Warehouse-No Rail	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable 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	201.0993	201.0993	0.0283	5.8600e-003	203.5525
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	251.3741	251.3741	0.0354	7.3200e-003	254.4406
NaturalGas Mitigated	0.0307	0.2749	0.2071	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	303.2837	303.2837	5.8100e-003	5.5600e-003	305.0860
NaturalGas Unmitigated	0.0307	0.2749	0.2071	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	303.2837	303.2837	5.8100e-003	5.5600e-003	305.0860

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					
Condo/Townhouse	1.22166e+006	6.5900e-003	0.0563	0.0240	3.6000e-004		4.5500e-003	4.5500e-003		4.5500e-003	4.5500e-003	0.0000	65.1924	65.1924	1.2500e-003	1.2000e-003	65.5798
General Office Building	10492.2	6.0000e-005	5.1000e-004	4.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5599	0.5599	1.0000e-005	1.0000e-005	0.5632
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	26145.2	1.4000e-004	1.2000e-003	5.1000e-004	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.3952	1.3952	3.0000e-005	3.0000e-005	1.4035
Unrefrigerated Warehouse-No Rail	4.42503e+006	0.0239	0.2169	0.1822	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	236.1362	236.1362	4.5300e-003	4.3300e-003	237.5395
Total		**0.0307**	**0.2749**	**0.2071**	**1.6700e-003**		**0.0212**	**0.0212**		**0.0212**	**0.0212**	**0.0000**	**303.2837**	**303.2837**	**5.8200e-003**	**5.5700e-003**	**305.0860**

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	1.22166e+006	6.5900e-003	0.0563	0.0240	3.6000e-004		4.5500e-003	4.5500e-003		4.5500e-003	4.5500e-003	0.0000	65.1924	65.1924	1.2500e-003	1.2000e-003	65.5798
General Office Building	10492.2	6.0000e-005	5.1000e-004	4.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5599	0.5599	1.0000e-005	1.0000e-005	0.5632
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	26145.2	1.4000e-004	1.2000e-003	5.1000e-004	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.3952	1.3952	3.0000e-005	3.0000e-005	1.4035
Unrefrigerated Warehouse-No Rail	4.42503e+006	0.0239	0.2169	0.1822	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	236.1362	236.1362	4.5300e-003	4.3300e-003	237.5395
Total		**0.0307**	**0.2749**	**0.2071**	**1.6700e-003**		**0.0212**	**0.0212**		**0.0212**	**0.0212**	**0.0000**	**303.2837**	**303.2837**	**5.8200e-003**	**5.5700e-003**	**305.0860**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	374551	34.9980	4.9300e-003	1.0200e-003	35.4250
General Office Building	7332.48	0.6852	1.0000e-004	2.0000e-005	0.6935
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	1400	0.1308	2.0000e-005	0.0000	0.1324
Single Family Housing	8760.74	0.8186	1.2000e-004	2.0000e-005	0.8286
Unrefrigerated Warehouse-No Rail	2.29817e+006	214.7415	0.0302	6.2500e-003	217.3611
Total		**251.3741**	**0.0354**	**7.3100e-003**	**254.4406**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	299641	27.9984	3.9400e-003	8.2000e-004	28.3400
General Office Building	5865.98	0.5481	8.0000e-005	2.0000e-005	0.5548
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	1120	0.1047	1.0000e-005	0.0000	0.1059
Single Family Housing	7008.59	0.6549	9.0000e-005	2.0000e-005	0.6629
Unrefrigerated Warehouse-No Rail	1.83854e+006	171.7932	0.0242	5.0000e-003	173.8889
Total		**201.0993**	**0.0283**	**5.8600e-003**	**203.5525**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.8477	5.8900e-003	0.5108	3.0000e-005		2.8300e-003	2.8300e-003		2.8300e-003	2.8300e-003	0.0000	0.8340	0.8340	8.0000e-004	0.0000	0.8541
Unmitigated	1.8509	0.0317	0.5255	1.9000e-004		4.9300e-003	4.9300e-003		4.9300e-003	4.9300e-003	0.0000	30.7330	30.7330	1.3900e-003	5.5000e-004	30.9310

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	0.3086					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.5237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.0200e-003	0.0258	0.0110	1.6000e-004		2.0900e-003	2.0900e-003		2.0900e-003	2.0900e-003	0.0000	29.8913	29.8913	5.7000e-004	5.5000e-004	30.0689
Landscaping	0.0156	5.9200e-003	0.5146	3.0000e-005		2.8500e-003	2.8500e-003		2.8500e-003	2.8500e-003	0.0000	0.8416	0.8416	8.2000e-004	0.0000	0.8620
Total	**1.8509**	**0.0317**	**0.5255**	**1.9000e-004**		**4.9400e-003**	**4.9400e-003**		**4.9400e-003**	**4.9400e-003**	**0.0000**	**30.7330**	**30.7330**	**1.3900e-003**	**5.5000e-004**	**30.9310**

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	0.3086					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.5237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0154	5.8900e-003	0.5108	3.0000e-005		2.8300e-003	2.8300e-003		2.8300e-003	2.8300e-003	0.0000	0.8340	0.8340	8.0000e-004	0.0000	0.8541
Total	**1.8477**	**5.8900e-003**	**0.5108**	**3.0000e-005**		**2.8300e-003**	**2.8300e-003**		**2.8300e-003**	**2.8300e-003**	**0.0000**	**0.8340**	**0.8340**	**8.0000e-004**	**0.0000**	**0.8541**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	41.0753	1.5999	0.0384	92.5268
Unmitigated	51.3441	1.9999	0.0480	115.6585

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	4.43047 / 2.79312	4.5591	0.1448	3.5000e-003	9.2226
General Office Building	0.142187 / 0.0871469	0.1455	4.6500e-003	1.1000e-004	0.2952
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.0671	2.1300e-003	5.0000e-005	0.1356
Unrefrigerated Warehouse-No Rail	56.5984 / 0	46.5725	1.8483	0.0444	106.0051
Total		**51.3441**	**1.9999**	**0.0480**	**115.6585**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	3.54438 / 2.2345	3.6473	0.1159	2.8000e-003	7.3781
General Office Building	0.11375 / 0.0697175	0.1164	3.7200e-003	9.0000e-005	0.2361
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.0521232 / 0.0328603	0.0536	1.7000e-003	4.0000e-005	0.1085
Unrefrigerated Warehouse-No Rail	45.2788 / 0	37.2580	1.4786	0.0355	84.8041
Total		**41.0753**	**1.5999**	**0.0384**	**92.5268**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	53.4496	3.1588	0.0000	132.4190
Unmitigated	53.4496	3.1588	0.0000	132.4190

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	31.28	6.3496	0.3753	0.0000	15.7308
General Office Building	0.74	0.1502	8.8800e-003	0.0000	0.3722
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Unrefrigerated Warehouse-No Rail	230.06	46.7001	2.7599	0.0000	115.6975
Total		**53.4496**	**3.1588**	**0.0000**	**132.4190**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	31.28	6.3496	0.3753	0.0000	15.7308
General Office Building	0.74	0.1502	8.8800e-003	0.0000	0.3722
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Unrefrigerated Warehouse-No Rail	230.06	46.7001	2.7599	0.0000	115.6975
Total		**53.4496**	**3.1588**	**0.0000**	**132.4190**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Derrel's Mini Storage and Residential Project - Construction & Buildout Operations

Kern-San Joaquin County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	0.80	1000sqft	0.02	804.00	0
Unrefrigerated Warehouse-No Rail	244.75	1000sqft	5.62	244,747.00	0
Other Asphalt Surfaces	8.99	Acre	8.99	391,604.40	0
Other Non-Asphalt Surfaces	1.29	Acre	1.29	14,050.00	0
Parking Lot	10.00	Space	0.09	4,000.00	0
Condo/Townhouse	68.00	Dwelling Unit	9.50	136,000.00	194
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	3

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)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Derrel’s Mini Storage and Residential Project - Construction & Buildout Operations
CO2 intensity factor adjusted based on Renewable Energy Portfolio and PG&E's Corporate Responsibility and Sustainability Report.

Land Use - Development contemplated by the proposed project
Darrel’s Mini Storage facility and 68 dwelling units in 32 residential buildings (duplexes)
25.83 gross acres

Construction Phase - Start dates of September 2022 with total project completion of 2nd quarter of 2024.
CalEEMod phase durations retained.
No demolition

Trips and VMT - Additional truck trips were added to each phase for mobilization/demobilization of on-site equipment (two trips per piece of equipment).

Grading - Cut/fill assumed to be balanced on site.

Vehicle Trips - Adjusted trip generation to match project-specific information.
404 daily trips for the mini storage use and ITE rates for the residential portion.

Woodstoves - SJVAPCD Rule 4901 Woodburning

Energy Use -

Construction Off-road Equipment Mitigation - Compliance with SJVAPCD Regulation VIII

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation - 20% of electricity use assumed to be generated by on-site renewable energy to account for the project's inclusion of on-site solar

Water Mitigation - Compliance with Green Building Code Standards and California Model Water Efficient Landscape Ordinance

Fleet Mix - SJVAPCD-approved Residential Fleet Mix for the 2024 operational year applied to the multi-family residential development.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFleetMix	HHD	0.15	0.02
tblFleetMix	LDA	0.49	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	9.0000e-004
tblFleetMix	LHD2	5.2590e-003	9.0000e-004

tblFleetMix	MCY	5.6980e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	7.1100e-004	2.0000e-003
tblFleetMix	MHD	0.02	8.0000e-003
tblFleetMix	OBUS	1.5990e-003	0.00
tblFleetMix	SBUS	8.9600e-004	2.0000e-004
tblFleetMix	UBUS	1.5700e-003	4.3000e-003
tblLandUse	LandUseSquareFeet	800.00	804.00
tblLandUse	LandUseSquareFeet	244,750.00	244,747.00
tblLandUse	LandUseSquareFeet	56,192.40	14,050.00
tblLandUse	LandUseSquareFeet	68,000.00	136,000.00
tblLandUse	LotAcreage	4.25	9.50
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblTripsAndVMT	HaulingTripNumber	0.00	14.00
tblTripsAndVMT	HaulingTripNumber	0.00	18.00
tblTripsAndVMT	HaulingTripNumber	0.00	16.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblVehicleTrips	ST_TR	5.67	8.14
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	ST_TR	1.68	1.65
tblVehicleTrips	SU_TR	4.84	6.28
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	SU_TR	1.68	1.65
tblVehicleTrips	WD_TR	5.81	7.32

tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblVehicleTrips	WD_TR	1.68	1.65
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	6.9739	67.0577	56.1940	0.1514	21.6707	2.4915	24.1399	10.9045	2.3101	13.1942	0.0000	14,952.7403	14,952.7403	2.8625	0.0000	15,024.3020
2023	4.7157	34.2990	40.4531	0.1098	3.5794	1.2367	4.8160	0.9670	1.1527	2.1198	0.0000	10,912.8692	10,912.8692	1.5439	0.0000	10,951.4668
2024	179.5036	24.2849	28.0078	0.0923	3.9791	0.7030	4.6821	1.0731	0.6646	1.7378	0.0000	9,220.6322	9,220.6322	0.8457	0.0000	9,241.7748
Maximum	**179.5036**	**67.0577**	**56.1940**	**0.1514**	**21.6707**	**2.4915**	**24.1399**	**10.9045**	**2.3101**	**13.1942**	**0.0000**	**14,952.7403**	**14,952.7403**	**2.8625**	**0.0000**	**15,024.3020**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	6.9739	67.0577	56.1940	0.1514	11.7342	2.4915	14.2035	5.4427	2.3101	7.7323	0.0000	14,952.7403	14,952.7403	2.8625	0.0000	15,024.3020
2023	4.7157	34.2990	40.4531	0.1098	3.5794	1.2367	4.8160	0.9670	1.1527	2.1198	0.0000	10,912.8692	10,912.8692	1.5439	0.0000	10,951.4668
2024	179.5036	24.2849	28.0078	0.0923	3.9791	0.7030	4.6821	1.0731	0.6646	1.7378	0.0000	9,220.6322	9,220.6322	0.8457	0.0000	9,241.7748
Maximum	**179.5036**	**67.0577**	**56.1940**	**0.1514**	**11.7342**	**2.4915**	**14.2035**	**5.4427**	**2.3101**	**7.7323**	**0.0000**	**14,952.7403**	**14,952.7403**	**2.8625**	**0.0000**	**15,024.3020**

	ROG	NOx	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	34.00	0.00	29.54	42.19	0.00	32.03	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.2870	0.6953	5.9852	4.3200e-003		0.0825	0.0825		0.0825	0.0825	0.0000	813.9554	813.9554	0.0254	0.0147	818.9807
Energy	0.1679	1.5064	1.1348	9.1600e-003		0.1160	0.1160		0.1160	0.1160		1,831.8526	1,831.8526	0.0351	0.0336	1,842.7384
Mobile	1.7299	10.2422	17.1817	0.0830	5.9491	0.0486	5.9977	1.5916	0.0453	1.6369		8,463.4779	8,463.4779	0.3922		8,473.2821
Total	**12.1848**	**12.4439**	**24.3017**	**0.0964**	**5.9491**	**0.2472**	**6.1962**	**1.5916**	**0.2439**	**1.8355**	**0.0000**	**11,109.2859**	**11,109.2859**	**0.4527**	**0.0483**	**11,135.0011**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.2109	0.0654	5.6760	3.0000e-004		0.0314	0.0314		0.0314	0.0314	0.0000	10.2152	10.2152	9.8400e-003	0.0000	10.4612
Energy	0.1679	1.5064	1.1348	9.1600e-003		0.1160	0.1160		0.1160	0.1160		1,831.8526	1,831.8526	0.0351	0.0336	1,842.7384
Mobile	1.6939	9.9905	16.1870	0.0780	5.5386	0.0456	5.5842	1.4818	0.0425	1.5243		7,959.2577	7,959.2577	0.3788		7,968.7265
Total	**12.0727**	**11.5624**	**22.9978**	**0.0875**	**5.5386**	**0.1930**	**5.7316**	**1.4818**	**0.1899**	**1.6717**	**0.0000**	**9,801.3254**	**9,801.3254**	**0.4237**	**0.0336**	**9,821.9261**

	ROG	NOx	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	**0.92**	**7.08**	**5.37**	**9.31**	**6.90**	**21.91**	**7.50**	**6.90**	**22.12**	**8.92**	**0.00**	**11.77**	**11.77**	**6.40**	**30.49**	**11.79**

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	9/1/2022	9/28/2022	5	20	
2	Building Construction	Building Construction	9/1/2022	5/8/2024	5	440	
3	Grading	Grading	9/29/2022	11/30/2022	5	45	
4	Paving	Paving	12/1/2022	1/18/2023	5	35	
5	Architectural Coating	Architectural Coating	3/21/2024	5/8/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 10.37

Residential Indoor: 279,045; Residential Outdoor: 93,015; Non-Residential Indoor: 368,327; Non-Residential Outdoor: 122,776; Striped Parking Area: 24,579 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	14.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	324.00	115.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	16.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	12.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	65.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**18.0663**	**1.6126**	**19.6788**	**9.9307**	**1.4836**	**11.4143**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

3.2 Site Preparation - 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	lb/day										lb/day					
Hauling	4.7700e-003	0.1584	0.0242	5.6000e-004	0.0123	4.6000e-004	0.0127	3.3700e-003	4.4000e-004	3.8100e-003		58.2775	58.2775	2.9200e-003		58.3506
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
Worker	0.0677	0.0346	0.4573	1.5100e-003	0.1479	9.7000e-004	0.1488	0.0392	8.9000e-004	0.0401		150.6062	150.6062	3.3700e-003		150.6904
Total	**0.0725**	**0.1930**	**0.4815**	**2.0700e-003**	**0.1601**	**1.4300e-003**	**0.1616**	**0.0426**	**1.3300e-003**	**0.0439**		**208.8837**	**208.8837**	**6.2900e-003**		**209.0410**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**8.1298**	**1.6126**	**9.7424**	**4.4688**	**1.4836**	**5.9524**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

3.2 Site Preparation - 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	lb/day										lb/day					
Hauling	4.7700e-003	0.1584	0.0242	5.6000e-004	0.0123	4.6000e-004	0.0127	3.3700e-003	4.4000e-004	3.8100e-003		58.2775	58.2775	2.9200e-003		58.3506
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
Worker	0.0677	0.0346	0.4573	1.5100e-003	0.1479	9.7000e-004	0.1488	0.0392	8.9000e-004	0.0401		150.6062	150.6062	3.3700e-003		150.6904
Total	**0.0725**	**0.1930**	**0.4815**	**2.0700e-003**	**0.1601**	**1.4300e-003**	**0.1616**	**0.0426**	**1.3300e-003**	**0.0439**		**208.8837**	**208.8837**	**6.2900e-003**		**209.0410**

3.3 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	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.3 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	lb/day										lb/day					
Hauling	2.8000e-004	9.2600e-003	1.4200e-003	3.0000e-005	2.9100e-003	3.0000e-005	2.9400e-003	7.4000e-004	3.0000e-005	7.6000e-004		3.4058	3.4058	1.7000e-004		3.4101
Vendor	0.3460	11.8477	2.0359	0.0332	0.7798	0.0288	0.8086	0.2246	0.0276	0.2521		3,475.7381	3,475.7381	0.2402		3,481.7441
Worker	1.2188	0.6227	8.2314	0.0272	2.6616	0.0174	2.6790	0.7060	0.0160	0.7220		2,710.9108	2,710.9108	0.0607		2,712.4275
Total	**1.5651**	**12.4797**	**10.2687**	**0.0604**	**3.4443**	**0.0463**	**3.4905**	**0.9313**	**0.0436**	**0.9749**		**6,190.0547**	**6,190.0547**	**0.3011**		**6,197.5818**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.3 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	lb/day										lb/day					
Hauling	2.8000e-004	9.2600e-003	1.4200e-003	3.0000e-005	2.9100e-003	3.0000e-005	2.9400e-003	7.4000e-004	3.0000e-005	7.6000e-004		3.4058	3.4058	1.7000e-004		3.4101
Vendor	0.3460	11.8477	2.0359	0.0332	0.7798	0.0288	0.8086	0.2246	0.0276	0.2521		3,475.7381	3,475.7381	0.2402		3,481.7441
Worker	1.2188	0.6227	8.2314	0.0272	2.6616	0.0174	2.6790	0.7060	0.0160	0.7220		2,710.9108	2,710.9108	0.0607		2,712.4275
Total	**1.5651**	**12.4797**	**10.2687**	**0.0604**	**3.4443**	**0.0463**	**3.4905**	**0.9313**	**0.0436**	**0.9749**		**6,190.0547**	**6,190.0547**	**0.3011**		**6,197.5818**

3.3 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.3 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	lb/day										lb/day					
Hauling	1.9000e-004	6.3300e-003	1.2000e-003	3.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004		3.2958	3.2958	1.2000e-004		3.2987
Vendor	0.2446	9.0792	1.7162	0.0324	0.7798	8.8900e-003	0.7887	0.2246	8.4900e-003	0.2331		3,389.6513	3,389.6513	0.1644		3,393.7603
Worker	1.1317	0.5580	7.5480	0.0262	2.6616	0.0170	2.6785	0.7060	0.0156	0.7216		2,608.7319	2,608.7319	0.0541		2,610.0850
Total	**1.3765**	**9.6436**	**9.2654**	**0.0586**	**3.4425**	**0.0259**	**3.4683**	**0.9308**	**0.0241**	**0.9549**		**6,001.6790**	**6,001.6790**	**0.2186**		**6,007.1440**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.3 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	lb/day										lb/day					
Hauling	1.9000e-004	6.3300e-003	1.2000e-003	3.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004		3.2958	3.2958	1.2000e-004		3.2987
Vendor	0.2446	9.0792	1.7162	0.0324	0.7798	8.8900e-003	0.7887	0.2246	8.4900e-003	0.2331		3,389.6513	3,389.6513	0.1644		3,393.7603
Worker	1.1317	0.5580	7.5480	0.0262	2.6616	0.0170	2.6785	0.7060	0.0156	0.7216		2,608.7319	2,608.7319	0.0541		2,610.0850
Total	**1.3765**	**9.6436**	**9.2654**	**0.0586**	**3.4425**	**0.0259**	**3.4683**	**0.9308**	**0.0241**	**0.9549**		**6,001.6790**	**6,001.6790**	**0.2186**		**6,007.1440**

3.3 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.3 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	lb/day										lb/day					
Hauling	1.9000e-004	6.2100e-003	1.1800e-003	3.0000e-005	2.7400e-003	1.0000e-005	2.7500e-003	6.9000e-004	1.0000e-005	7.0000e-004		3.2698	3.2698	1.2000e-004		3.2728
Vendor	0.2377	9.0036	1.6246	0.0321	0.7798	8.8100e-003	0.7886	0.2246	8.4200e-003	0.2330		3,363.1616	3,363.1616	0.1667		3,367.3297
Worker	1.0573	0.5030	6.9993	0.0252	2.6616	0.0166	2.6782	0.7060	0.0153	0.7213		2,509.1147	2,509.1147	0.0487		2,510.3327
Total	**1.2952**	**9.5127**	**8.6250**	**0.0573**	**3.4441**	**0.0254**	**3.4696**	**0.9312**	**0.0237**	**0.9550**		**5,875.5461**	**5,875.5461**	**0.2156**		**5,880.9352**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.3 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	lb/day										lb/day					
Hauling	1.9000e-004	6.2100e-003	1.1800e-003	3.0000e-005	2.7400e-003	1.0000e-005	2.7500e-003	6.9000e-004	1.0000e-005	7.0000e-004		3.2698	3.2698	1.2000e-004		3.2728
Vendor	0.2377	9.0036	1.6246	0.0321	0.7798	8.8100e-003	0.7886	0.2246	8.4200e-003	0.2330		3,363.1616	3,363.1616	0.1667		3,367.3297
Worker	1.0573	0.5030	6.9993	0.0252	2.6616	0.0166	2.6782	0.7060	0.0153	0.7213		2,509.1147	2,509.1147	0.0487		2,510.3327
Total	**1.2952**	**9.5127**	**8.6250**	**0.0573**	**3.4441**	**0.0254**	**3.4696**	**0.9312**	**0.0237**	**0.9550**		**5,875.5461**	**5,875.5461**	**0.2156**		**5,880.9352**

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	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	lb/day										lb/day					
Hauling	2.4200e-003	0.0805	0.0123	2.8000e-004	6.2300e-003	2.3000e-004	6.4700e-003	1.7100e-003	2.2000e-004	1.9300e-003		29.6013	29.6013	1.4900e-003		29.6384
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
Worker	0.0752	0.0384	0.5081	1.6800e-003	0.1643	1.0700e-003	0.1654	0.0436	9.9000e-004	0.0446		167.3402	167.3402	3.7400e-003		167.4338
Total	**0.0777**	**0.1189**	**0.5204**	**1.9600e-003**	**0.1705**	**1.3000e-003**	**0.1718**	**0.0453**	**1.2100e-003**	**0.0465**		**196.9415**	**196.9415**	**5.2300e-003**		**197.0722**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**3.9030**	**1.6349**	**5.5379**	**1.6184**	**1.5041**	**3.1225**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	lb/day										lb/day					
Hauling	2.4200e-003	0.0805	0.0123	2.8000e-004	6.2300e-003	2.3000e-004	6.4700e-003	1.7100e-003	2.2000e-004	1.9300e-003		29.6013	29.6013	1.4900e-003		29.6384
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
Worker	0.0752	0.0384	0.5081	1.6800e-003	0.1643	1.0700e-003	0.1654	0.0436	9.9000e-004	0.0446		167.3402	167.3402	3.7400e-003		167.4338
Total	**0.0777**	**0.1189**	**0.5204**	**1.9600e-003**	**0.1705**	**1.3000e-003**	**0.1718**	**0.0453**	**1.2100e-003**	**0.0465**		**196.9415**	**196.9415**	**5.2300e-003**		**197.0722**

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	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.6797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7825**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 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	lb/day										lb/day					
Hauling	2.3400e-003	0.0776	0.0119	2.7000e-004	8.6900e-003	2.3000e-004	8.9200e-003	2.3100e-003	2.2000e-004	2.5200e-003		28.5441	28.5441	1.4300e-003		28.5799
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
Worker	0.0564	0.0288	0.3811	1.2600e-003	0.1232	8.1000e-004	0.1240	0.0327	7.4000e-004	0.0334		125.5051	125.5051	2.8100e-003		125.5754
Total	**0.0588**	**0.1064**	**0.3930**	**1.5300e-003**	**0.1319**	**1.0400e-003**	**0.1330**	**0.0350**	**9.6000e-004**	**0.0360**		**154.0492**	**154.0492**	**4.2400e-003**		**154.1552**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.6797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7825**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 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	lb/day										lb/day					
Hauling	2.3400e-003	0.0776	0.0119	2.7000e-004	8.6900e-003	2.3000e-004	8.9200e-003	2.3100e-003	2.2000e-004	2.5200e-003		28.5441	28.5441	1.4300e-003		28.5799
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
Worker	0.0564	0.0288	0.3811	1.2600e-003	0.1232	8.1000e-004	0.1240	0.0327	7.4000e-004	0.0334		125.5051	125.5051	2.8100e-003		125.5754
Total	**0.0588**	**0.1064**	**0.3930**	**1.5300e-003**	**0.1319**	**1.0400e-003**	**0.1330**	**0.0350**	**9.6000e-004**	**0.0360**		**154.0492**	**154.0492**	**4.2400e-003**		**154.1552**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.6797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7124**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6100e-003	0.0531	0.0101	2.6000e-004	0.0137	9.0000e-005	0.0138	3.5300e-003	9.0000e-005	3.6200e-003		27.6215	27.6215	9.8000e-004		27.6460
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
Worker	0.0524	0.0258	0.3494	1.2100e-003	0.1232	7.9000e-004	0.1240	0.0327	7.2000e-004	0.0334		120.7746	120.7746	2.5100e-003		120.8373
Total	**0.0540**	**0.0789**	**0.3595**	**1.4700e-003**	**0.1369**	**8.8000e-004**	**0.1378**	**0.0362**	**8.1000e-004**	**0.0370**		**148.3961**	**148.3961**	**3.4900e-003**		**148.4832**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.6797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7124**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6100e-003	0.0531	0.0101	2.6000e-004	0.0137	9.0000e-005	0.0138	3.5300e-003	9.0000e-005	3.6200e-003		27.6215	27.6215	9.8000e-004		27.6460
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
Worker	0.0524	0.0258	0.3494	1.2100e-003	0.1232	7.9000e-004	0.1240	0.0327	7.2000e-004	0.0334		120.7746	120.7746	2.5100e-003		120.8373
Total	**0.0540**	**0.0789**	**0.3595**	**1.4700e-003**	**0.1369**	**8.8000e-004**	**0.1378**	**0.0362**	**8.1000e-004**	**0.0370**		**148.3961**	**148.3961**	**3.4900e-003**		**148.4832**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	176.3436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**176.5244**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7000e-004	8.6700e-003	1.6400e-003	4.0000e-005	1.0000e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.9000e-004		4.5674	4.5674	1.7000e-004		4.5716
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
Worker	0.2121	0.1009	1.4042	5.0500e-003	0.5340	3.3400e-003	0.5373	0.1416	3.0700e-003	0.1447		503.3718	503.3718	9.7700e-003		503.6161
Total	**0.2124**	**0.1096**	**1.4058**	**5.0900e-003**	**0.5350**	**3.3500e-003**	**0.5383**	**0.1419**	**3.0800e-003**	**0.1450**		**507.9392**	**507.9392**	**9.9400e-003**		**508.1877**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	176.3436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**176.5244**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7000e-004	8.6700e-003	1.6400e-003	4.0000e-005	1.0000e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.9000e-004		4.5674	4.5674	1.7000e-004		4.5716
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
Worker	0.2121	0.1009	1.4042	5.0500e-003	0.5340	3.3400e-003	0.5373	0.1416	3.0700e-003	0.1447		503.3718	503.3718	9.7700e-003		503.6161
Total	**0.2124**	**0.1096**	**1.4058**	**5.0900e-003**	**0.5350**	**3.3500e-003**	**0.5383**	**0.1419**	**3.0800e-003**	**0.1450**		**507.9392**	**507.9392**	**9.9400e-003**		**508.1877**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6939	9.9905	16.1870	0.0780	5.5386	0.0456	5.5842	1.4818	0.0425	1.5243		7,959.2577	7,959.2577	0.3788		7,968.7265
Unmitigated	1.7299	10.2422	17.1817	0.0830	5.9491	0.0486	5.9977	1.5916	0.0453	1.6369		8,463.4779	8,463.4779	0.3922		8,473.2821

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	497.76	553.52	427.04	1,441,284	1,341,835
General Office Building	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	403.84	403.84	403.84	1,179,008	1,097,657
Total	901.60	957.36	830.88	2,620,292	2,439,492

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
Condo/Townhouse	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.527700	0.209000	0.167500	0.055600	0.000900	0.000900	0.008000	0.021400	0.000000	0.004300	0.002500	0.000200	0.002000
General Office Building	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Other Asphalt Surfaces	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Other Non-Asphalt Surfaces	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Parking Lot	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Single Family Housing	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Unrefrigerated Warehouse-No Rail	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1679	1.5064	1.1348	9.1600e-003		0.1160	0.1160		0.1160	0.1160		1,831.8526	1,831.8526	0.0351	0.0336	1,842.7384
NaturalGas Unmitigated	0.1679	1.5064	1.1348	9.1600e-003		0.1160	0.1160		0.1160	0.1160		1,831.8526	1,831.8526	0.0351	0.0336	1,842.7384

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	3347.01	0.0361	0.3085	0.1313	1.9700e-003		0.0249	0.0249		0.0249	0.0249		393.7661	393.7661	7.5500e-003	7.2200e-003	396.1061
General Office Building	28.7458	3.1000e-004	2.8200e-003	2.3700e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		3.3819	3.3819	6.0000e-005	6.0000e-005	3.4020
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	71.6308	7.7000e-004	6.6000e-003	2.8100e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		8.4272	8.4272	1.6000e-004	1.5000e-004	8.4772
Unrefrigerated Warehouse-No Rail	12123.4	0.1307	1.1886	0.9984	7.1300e-003		0.0903	0.0903		0.0903	0.0903		1,426.2774	1,426.2774	0.0273	0.0262	1,434.7531
Total		**0.1679**	**1.5064**	**1.1348**	**9.1600e-003**		**0.1160**	**0.1160**		**0.1160**	**0.1160**		**1,831.8526**	**1,831.8526**	**0.0351**	**0.0336**	**1,842.7384**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	3.34701	0.0361	0.3085	0.1313	1.9700e-003		0.0249	0.0249		0.0249	0.0249		393.7661	393.7661	7.5500e-003	7.2200e-003	396.1061
General Office Building	0.0287458	3.1000e-004	2.8200e-003	2.3700e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		3.3819	3.3819	6.0000e-005	6.0000e-005	3.4020
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.0716308	7.7000e-004	6.6000e-003	2.8100e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		8.4272	8.4272	1.6000e-004	1.5000e-004	8.4772
Unrefrigerated Warehouse-No Rail	12.1234	0.1307	1.1886	0.9984	7.1300e-003		0.0903	0.0903		0.0903	0.0903		1,426.2774	1,426.2774	0.0273	0.0262	1,434.7531
Total		**0.1679**	**1.5064**	**1.1348**	**9.1600e-003**		**0.1160**	**0.1160**		**0.1160**	**0.1160**		**1,831.8526**	**1,831.8526**	**0.0351**	**0.0336**	**1,842.7384**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.2109	0.0654	5.6760	3.0000e-004		0.0314	0.0314		0.0314	0.0314	0.0000	10.2152	10.2152	9.8400e-003	0.0000	10.4612
Unmitigated	10.2870	0.6953	5.9852	4.3200e-003		0.0825	0.0825		0.0825	0.0825	0.0000	813.9554	813.9554	0.0254	0.0147	818.9807

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.6910					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.3488					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0737	0.6295	0.2679	4.0200e-003		0.0509	0.0509		0.0509	0.0509	0.0000	803.6471	803.6471	0.0154	0.0147	808.4227
Landscaping	0.1736	0.0658	5.7173	3.0000e-004		0.0316	0.0316		0.0316	0.0316		10.3083	10.3083	9.9900e-003		10.5580
Total	**10.2870**	**0.6953**	**5.9852**	**4.3200e-003**		**0.0825**	**0.0825**		**0.0825**	**0.0825**	**0.0000**	**813.9554**	**813.9554**	**0.0254**	**0.0147**	**818.9807**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.6910					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.3488					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1711	0.0654	5.6760	3.0000e-004		0.0314	0.0314		0.0314	0.0314		10.2152	10.2152	9.8400e-003		10.4612
Total	**10.2109**	**0.0654**	**5.6760**	**3.0000e-004**		**0.0314**	**0.0314**		**0.0314**	**0.0314**	**0.0000**	**10.2152**	**10.2152**	**9.8400e-003**	**0.0000**	**10.4612**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Derrel's Mini Storage and Residential Project - Construction & Buildout Operations

Kern-San Joaquin County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	0.80	1000sqft	0.02	804.00	0
Unrefrigerated Warehouse-No Rail	244.75	1000sqft	5.62	244,747.00	0
Other Asphalt Surfaces	8.99	Acre	8.99	391,604.40	0
Other Non-Asphalt Surfaces	1.29	Acre	1.29	14,050.00	0
Parking Lot	10.00	Space	0.09	4,000.00	0
Condo/Townhouse	68.00	Dwelling Unit	9.50	136,000.00	194
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	3

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)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Derrel’s Mini Storage and Residential Project - Construction & Buildout Operations
CO2 intensity factor adjusted based on Renewable Energy Portfolio and PG&E's Corporate Responsibility and Sustainability Report.

Land Use - Development contemplated by the proposed project
Darrel’s Mini Storage facility and 68 dwelling units in 32 residential buildings (duplexes)
25.83 gross acres

Construction Phase - Start dates of September 2022 with total project completion of 2nd quarter of 2024.
CalEEMod phase durations retained.
No demolition

Trips and VMT - Additional truck trips were added to each phase for mobilization/demobilization of on-site equipment (two trips per piece of equipment).

Grading - Cut/fill assumed to be balanced on site.

Vehicle Trips - Adjusted trip generation to match project-specific information.
404 daily trips for the mini storage use and ITE rates for the residential portion.

Woodstoves - SJVAPCD Rule 4901 Woodburning

Energy Use -

Construction Off-road Equipment Mitigation - Compliance with SJVAPCD Regulation VIII

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation - 20% of electricity use assumed to be generated by on-site renewable energy to account for the project's inclusion of on-site solar

Water Mitigation - Compliance with Green Building Code Standards and California Model Water Efficient Landscape Ordinance

Fleet Mix - SJVAPCD-approved Residential Fleet Mix for the 2024 operational year applied to the multi-family residential development.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFleetMix	HHD	0.15	0.02
tblFleetMix	LDA	0.49	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	9.0000e-004
tblFleetMix	LHD2	5.2590e-003	9.0000e-004

tblFleetMix	MCY	5.6980e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	7.1100e-004	2.0000e-003
tblFleetMix	MHD	0.02	8.0000e-003
tblFleetMix	OBUS	1.5990e-003	0.00
tblFleetMix	SBUS	8.9600e-004	2.0000e-004
tblFleetMix	UBUS	1.5700e-003	4.3000e-003
tblLandUse	LandUseSquareFeet	800.00	804.00
tblLandUse	LandUseSquareFeet	244,750.00	244,747.00
tblLandUse	LandUseSquareFeet	56,192.40	14,050.00
tblLandUse	LandUseSquareFeet	68,000.00	136,000.00
tblLandUse	LotAcreage	4.25	9.50
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblTripsAndVMT	HaulingTripNumber	0.00	14.00
tblTripsAndVMT	HaulingTripNumber	0.00	18.00
tblTripsAndVMT	HaulingTripNumber	0.00	16.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblVehicleTrips	ST_TR	5.67	8.14
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	ST_TR	1.68	1.65
tblVehicleTrips	SU_TR	4.84	6.28
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	SU_TR	1.68	1.65
tblVehicleTrips	WD_TR	5.81	7.32

tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblVehicleTrips	WD_TR	1.68	1.65
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	6.9051	67.2265	54.9914	0.1465	21.6707	2.4926	24.1410	10.9045	2.3111	13.1953	0.0000	14,457.5011	14,457.5011	2.8856	0.0000	14,529.6399
2023	4.6534	34.4058	39.2676	0.1051	3.5794	1.2368	4.8162	0.9670	1.1529	2.1199	0.0000	10,440.8778	10,440.8778	1.5577	0.0000	10,479.8205
2024	179.4407	24.3908	26.6903	0.0873	3.9791	0.7032	4.6823	1.0731	0.6648	1.7379	0.0000	8,714.7665	8,714.7665	0.8595	0.0000	8,736.2549
Maximum	**179.4407**	**67.2265**	**54.9914**	**0.1465**	**21.6707**	**2.4926**	**24.1410**	**10.9045**	**2.3111**	**13.1953**	**0.0000**	**14,457.5011**	**14,457.5011**	**2.8856**	**0.0000**	**14,529.6399**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	6.9051	67.2265	54.9914	0.1465	11.7342	2.4926	14.2046	5.4427	2.3111	7.7334	0.0000	14,457.5011	14,457.5011	2.8856	0.0000	14,529.6399
2023	4.6534	34.4058	39.2676	0.1051	3.5794	1.2368	4.8162	0.9670	1.1529	2.1199	0.0000	10,440.8778	10,440.8778	1.5577	0.0000	10,479.8205
2024	179.4407	24.3908	26.6903	0.0873	3.9791	0.7032	4.6823	1.0731	0.6648	1.7379	0.0000	8,714.7665	8,714.7665	0.8595	0.0000	8,736.2549
Maximum	**179.4407**	**67.2265**	**54.9914**	**0.1465**	**11.7342**	**2.4926**	**14.2046**	**5.4427**	**2.3111**	**7.7334**	**0.0000**	**14,457.5011**	**14,457.5011**	**2.8856**	**0.0000**	**14,529.6399**

Derrel’s Mini Storage and Residential Project - Construction & Buildout Operations - Kern-San Joaquin County, Winter

	ROG	NOx	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	34.00	0.00	29.54	42.19	0.00	32.03	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.2870	0.6953	5.9852	4.3200e-003		0.0825	0.0825		0.0825	0.0825	0.0000	813.9554	813.9554	0.0254	0.0147	818.9807
Energy	0.1679	1.5064	1.1348	9.1600e-003		0.1160	0.1160		0.1160	0.1160		1,831.8526	1,831.8526	0.0351	0.0336	1,842.7384
Mobile	1.3013	10.4002	15.2036	0.0751	5.9491	0.0488	5.9979	1.5916	0.0455	1.6371		7,675.0348	7,675.0348	0.4078		7,685.2287
Total	**11.7563**	**12.6020**	**22.3236**	**0.0886**	**5.9491**	**0.2473**	**6.1964**	**1.5916**	**0.2440**	**1.8357**	**0.0000**	**10,320.8428**	**10,320.8428**	**0.4683**	**0.0483**	**10,346.9478**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.2109	0.0654	5.6760	3.0000e-004		0.0314	0.0314		0.0314	0.0314	0.0000	10.2152	10.2152	9.8400e-003	0.0000	10.4612
Energy	0.1679	1.5064	1.1348	9.1600e-003		0.1160	0.1160		0.1160	0.1160		1,831.8526	1,831.8526	0.0351	0.0336	1,842.7384
Mobile	1.2676	10.1256	14.4283	0.0706	5.5386	0.0458	5.5844	1.4818	0.0427	1.5245		7,215.6973	7,215.6973	0.3954		7,225.5825
Total	**11.6465**	**11.6974**	**21.2391**	**0.0801**	**5.5386**	**0.1932**	**5.7318**	**1.4818**	**0.1901**	**1.6719**	**0.0000**	**9,057.7650**	**9,057.7650**	**0.4404**	**0.0336**	**9,078.7821**

	ROG	NOx	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	**0.93**	**7.18**	**4.86**	**9.63**	**6.90**	**21.89**	**7.50**	**6.90**	**22.10**	**8.92**	**0.00**	**12.24**	**12.24**	**5.96**	**30.49**	**12.26**

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	9/1/2022	9/28/2022	5	20	
2	Building Construction	Building Construction	9/1/2022	5/8/2024	5	440	
3	Grading	Grading	9/29/2022	11/30/2022	5	45	
4	Paving	Paving	12/1/2022	1/18/2023	5	35	
5	Architectural Coating	Architectural Coating	3/21/2024	5/8/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 10.37

Residential Indoor: 279,045; Residential Outdoor: 93,015; Non-Residential Indoor: 368,327; Non-Residential Outdoor: 122,776; Striped Parking Area: 24,579 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	14.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	324.00	115.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	16.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	12.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	65.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**18.0663**	**1.6126**	**19.6788**	**9.9307**	**1.4836**	**11.4143**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

3.2 Site Preparation - 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	lb/day										lb/day					
Hauling	4.9500e-003	0.1617	0.0276	5.4000e-004	0.0123	4.7000e-004	0.0127	3.3700e-003	4.5000e-004	3.8200e-003		56.8549	56.8549	3.3000e-003		56.9375
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
Worker	0.0631	0.0396	0.3736	1.3100e-003	0.1479	9.7000e-004	0.1488	0.0392	8.9000e-004	0.0401		131.0108	131.0108	2.8900e-003		131.0831
Total	**0.0681**	**0.2012**	**0.4012**	**1.8500e-003**	**0.1601**	**1.4400e-003**	**0.1616**	**0.0426**	**1.3400e-003**	**0.0439**		**187.8658**	**187.8658**	**6.1900e-003**		**188.0206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**8.1298**	**1.6126**	**9.7424**	**4.4688**	**1.4836**	**5.9524**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

3.2 Site Preparation - 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	lb/day										lb/day					
Hauling	4.9500e-003	0.1617	0.0276	5.4000e-004	0.0123	4.7000e-004	0.0127	3.3700e-003	4.5000e-004	3.8200e-003		56.8549	56.8549	3.3000e-003		56.9375
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
Worker	0.0631	0.0396	0.3736	1.3100e-003	0.1479	9.7000e-004	0.1488	0.0392	8.9000e-004	0.0401		131.0108	131.0108	2.8900e-003		131.0831
Total	**0.0681**	**0.2012**	**0.4012**	**1.8500e-003**	**0.1601**	**1.4400e-003**	**0.1616**	**0.0426**	**1.3400e-003**	**0.0439**		**187.8658**	**187.8658**	**6.1900e-003**		**188.0206**

3.3 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	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.3 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	lb/day										lb/day					
Hauling	2.9000e-004	9.4500e-003	1.6100e-003	3.0000e-005	2.9100e-003	3.0000e-005	2.9400e-003	7.4000e-004	3.0000e-005	7.6000e-004		3.3227	3.3227	1.9000e-004		3.3275
Vendor	0.3652	11.9197	2.4312	0.0321	0.7798	0.0299	0.8097	0.2246	0.0286	0.2532		3,355.7931	3,355.7931	0.2723		3,362.5997
Worker	1.1359	0.7122	6.7246	0.0237	2.6616	0.0174	2.6790	0.7060	0.0160	0.7220		2,358.1949	2,358.1949	0.0521		2,359.4961
Total	**1.5014**	**12.6413**	**9.1574**	**0.0558**	**3.4443**	**0.0474**	**3.4916**	**0.9313**	**0.0447**	**0.9759**		**5,717.3107**	**5,717.3107**	**0.3245**		**5,725.4233**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.3 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	lb/day										lb/day					
Hauling	2.9000e-004	9.4500e-003	1.6100e-003	3.0000e-005	2.9100e-003	3.0000e-005	2.9400e-003	7.4000e-004	3.0000e-005	7.6000e-004		3.3227	3.3227	1.9000e-004		3.3275
Vendor	0.3652	11.9197	2.4312	0.0321	0.7798	0.0299	0.8097	0.2246	0.0286	0.2532		3,355.7931	3,355.7931	0.2723		3,362.5997
Worker	1.1359	0.7122	6.7246	0.0237	2.6616	0.0174	2.6790	0.7060	0.0160	0.7220		2,358.1949	2,358.1949	0.0521		2,359.4961
Total	**1.5014**	**12.6413**	**9.1574**	**0.0558**	**3.4443**	**0.0474**	**3.4916**	**0.9313**	**0.0447**	**0.9759**		**5,717.3107**	**5,717.3107**	**0.3245**		**5,725.4233**

3.3 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.3 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	lb/day										lb/day					
Hauling	2.0000e-004	6.4200e-003	1.3300e-003	3.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004		3.2151	3.2151	1.3000e-004		3.2184
Vendor	0.2583	9.1019	2.0040	0.0313	0.7798	9.0400e-003	0.7888	0.2246	8.6500e-003	0.2332		3,273.2871	3,273.2871	0.1861		3,277.9406
Worker	1.0591	0.6376	6.1388	0.0228	2.6616	0.0170	2.6785	0.7060	0.0156	0.7216		2,269.5636	2,269.5636	0.0464		2,270.7228
Total	**1.3175**	**9.7460**	**8.1441**	**0.0541**	**3.4425**	**0.0260**	**3.4685**	**0.9308**	**0.0243**	**0.9551**		**5,546.0658**	**5,546.0658**	**0.2326**		**5,551.8818**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.3 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	lb/day										lb/day					
Hauling	2.0000e-004	6.4200e-003	1.3300e-003	3.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004		3.2151	3.2151	1.3000e-004		3.2184
Vendor	0.2583	9.1019	2.0040	0.0313	0.7798	9.0400e-003	0.7888	0.2246	8.6500e-003	0.2332		3,273.2871	3,273.2871	0.1861		3,277.9406
Worker	1.0591	0.6376	6.1388	0.0228	2.6616	0.0170	2.6785	0.7060	0.0156	0.7216		2,269.5636	2,269.5636	0.0464		2,270.7228
Total	**1.3175**	**9.7460**	**8.1441**	**0.0541**	**3.4425**	**0.0260**	**3.4685**	**0.9308**	**0.0243**	**0.9551**		**5,546.0658**	**5,546.0658**	**0.2326**		**5,551.8818**

3.3 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.3 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	lb/day										lb/day					
Hauling	2.0000e-004	6.2900e-003	1.3000e-003	3.0000e-005	2.7400e-003	1.0000e-005	2.7500e-003	6.9000e-004	1.0000e-005	7.0000e-004		3.1907	3.1907	1.3000e-004		3.1940
Vendor	0.2510	9.0236	1.9014	0.0311	0.7798	8.9600e-003	0.7888	0.2246	8.5600e-003	0.2331		3,248.8543	3,248.8543	0.1890		3,253.5787
Worker	0.9939	0.5743	5.6711	0.0219	2.6616	0.0166	2.6782	0.7060	0.0153	0.7213		2,183.1419	2,183.1419	0.0417		2,184.1838
Total	**1.2451**	**9.6043**	**7.5738**	**0.0530**	**3.4441**	**0.0256**	**3.4697**	**0.9312**	**0.0239**	**0.9551**		**5,435.1868**	**5,435.1868**	**0.2308**		**5,440.9565**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.3 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	lb/day										lb/day					
Hauling	2.0000e-004	6.2900e-003	1.3000e-003	3.0000e-005	2.7400e-003	1.0000e-005	2.7500e-003	6.9000e-004	1.0000e-005	7.0000e-004		3.1907	3.1907	1.3000e-004		3.1940
Vendor	0.2510	9.0236	1.9014	0.0311	0.7798	8.9600e-003	0.7888	0.2246	8.5600e-003	0.2331		3,248.8543	3,248.8543	0.1890		3,253.5787
Worker	0.9939	0.5743	5.6711	0.0219	2.6616	0.0166	2.6782	0.7060	0.0153	0.7213		2,183.1419	2,183.1419	0.0417		2,184.1838
Total	**1.2451**	**9.6043**	**7.5738**	**0.0530**	**3.4441**	**0.0256**	**3.4697**	**0.9312**	**0.0239**	**0.9551**		**5,435.1868**	**5,435.1868**	**0.2308**		**5,440.9565**

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	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	lb/day										lb/day					
Hauling	2.5200e-003	0.0821	0.0140	2.8000e-004	6.2300e-003	2.4000e-004	6.4700e-003	1.7100e-003	2.3000e-004	1.9400e-003		28.8787	28.8787	1.6800e-003		28.9206
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
Worker	0.0701	0.0440	0.4151	1.4600e-003	0.1643	1.0700e-003	0.1654	0.0436	9.9000e-004	0.0446		145.5676	145.5676	3.2100e-003		145.6479
Total	**0.0726**	**0.1261**	**0.4291**	**1.7400e-003**	**0.1705**	**1.3100e-003**	**0.1718**	**0.0453**	**1.2200e-003**	**0.0465**		**174.4463**	**174.4463**	**4.8900e-003**		**174.5685**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**3.9030**	**1.6349**	**5.5379**	**1.6184**	**1.5041**	**3.1225**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	lb/day										lb/day					
Hauling	2.5200e-003	0.0821	0.0140	2.8000e-004	6.2300e-003	2.4000e-004	6.4700e-003	1.7100e-003	2.3000e-004	1.9400e-003		28.8787	28.8787	1.6800e-003		28.9206
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
Worker	0.0701	0.0440	0.4151	1.4600e-003	0.1643	1.0700e-003	0.1654	0.0436	9.9000e-004	0.0446		145.5676	145.5676	3.2100e-003		145.6479
Total	**0.0726**	**0.1261**	**0.4291**	**1.7400e-003**	**0.1705**	**1.3100e-003**	**0.1718**	**0.0453**	**1.2200e-003**	**0.0465**		**174.4463**	**174.4463**	**4.8900e-003**		**174.5685**

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	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.6797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7825**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 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	lb/day										lb/day					
Hauling	2.4300e-003	0.0792	0.0135	2.7000e-004	8.6900e-003	2.3000e-004	8.9200e-003	2.3100e-003	2.2000e-004	2.5300e-003		27.8473	27.8473	1.6200e-003		27.8878
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
Worker	0.0526	0.0330	0.3113	1.0900e-003	0.1232	8.1000e-004	0.1240	0.0327	7.4000e-004	0.0334		109.1757	109.1757	2.4100e-003		109.2359
Total	**0.0550**	**0.1122**	**0.3248**	**1.3600e-003**	**0.1319**	**1.0400e-003**	**0.1330**	**0.0350**	**9.6000e-004**	**0.0360**		**137.0230**	**137.0230**	**4.0300e-003**		**137.1237**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.6797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7825**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.5 Paving - 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	lb/day										lb/day					
Hauling	2.4300e-003	0.0792	0.0135	2.7000e-004	8.6900e-003	2.3000e-004	8.9200e-003	2.3100e-003	2.2000e-004	2.5300e-003		27.8473	27.8473	1.6200e-003		27.8878
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
Worker	0.0526	0.0330	0.3113	1.0900e-003	0.1232	8.1000e-004	0.1240	0.0327	7.4000e-004	0.0334		109.1757	109.1757	2.4100e-003		109.2359
Total	**0.0550**	**0.1122**	**0.3248**	**1.3600e-003**	**0.1319**	**1.0400e-003**	**0.1330**	**0.0350**	**9.6000e-004**	**0.0360**		**137.0230**	**137.0230**	**4.0300e-003**		**137.1237**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.6797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7124**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6700e-003	0.0538	0.0111	2.6000e-004	0.0137	9.0000e-005	0.0138	3.5300e-003	9.0000e-005	3.6200e-003		26.9455	26.9455	1.1000e-003		26.9731
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
Worker	0.0490	0.0295	0.2842	1.0500e-003	0.1232	7.9000e-004	0.1240	0.0327	7.2000e-004	0.0334		105.0724	105.0724	2.1500e-003		105.1261
Total	**0.0507**	**0.0833**	**0.2953**	**1.3100e-003**	**0.1369**	**8.8000e-004**	**0.1378**	**0.0362**	**8.1000e-004**	**0.0370**		**132.0179**	**132.0179**	**3.2500e-003**		**132.0991**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.6797					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7124**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6700e-003	0.0538	0.0111	2.6000e-004	0.0137	9.0000e-005	0.0138	3.5300e-003	9.0000e-005	3.6200e-003		26.9455	26.9455	1.1000e-003		26.9731
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
Worker	0.0490	0.0295	0.2842	1.0500e-003	0.1232	7.9000e-004	0.1240	0.0327	7.2000e-004	0.0334		105.0724	105.0724	2.1500e-003		105.1261
Total	**0.0507**	**0.0833**	**0.2953**	**1.3100e-003**	**0.1369**	**8.8000e-004**	**0.1378**	**0.0362**	**8.1000e-004**	**0.0370**		**132.0179**	**132.0179**	**3.2500e-003**		**132.0991**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	176.3436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**176.5244**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.8000e-004	8.7900e-003	1.8200e-003	4.0000e-005	1.0000e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.9000e-004		4.4568	4.4568	1.9000e-004		4.4615
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
Worker	0.1994	0.1152	1.1377	4.3900e-003	0.5340	3.3400e-003	0.5373	0.1416	3.0700e-003	0.1447		437.9760	437.9760	8.3600e-003		438.1850
Total	**0.1997**	**0.1240**	**1.1395**	**4.4300e-003**	**0.5350**	**3.3500e-003**	**0.5383**	**0.1419**	**3.0800e-003**	**0.1450**		**442.4328**	**442.4328**	**8.5500e-003**		**442.6465**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	176.3436					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**176.5244**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.8000e-004	8.7900e-003	1.8200e-003	4.0000e-005	1.0000e-003	1.0000e-005	1.0200e-003	2.7000e-004	1.0000e-005	2.9000e-004		4.4568	4.4568	1.9000e-004		4.4615
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
Worker	0.1994	0.1152	1.1377	4.3900e-003	0.5340	3.3400e-003	0.5373	0.1416	3.0700e-003	0.1447		437.9760	437.9760	8.3600e-003		438.1850
Total	**0.1997**	**0.1240**	**1.1395**	**4.4300e-003**	**0.5350**	**3.3500e-003**	**0.5383**	**0.1419**	**3.0800e-003**	**0.1450**		**442.4328**	**442.4328**	**8.5500e-003**		**442.6465**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2676	10.1256	14.4283	0.0706	5.5386	0.0458	5.5844	1.4818	0.0427	1.5245		7,215.6973	7,215.6973	0.3954		7,225.5825
Unmitigated	1.3013	10.4002	15.2036	0.0751	5.9491	0.0488	5.9979	1.5916	0.0455	1.6371		7,675.0348	7,675.0348	0.4078		7,685.2287

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	497.76	553.52	427.04	1,441,284	1,341,835
General Office Building	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	403.84	403.84	403.84	1,179,008	1,097,657
Total	901.60	957.36	830.88	2,620,292	2,439,492

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
Condo/Townhouse	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.527700	0.209000	0.167500	0.055600	0.000900	0.000900	0.008000	0.021400	0.000000	0.004300	0.002500	0.000200	0.002000
General Office Building	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Other Asphalt Surfaces	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Other Non-Asphalt Surfaces	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Parking Lot	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Single Family Housing	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Unrefrigerated Warehouse-No Rail	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1679	1.5064	1.1348	9.1600e-003		0.1160	0.1160		0.1160	0.1160		1,831.8526	1,831.8526	0.0351	0.0336	1,842.7384
NaturalGas Unmitigated	0.1679	1.5064	1.1348	9.1600e-003		0.1160	0.1160		0.1160	0.1160		1,831.8526	1,831.8526	0.0351	0.0336	1,842.7384

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	3347.01	0.0361	0.3085	0.1313	1.9700e-003		0.0249	0.0249		0.0249	0.0249		393.7661	393.7661	7.5500e-003	7.2200e-003	396.1061
General Office Building	28.7458	3.1000e-004	2.8200e-003	2.3700e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		3.3819	3.3819	6.0000e-005	6.0000e-005	3.4020
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	71.6308	7.7000e-004	6.6000e-003	2.8100e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		8.4272	8.4272	1.6000e-004	1.5000e-004	8.4772
Unrefrigerated Warehouse-No Rail	12123.4	0.1307	1.1886	0.9984	7.1300e-003		0.0903	0.0903		0.0903	0.0903		1,426.2774	1,426.2774	0.0273	0.0262	1,434.7531
Total		**0.1679**	**1.5064**	**1.1348**	**9.1600e-003**		**0.1160**	**0.1160**		**0.1160**	**0.1160**		**1,831.8526**	**1,831.8526**	**0.0351**	**0.0336**	**1,842.7384**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	3.34701	0.0361	0.3085	0.1313	1.9700e-003		0.0249	0.0249		0.0249	0.0249		393.7661	393.7661	7.5500e-003	7.2200e-003	396.1061
General Office Building	0.0287458	3.1000e-004	2.8200e-003	2.3700e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		3.3819	3.3819	6.0000e-005	6.0000e-005	3.4020
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.0716308	7.7000e-004	6.6000e-003	2.8100e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		8.4272	8.4272	1.6000e-004	1.5000e-004	8.4772
Unrefrigerated Warehouse-No Rail	12.1234	0.1307	1.1886	0.9984	7.1300e-003		0.0903	0.0903		0.0903	0.0903		1,426.2774	1,426.2774	0.0273	0.0262	1,434.7531
Total		**0.1679**	**1.5064**	**1.1348**	**9.1600e-003**		**0.1160**	**0.1160**		**0.1160**	**0.1160**		**1,831.8526**	**1,831.8526**	**0.0351**	**0.0336**	**1,842.7384**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.2109	0.0654	5.6760	3.0000e-004		0.0314	0.0314		0.0314	0.0314	0.0000	10.2152	10.2152	9.8400e-003	0.0000	10.4612
Unmitigated	10.2870	0.6953	5.9852	4.3200e-003		0.0825	0.0825		0.0825	0.0825	0.0000	813.9554	813.9554	0.0254	0.0147	818.9807

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.6910					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.3488					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0737	0.6295	0.2679	4.0200e-003		0.0509	0.0509		0.0509	0.0509	0.0000	803.6471	803.6471	0.0154	0.0147	808.4227
Landscaping	0.1736	0.0658	5.7173	3.0000e-004		0.0316	0.0316		0.0316	0.0316		10.3083	10.3083	9.9900e-003		10.5580
Total	**10.2870**	**0.6953**	**5.9852**	**4.3200e-003**		**0.0825**	**0.0825**		**0.0825**	**0.0825**	**0.0000**	**813.9554**	**813.9554**	**0.0254**	**0.0147**	**818.9807**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.6910					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.3488					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1711	0.0654	5.6760	3.0000e-004		0.0314	0.0314		0.0314	0.0314		10.2152	10.2152	9.8400e-003		10.4612
Total	**10.2109**	**0.0654**	**5.6760**	**3.0000e-004**		**0.0314**	**0.0314**		**0.0314**	**0.0314**	**0.0000**	**10.2152**	**10.2152**	**9.8400e-003**	**0.0000**	**10.4612**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ATTACHMENT B

Greenhouse Gas Memorandum for Derrel's Mini Storage and Residential Project

To:	Karen Kendall Derrel's Mini Storage Inc.	From:	Richard Miller and Debbie Johnson Johnson Johnson and Miller Air Quality Consulting Services
File:	Derrel's Mini Storage and Residential Project	Date:	July 12, 2021

Subject: Greenhouse Gas Memorandum for Derrel's Mini Storage and Residential Project

This memorandum documents the results of the potential impacts related to the generation of greenhouse gas (GHG) emissions for Derrel's Mini Storage and Residential Project (proposed project). This GHG memorandum quantifies the GHG emissions associated with the proposed project and includes analysis to demonstrate how the project would not conflict with any applicable GHG reduction plans, policies, or goals.

Project Location and Description

The proposed project site is comprised of approximately 25.83 gross acres located northeast of the intersection of Berkshire Road and South H Street in Bakersfield, California. The project is a concurrent General Plan Amendment, Zone Change and PCD Plan approval. The parcel is vacant and is covered by two General Plan Designations (Low Density Residential (LR) and Low Medium Density Residential (LMR)) and two Zones (R-1 (single family residential) and R-1 PUD (single family residential Planned Unit Development combining).

Development being proposed involves the construction of two projects each developed by separate entities. The first of these two projects would be developed by Derrel's Mini Storage Inc., and includes the construction and operation of a Darrel's Mini Storage facility located on approximately 12.22 acres. The second of these would be developed by Eagle Land Development, Inc. and involves the construction of 68 dwelling units in 34 residential buildings on approximately 9.5 acres adjacent to the proposed Derrel's Mini Storage facility. Both proposed developments would occur on APN 516-010-36 (located at the northeast corner of H Street and Berkshire Road in Bakersfield). Although there are two separate development projects, the proposed zoning change and general plan amendment that would allow these two developments to proceed are considered a single project. As such, the development projects are considered together as the single proposed project for the purposes of evaluating GHG emissions in this analysis.

The site plans for the proposed project are overlaid at the project location in Figure 1.

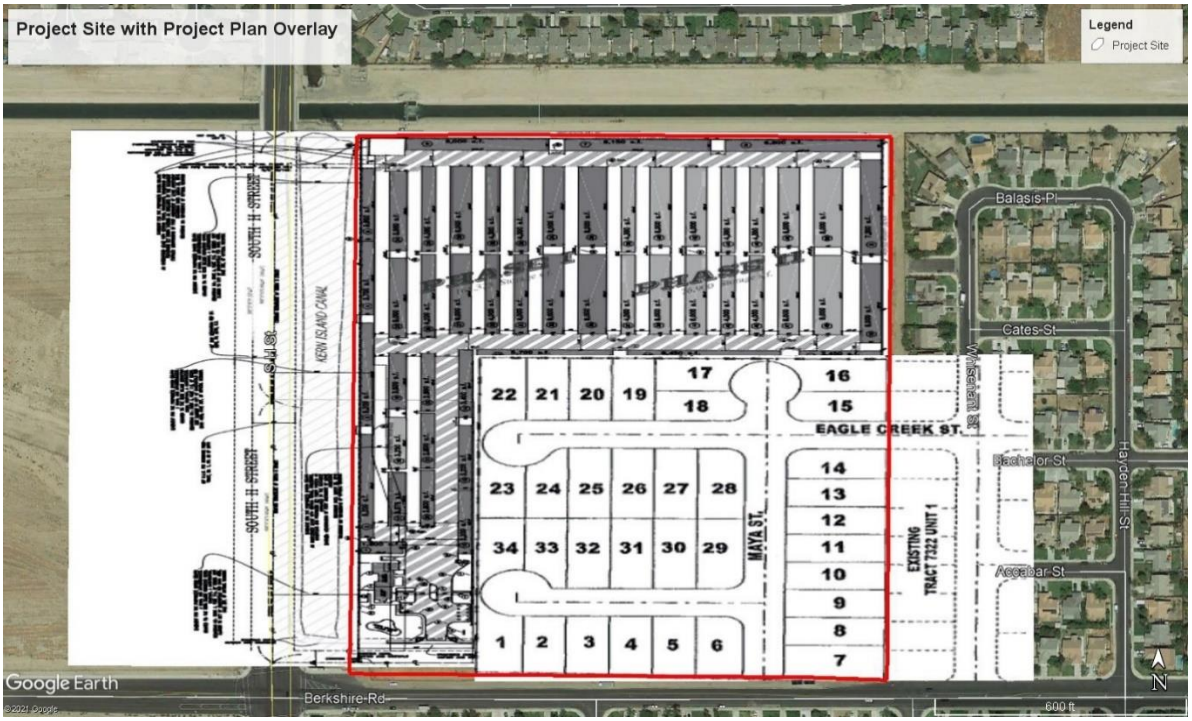

Figure 1 – Proposed Project Site Plan Overlay

Modeling Parameters and Assumptions

The following modeling parameters and assumptions were used to generate GHG emissions for the proposed project.

Model Selection

The California Emissions Estimator Model (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects. CalEEMod quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Further, CalEEMod identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures chosen by the user.

CalEEMod was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California Air Districts. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California Air Districts to account for local requirements and conditions.

CalEEMod is a comprehensive tool for quantifying air quality impacts from land use projects located throughout California. The model can be used for a variety of situations where an air quality analysis is necessary or desirable such as preparing CEQA or National Environmental Policy Act documents, conducting pre-project planning, and, verifying compliance with local air quality rules and regulations, etc.

CalEEMod version 2016.3.2 was used to estimate construction and operational impacts of the proposed project, as this is the version being recommended by the San Joaquin Valley Air Pollution Control District (SJVAPCD) at the time of this writing.

GHGs that were Assessed

GHGs Assessed

This analysis was restricted to GHGs identified by AB 32, which include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). The proposed project would generate a variety of GHGs, including several defined by AB 32 such as CO_2, CH_4, and N_2O.

Certain GHGs defined by AB 32 would not be emitted by the project. HFCs, PFCs, SF_6, and NF_3 are typically used in industrial applications, none of which would be used for typical residential operations. Therefore, it is not anticipated that the proposed project would emit those GHGs.

GHG emissions associated with the proposed project construction, as well as future operations were estimated using CO_2 equivalent (CO_2e) emissions as a proxy for all GHG emissions. Construction GHG emissions were amortized over the lifetime of the proposed project. In order to obtain the CO_2e, an individual GHG is multiplied by its Global Warming Potential (GWP). The GWP designates on a pound for pound basis the potency of the GHG compared to CO_2.

Assumptions

Construction Modeling Assumptions

Schedule

The proposed project would require various tasks including site preparation, grading, building construction, architectural coatings, and paving. Table 1 shows the anticipated construction schedule based on the assumption that construction would begin in September 2022, and it is estimated all construction tasks would be completed by May 2024 (approximately 20 months of construction). The construction schedule that utilized in the analysis represents a "worst-case" analysis scenario since emission factors for construction equipment decrease as the analysis year increases, due to improvements in technology and more stringent regulatory requirements. Therefore, construction emissions would decrease if the construction schedule moved to later years or is phased over multiple years. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required per CEQA guidelines. The site-specific construction fleet may vary due to specific project needs at the time of construction. The estimated construction schedule of 20 months is a conservative assumption because potential impacts would be more concentrated rather than spreading construction activities out over multiple years. It is anticipated that any ancillary improvements would occur concurrently with the construction of the facilities, by construction task. Overlap of the separate developments was considered by overlapping the building construction phase with other construction activities. The durations for the construction activities were derived from CalEEMod, with only the construction dates adjusted to match the anticipated construction schedule.

Table 1: Project Construction Schedule used to Estimate Emissions

Construction Task	Start Date	End Date	Workdays
Site Preparation	9/1/2022	9/28/2022	20
Building Construction	9/1/2022	5/8/2024	440
Grading	9/29/2022	11/30/2022	45
Paving	12/1/2022	1/18/2023	35
Architectural Coating	3/21/2024	5/8/2024	35
Source: CalEEMod Output (Attachment A).			

Equipment

The off-road equipment fleet for construction was generated using default values from CalEEMod. CalEEMod generates construction fleets for construction activities based on the size of the construction areas. Construction equipment for each construction activity is shown in Table 2.

Table 2: Project Construction Equipment

Construction Task	Equipment Type	Pieces of Equipment	Usage (hours/day)	Horsepower	Load Factor	Fuel Type
Site Preparation	Rubber Tired Dozers	3	8	247	0.40	Diesel
	Tractors/Loaders/Backhoes	4	8	97	0.37	Diesel
Building Construction	Cranes	1	7	231	0.29	Diesel
	Forklifts	3	8	89	0.20	Diesel
	Generator Sets	1	8	84	0.74	Diesel
	Tractors/Loaders/Backhoes	3	7	97	0.37	Diesel
	Welders	1	8	46	0.45	Diesel
Grading	Excavators	2	8	158	0.38	Diesel
	Graders	1	8	187	0.41	Diesel
	Rubber Tired Dozers	1	8	247	0.40	Diesel
	Scrapers	2	8	367	0.48	Diesel
	Tractors/Loaders/Backhoes	2	8	97	0.37	Diesel
Paving	Pavers	2	8	130	0.42	Diesel
	Paving Equipment	2	8	132	0.36	Diesel
	Rollers	2	8	80	0.38	Diesel
Architectural Coating	Air Compressors	1	6	78	0.48	Diesel
Source: CalEEMod Output (Attachment A)						

Vehicles Trips

Off-site construction emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM_{10} and $PM_{2.5}$). Table 3 provides a summary of the construction-related vehicle trips. CalEEMod quantifies the number of construction workers by multiplying 1.25 times the number of pieces of equipment for all phases (except Building Construction and Architectural Coating).

The number of construction workers for each task would fluctuate between 7 and 162 workers per day for each construction activity as shown in Table 3 (assumes two trips per worker). CalEEMod default values were used to estimate the number of vendor vehicle trips. The number of vendor trips during the Building Construction phase was derived from a study conducted by the Sacramento Metropolitan Air Quality Management District (SMAQMD) as per the CalEEMod defaults. The SMAQMD trip survey during construction counted cement and water trucks as vendor trips (instead of counting them as off-road vehicle trips) and these trip rates were incorporated into the calculations for the Building Construction phase. The default values for hauling trips were based on the assumption that a truck can haul 20 tons (or 16 cubic yards) of material per load. If one load of material is delivered, CalEEMod assumes that one haul truck importing material will also have a return trip with an empty truck (e.g., 2 one-way trips).

The fleet mix for worker trips is light-duty passenger vehicles to light-duty trucks. The vendor trips fleet mix is composed of a mixture of medium and heavy-duty diesel trucks. The hauling trips were assumed to be 100 percent heavy-duty diesel truck trips. CalEEMod default trip lengths were used for the worker (10.8 miles), vendor (7.3 miles), and hauling trips (20 miles).

Table 3: Construction Vehicle Trips

Construction Task	Worker Trips per Day	Vendor Trips per Day	Total Haul Truck Trips[1]
Site Preparation	18	0	14
Building Construction	324	115	18
Grading	20	0	16
Paving	15	0	12
Architectural Coating	65	0	2

[1] Additional truck trips were added to each phase for mobilization/demobilization of equipment (2 trips per piece of off-road equipment was assumed).

Source: CalEEMod Output (Attachment A).

Operational Modeling Assumptions

Operational emissions are those emissions that occur during operation of the proposed project. The sources are summarized below.

Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the proposed project site. The trip generation rates for the proposed project are shown in Table 4.

Table 4: Trip Generation Rates Used to Estimate Emissions

Land Use Type	Size	Size Metric	Weekday Average Daily Trip Rate	Saturday Average Daily Trip Rate	Sunday Average Daily Trip Rate
Daily Trip Rates					
Mini-Warehouse (ITE 151)	244.747	1,000 square feet	1.65	1.65	1.65
Multi-Family Housing (Low Rise) (ITE 220)	68	dwelling units	7.32	8.14	6.28
Daily Trips					
Mini-Warehouse (ITE 151)	244.747	1,000 square feet	404	404	404
Multi-Family Housing (Low Rise) (ITE 220)	68	dwelling units	498	554	427
Source of Assumptions: The Limited Traffic Analysis prepared for the proposed project by Peters Engineering Group, dated April 19, 2021. Source of Trip Rates: Institute of Transportation Engineers (ITE), Trip generation Manual 10th Edition, 2017, with ITE code in parentheses.					

Trip Lengths

The CalEEMod default round trip lengths for an urban setting in the San Joaquin Valley Air Basin portion of Kern County was used in this analysis. The trip lengths for the residential and mini storage components of the proposed project are discussed separately below.

Residential Component

Residential trip types are defined as home-work (H-W), home-shop (H-S), and home-other (H-O). The CalEEMod default values of 46.6 percent for H-W, 16.4 percent for H-S, and 37.20 percent for H-O were used for the residential portion of the project. The trip lengths for the residential portion of the project are 10.8 miles for H-W trips, 7.30 miles for H-S trips, and 7.50 miles for H-O trips. Trip lengths are for primary trips. Trip purposes are primary, diverted, and pass-by trips. Diverted trips were assumed to take a slightly different path than a primary trip. The CalEEMod default rates of 86 percent for primary, 11 percent for diverted, and 3 percent for pass-by were used.

Mini Storage Component

Non-residential trip types are defined as home-work (H-W), home-shop (H-S), and home-other (H-O). The CalEEMod defaults for trip types and trip lengths were used for the mini storage development. The CalEEMod default rates of 92 percent for primary, 5 percent for diverted, and 3 percent for pass-by were used.

Vehicle Fleet Mix

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the proposed project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline- and diesel-powered vehicles). The vehicle fleet mix for the residential portion of the project was revised to reflect the residential fleet mix approved by SJVAPCD for each year analyzed. The CalEEMod default vehicle fleet was used for the mini storage component of the proposed project. Associated operational emissions were based on emission factors for the San Joaquin Valley Air Basin portion of Kern County for the operational years analyzed.

Area Sources

Hearths

The proposed project would not include woodburning fireplaces.

Consumer Products

Consumer products are various solvents used in non-industrial applications that emit ROGs during their use. These typically include cleaning supplies, kitchen aerosols, cosmetics, and toiletries. The default CalEEMod value was used for this project.

Architectural Coatings (Painting)

Paints release VOC emissions. The buildings would be repainted on occasion. CalEEMod defaults were used for this purpose.

Landscaping Emissions

CalEEMod estimated a total of 180 days for which landscaping equipment would be used to estimate potential emissions for the proposed project.

Indirect Emissions

For GHG emissions, CalEEMod contains calculations to estimate indirect GHG emissions. Indirect emissions are emissions where the location of consumption or activity is different from where actual emissions are generated. For example, electricity would be consumed at the proposed project site; however, emissions associated with producing that electricity are generated off-site at a power plant. Since the electricity can vary greatly based on locations, the user should override these values if they have more specific information regarding their specific water supply and treatment.

Energy Use

The Renewables Portfolio Standard (RPS) is not accounted for in CalEEMod 2016.3.2. Reductions from RPS are addressed by revising the electricity emission intensity factor in CalEEMod to account for the utility RPS rate forecast for 2020. Pacific Gas and Electric (PG&E) would provide electricity and natural gas services to the project site. PG&E provides emission factors for the electricity it provides to customers for its energy portfolio that is used to estimate project emissions. The utilities will be required to increase the use of renewable energy sources to 60 percent by 2030. The latest information available in PG&E's 2020 Sustainability Report was used to adjust the project CO_2 intensity factor for the project buildout year and 2030 scenarios.

The emissions associated with the building electricity and natural gas usage (non-hearth) were estimated based on the land use type and size. The electricity energy use is in units of kilowatt hours per size metric for each land use type. Natural gas use is in units of one thousand British Thermal Units per size metric for each land use type.

Other Indirect Emissions (Water Use, Wastewater Use, and Solid Waste)

CalEEMod includes calculations for indirect GHG emissions for electricity consumption, water consumption, and solid waste disposal. For water consumption, CalEEMod calculates embedded energy (e.g., treatment, conveyance, distribution) associated with providing each gallon of potable water to the project. For solid waste disposal, GHG emissions are associated with the disposal of solid waste generated by the proposed project into landfills. CalEEMod default data was used for inputs associated with solid waste.

Greenhouse Gas Impact Analysis

CEQA Guidelines

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on GHGs, the type, level, and impact of emissions generated by the project must be evaluated.

The following GHG significance thresholds are contained in Appendix G of the CEQA Guidelines:

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

b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Thresholds of Significance

San Joaquin Valley Air Pollution Control District

The SJVAPCD's Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA presents a tiered approach to analyzing project significance with respect to GHG emissions. Project GHG emissions are considered less than significant if they can meet any of the following conditions, evaluated in the order presented:

- Project is exempt from CEQA requirements;
- Project complies with an approved GHG emission reduction plan or GHG mitigation program;
- Project implements Best Performance Standards (BPS); or
- Project demonstrates that specific GHG emissions would be reduced or mitigated by at least 29% compared to Business-as-Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period.

Project-Specific Quantitative Threshold

Section 15064.4(b) of the CEQA Guidelines' amendments for GHG emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- Consideration #1: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- Consideration #2: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- Consideration #3: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Neither Kern County nor the City of Bakersfield has adopted GHG thresholds of their own that can be used to determine a project's significance. The SJVAPCD's Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA includes thresholds based on whether the project will reduce or mitigate GHG levels by 29 percent from BAU levels compared with 2005 levels by 2020 (SJVAPCD 2009).[1] This level of GHG reduction is based on the target established by ARB's AB 32 Scoping Plan, approved in 2008. First occupancy at the project site is expected to occur in 2020. This date is within the AB 32 2020 milestone year; however, given recent legislative and legal scrutiny on post-2020 compliance, additional discussion is provided to show progress towards GHG reduction goals identified in CARB's 2017 Scoping Plan for the year 2030. Additionally, although not included in a formal GHG reduction plan, Executive Order S-3-05 also includes a goal of reducing GHG emissions 80 percent below 1990 levels by 2050 and Executive Order B-55-18 set the goal to achieve carbon neutrality statewide by 2045. The proposed project briefly addresses those two Executive Orders.

Newhall Ranch

The California Supreme Court decision in the *Center for Biological Diversity et al. vs. California Department of Fish and Wildlife, the Newhall Land and Farming Company* (62 Cal.4th 204 [2015], and known as the Newhall Ranch decision), confirmed that the use of BAU analysis (e.g., 29 percent below BAU), a performance-based approach, would be satisfactory. However, for a project-level analysis that uses CARB's statewide BAU targets, substantial evidence must be presented to support the use of those targets for a particular project at a specific location. The court noted that this may require examination of the data behind the statewide model and adjustment to the levels of reduction from BAU used for project evaluation. To date, neither CARB nor any lead agencies have provided any guidance on how to adjust AB 32's statewide BAU target for use at the project level.

The regulations in the State's 2008 Scoping Plan have been adopted and the State is on track to meet the 2020 target and achieve continued progress towards meeting the 2017 Scoping Plan target for 2030.

In the Newhall case, the Supreme Court was concerned that new development may need to reduce GHG emissions more than existing development to demonstrate it is meeting its fair share of reductions. New development does do more than its fair share through compliance with enhanced regulations, particularly with respect to motor vehicles, energy efficiency, and electricity generation. If no additional reductions are required from an individual project beyond that achieved by regulations, then the amount needed to reach the 2020 target is the amount of GHG emissions a project must reduce to comply with Statewide goals.

Greenhouse Gas Impact Analysis

Impact GHG-1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

To determine significance, the analysis first quantifies project-related GHG emissions under a business-as-usual scenario, and then compare these emissions with those emissions that would occur when all project-related design features are accounted for, and when compliance with applicable regulatory measures is assumed. The standards and methodology are explained in further detail, below.

Construction

GHG emissions generated during all phases of construction were combined and are shown in Table 5. The SJVAPCD does not have a recommendation for assessing the significance of construction related emissions, however, other jurisdictions such as the South Coast Air Quality Management District (SCAQMD) and the Sacramento Metropolitan Air Quality Management District (SMAQMD) have

[1] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2009. "Final Staff Report, Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act." Website: http://www.valleyair.org/programs/CCAP/11-05-09/1_CCAP_FINAL_CEQA_GHG_Draft_Staff_Report_Nov_05_2009.pdf. December 2009. Accessed May 2, 2021.

concluded that construction emissions should be included since they may remain in the atmosphere for years after construction is complete. The SCAQMD and SMAQMD recommend that construction emissions be amortized based on the life of the project (30 years) and added to the operational emissions.

Table 5: Annual Construction Emissions (Unmitigated)

Emission Source	Construction Emissions (MT CO_2e/year)
Annual Emissions – 2022	520
Annual Emissions – 2023	991
Annual Emissions – 2024	356
Total Construction Emissions	**1,867**
Construction Emissions Amortized Over 30 Years	**62**
Source: CalEEMod output (see Attachment A).	

Operations

Operational or long-term emissions occur over the life of the project. Sources of emissions may include motor vehicles and trucks, energy usage, water usage, waste generation, and area sources, such as landscaping activities and residential woodburning. Operational GHG emissions associated with the proposed project were estimated using CalEEMod 2016.3.2.

Business-as-Usual Operational Emissions

Operational emissions under the business-as-usual scenario were modeled using CalEEMod 2016.3.2. Modeling assumptions for the year 2005 were used to represent 2020 business as usual conditions (without the benefit of regulations adopted to reduce GHG emissions). The CARB and SJVAPCD guidance recommend using regulatory conditions in 2002-2004 in the baseline scenario to represent conditions as if regulations had not been adopted to allow the effect of projected growth on achieving reduction targets to be clearly defined. CalEEMod defaults were used for project energy usage, water usage, waste generation, and area sources (architectural coating, consumer products, and landscaping). The vehicle fleet mix was revised to reflect the residential fleet mix approved by SJVPACD for year 2020. The year 2020 was chosen because it is the AB 32 target year.

Buildout Year Operational Emissions

Operational emissions for the year 2024 were modeled using CalEEMod. CalEEMod assumes compliance with some, but not all, applicable rules and regulations regarding energy efficiency, vehicle fuel efficiency, renewable energy usage, and other GHG reduction policies, as described in the CalEEMod User's Guide.[2] Additional GHG reduction measures, such as further passenger vehicle efficiency standards under AB 1493 (Pavley), were adopted as revisions to the State's Low Emission Vehicle Program (LEV III) and were phased in beginning in 2017, but have not yet been incorporated into CalEEMod default values and therefore have not been considered in this analysis as a conservative assumption.

[2] California Air Pollution Control Officers Association (CAPCOA). 2017. California Emission Estimator Model (CalEEMod) User's Guide Version 2016.3.2. Website: http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4. Accessed May 13, 2021.

In addition to these rules and regulations, the project would incorporate the following design features that would further reduce GHG emissions:

- Title 24 Energy Efficiency Standards – Project buildings will be constructed to meet the latest version of Title 24 (currently 2019 standards).
- Pedestrian Connections – The project would connect to adjacent to existing land uses and would not restrict walkability.
- Solar – the project would generate renewable energy through the inclusion of on-site solar. It was assumed that included solar panel systems would generate renewable energy equivalent to twenty percent of the project's electricity consumption.
- Electrical Outlets for Landscaping Equipment – Outlets provided consistent with building code standards. Three percent electric landscaping equipment use was used consistent, with SJVCAPCD-provided standard assumptions.
- Water – Energy savings from water conservation resulting from the Green Building Code Standards for indoor water use and California Model Water Efficient Landscape Ordinance for outdoor water use are not included in CalEEMod. The Water Conservation Act of 2009 mandates a 20 percent reduction in urban water use that is implemented with these regulations.[3] Benefits of the water conservation regulations are applied in the CalEEMod mitigation component.

GHG reductions from some design features and compliance with regulations that are not otherwise accounted for can be quantified in CalEEMod. Note that CalEEMod nominally treats these design elements and conditions as "mitigation measures," despite their inclusion in the project description. Therefore, reported operational emissions are considered to represent unmitigated project conditions.

Operational GHG emissions by source are shown in Table 6. As previously indicated, the analysis includes construction emissions amortized over the life of the project. Full buildout of the project is anticipated to occur in 2024.

Table 6: Unmitigated Project Operational GHG Emissions (Buildout Year Scenario)

Emission Source	Emissions ($MTCO_2e$ per year)	
	Business as Usual Total Emissions (MT CO_2e per year)	**Buildout Year Total Emissions with Regulations and Design Features (MT CO_2e per year)**
Area	31	1
Energy	1,169	509
Mobile (Motor Vehicles)	1,655	1,176
Waste	132	132
Water	183	93
Amortized Construction Emissions	62	62
Total	**3,233**	**1,972**
Percent Reduction		39.0%

[3] California Department of Water Resources (CDWR). 2013. California Water Plan Update 2013, Chapter 3 Urban Water Use Efficiency. Website: http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.396.7414. Accessed May 13, 2021.

Emission Source	Emissions ($MTCO_2e$ per year)	
	Business as Usual Total Emissions (MT CO_2e per year)	**Buildout Year Total Emissions with Regulations and Design Features (MT CO_2e per year)**
Significance Threshold		29%
Exceeds Significance Threshold?		**No**

MT CO_2e = metric tons of carbon dioxide equivalent.

Totals were calculated using unrounded emissions; totals may not appear to sum exactly due to rounding.

Source of Significance Threshold: San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Final Draft Guidance for Assessing and Mitigating Air Quality Impacts. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed June 29, 2021.

Source of Business as Usual Emissions: CalEEMod output for year 2005 (see Attachment A).

Source of Buildout Year Emissions: CalEEMod output for the year 2024 (Attachment A).

As shown in Table 6, the proposed project's total GHG annual emissions would not exceed applicable thresholds of significance in either scenario analyzed.

Emissions were assessed for full buildout operations in years 2024 and 2030. The 2030 scenario summarized in Table 6 was prepared to assess the project's consistency with the SB 32 2030 target.

Table 7: Unmitigated Project Operational GHG Emissions (Year 2030 Scenario)

Emission Source	Emissions ($MTCO_2e$ per year)	
	Business as Usual Total Emissions (MT CO_2e per year)	**2030 Year Total Emissions with Regulations and Design Features (MT CO_2e per year)**
Area	31	1
Energy	1,169	487
Mobile (Motor Vehicles)	1,655	1,015
Waste	132	132
Water	183	90
Amortized Construction Emissions	62	62
Total	**3,233**	**1,788**
Percent Reduction		44.7%
Significance Threshold		29%
Exceeds Significance Threshold?		**No**

MT CO_2e = metric tons of carbon dioxide equivalent.

Totals were calculated using unrounded emissions; totals may not appear to sum exactly due to rounding.

[1] Adjusted threshold to account for 2017 Scoping Plan Update 40 percent reduction goal by 2030.

Source of Business as Usual Emissions: CalEEMod output for year 2005 (see Attachment A).

Source of 2030 Emissions: CalEEMod output for the year 2030 (Attachment A).

As shown in Table 6 and Table 7, the project would achieve a 39.0 percent reduction from BAU by the year 2020 and 44.7 percent reduction from BAU by the year 2030 with adopted regulations and design

features incorporated. This is above the 29 percent reduction required by the SJVAPCD threshold, and the required 21.7 percent average reduction from all GHG emission sources to meet the AB 32 targets. The CARB originally identified a reduction of 29 percent from business as usual as needed to achieve AB 32 targets. The 2008 recession and slower growth in the years since 2008 have reduced the growth forecasted for 2020 and the amount needed to be reduced to achieve 1990 levels as required by AB 32; the target was revised to 21.7 percent.

The 39.0 percent reduction from BAU is 17.3 percent beyond the average reduction required by the State from all sources to achieve the AB 32 2020 target. This surplus addresses the Supreme Court's concern in the Newhall case that new development must do more than average to meet its fair share of emission reductions.

By 2030, the proposed project would achieve a 44.7 percent reduction from BAU or 23.0 percent above the 21.7 percent reduction necessary to meet the 2020 target.

The project's occupancy is anticipated to be fully built out in 2024, thus an additional analysis is provided to show consistency with post-2020 State legislative GHG goals. The SB 32 goal of 40 percent below 1990 emission levels by 2030 is the target established by the 2017 Scoping Plan Update.

The 2017 Scoping Plan includes new strategies that are not incorporated in the analysis above. Many measures that are likely to proceed include zero net energy buildings in future updates to Title 24 and enhanced motor vehicle fuel efficiency standards beyond 2025. The 2017 Scoping Plan identified an emission limit of 260 million metric tons of carbon dioxide equivalents (MMTCO2e). The 2030 BAU Inventory is estimated to be 392 MMTCO2e. The 2017 Scoping Plan identified that the bulk of its reductions would come from the Electric Power, Industrial fuel combustion, and Transportation. The continuance of the Cap and Trade would provide additional reductions. Although the 2017 Scoping Plan largely relies on state actions to achieve the GHG emissions limit, the CARB considers local governments partners in achieving the State's goals for reducing GHG emissions. The 2017 Scoping Plan suggests that all new land use development implement feasible measures to reduce GHG emissions, however, it does not define feasible measures nor assign a required reduction amount to new development. A fair share quantitative threshold based on the 2017 Scoping Plan is not presently feasible as the nexus between a project's contribution and its fair share mitigation is not well defined.

Based on the 39.0 percent reduction from BAU for the buildout year (2024), the proposed project would not have a significant impact on GHG emissions as it would meet the SJVAPCD's threshold of 29 percent and exceed the CARB's 21.7 percent reduction necessary from all sources to meet the 2020 emissions limit.

For the year 2030, the project achieves a 44.7 percent reduction from BAU, which demonstrates substantial progress towards achieving the 2030 target.

Regarding the years 2045 and 2050, there have been Executive Orders issued to address carbon neutrality and GHG reduction targets, respectively for those years, however, there are no existing GHG reduction measures or plans that specifically address those Orders. Historically, the State would take the lead in developing regulatory and market measures to achieve the required reductions. The proposed project would participate in the reductions through adherence with regulations and continued improvements to the motor vehicle efficiencies accessing the project site. Studies have shown that in order to meet the 2050 targets, aggressive pursuit of technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. Because of the technological shifts required and the unknown parameters of the regulatory framework in 2050,

quantitatively analyzing the proposed project's impacts further relative to the 2050 goals is speculative for purposes of CEQA.

Conclusion

In summary, the proposed project meets the required 29 percent below BAU guidance provided by the SJVAPCD. Furthermore, the proposed project shows significant reductions in the year 2030 to suggest that it would not inhibit the State's progress in achieving the 2030 GHG emissions target. The GHG emissions impact would be less than significant with respect to Consideration #1 and #2.

Greenhouse Gas Impact Analysis

Impact GHG-2) Conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases?

The following analysis assesses the proposed project's compliance with Consideration No. 3 regarding consistency with adopted plans to reduce GHG emissions. The proposed project is assessed for its consistency with CARB's adopted Scoping Plans. This would be achieved with an assessment of the proposed project's compliance with Scoping Plan measures contained in the 2017 Scoping Plan Update.

Consistency with SB 32

The 2017 Climate Change Scoping Plan Update (2017 Scoping Plan) includes the strategy that the State intends to pursue to achieve the 2030 targets of Executive Order S-3-05 and SB 32. The 2017 Scoping Plan includes the following summary of its overall strategy for reaching the 2030 target:

- SB 350
    - Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030.
    - Doubling of energy efficiency savings by 2030.
- Low Carbon Fuel Standard (LCFS)
    - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
    - Maintaining existing GHG standards for light- and heavy-duty vehicles.
    - Put 4.2 million zero-emission vehicles (ZEVs) on the roads.
    - Increase ZEV buses, delivery and other trucks.
- Sustainable Freight Action Plan
    - Improve freight system efficiency.
    - Maximize use of near-zero emission vehicles and equipment powered by renewable energy.
    - Deploy over 100,000 zero-emission trucks and equipment by 2030.
- Short-Lived Climate Pollutant (SLCP) Reduction Strategy
    - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
    - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
- SB 375 Sustainable Communities Strategies
    - Increased stringency of 2035 targets.
- Post-2020 Cap-and-Trade Program
    - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
    - CARB will look for opportunities to strengthen the program to support more air quality cobenefits, including specific program design elements. In Fall 2016, CARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased

technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.

- By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink

Table 8 provides an analysis of the project's consistency with the 2017 Scoping Plan Update measures.

Table 8: Consistency with SB 32 2017 Scoping Plan Update

Scoping Plan Measure	Project Consistency
SB 350 50% Renewable Mandate. Utilities subject to the legislation will be required to increase their renewable energy mix from 33% in 2020 to 50% in 2030.	**Consistent**: The project will purchase electricity from a utility subject to the SB 350 Renewable Mandate. The specific provider for this project is Pacific Gas and Electric Company. In February 2018, PG&E announced that it had reached California's 2020 renewable energy goal 3 years ahead of schedule, and now delivers nearly 80 percent of its electricity from GHG-free resources.[1]
SB 350 Double Building Energy Efficiency by 2030. This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels.	**Not Applicable**. This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency until residential housing achieves zero net energy.
Low Carbon Fuel Standard. This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	**Consistent**. Vehicles accessing the project site will use fuel containing lower carbon content as the fuel standard is implemented.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario). Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses.	**Consistent**. Future tenants and residents can be expected to purchase increasing numbers of more fuel efficient and zero emission cars and trucks each year. Furthermore, it is expected that deliveries throughout the State would be made with an increasing number of ZEV delivery trucks, including trips that would be coming to and from the proposed residences and mini storage facility.
Sustainable Freight Action Plan. The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	**Not Applicable**. The measure applies to owners and operators of trucks and freight operations. However, deliveries are expected to be made by increasing number of ZEV delivery trucks.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	**Consistent**. The project would not include woodburning fireplaces, which would be a source of concern for the land uses associated with proposed project. Natural gas hearths that produce very little black carbon compared with wood burning fireplaces.[2]
SB 375 Sustainable Communities Strategies. Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita vehicle miles traveled.	**Consistent**. The project will provide residential and community-serving development in the region that is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (SCS) strategy to increase development densities to reduce VMT. The project is not within an SCS priority area and so is not subject to requirements applicable to those areas.

Scoping Plan Measure	Project Consistency
Post-2020 Cap-and-Trade Program. The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	**Not applicable.** The proposed project is not one targeted by the cap-and-trade system regulations, and, therefore, this measure does not apply to the project. However, the post-2020 Cap-and-Trade Program indirectly affects people and entities who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers.
Natural and Working Lands Action Plan. The ARB is working in coordination with several other agencies at the federal, state, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	**Not Applicable**. The project is commercial and residential development in an existing developed area and will not be considered natural or working lands.
Source: California Air Resources Board (CARB). 2017. The 2017 Climate Change Scoping Plan Update. January 20. Website: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf. Accessed June 30, 2021. [1] Pacific Gas and Electric (PG&E). 2018. PG&E Clean Energy Deliveries Already Meet Future Goals. Website: www.pge.com/en/about/newsroom/newsdetails/index.page?title=20180220_pge_clean_energy_deliveries_already_meet_future_goals. Accessed May 8, 2021. [2] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMA. Accessed June 30, 2021.	

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that operation of the project would comply with whatever measures are enacted that state lawmakers decide would lead to an 80 percent reduction below 1990 levels by 2050. In its 2008 Scoping Plan, CARB acknowledged that the "measures needed to meet the 2050 are too far in the future to define in detail." In the First Scoping Plan Update; however, CARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately." The 2017 Scoping Plan provides an intermediate target that is intended to achieve reasonable progress toward the 2050 target.

Accordingly, taking into account the proposed project's emissions, project design features, and the progress being made by the State towards reducing emissions in key sectors such as transportation, industry, and electricity, the project would be consistent with State GHG Plans and would further the State's goals of reducing GHG emissions to 1990 levels by 2020, 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050, and does not obstruct their attainment. Impacts would be less than significant.

Attachments:

- Attachment A – CalEEMod Results
- Attachment B – Additional Supporting Information

ATTACHMENT A

CalEEMod Results

CalEEMod Output

Table of Contents

Derrel’s Mini Storage and Residential Project - Construction & Buildout Operations

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	0.80	1000sqft	0.02	804.00	0
Unrefrigerated Warehouse-No Rail	244.75	1000sqft	5.62	244,747.00	0
Other Asphalt Surfaces	8.99	Acre	8.99	391,604.40	0
Other Non-Asphalt Surfaces	1.29	Acre	1.29	14,050.00	0
Parking Lot	10.00	Space	0.09	4,000.00	0
Condo/Townhouse	68.00	Dwelling Unit	9.50	136,000.00	194
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	3

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)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Derrel’s Mini Storage and Residential Project - Construction & Buildout Operations - Kern-San Joaquin County, Annual

Project Characteristics - Derrel’s Mini Storage and Residential Project - Construction & Buildout Operations
CO2 intensity factor adjusted based on Renewable Energy Portfolio and PG&E's Corporate Responsibility and Sustainability Report.

Land Use - Development contemplated by the proposed project
Darrel’s Mini Storage facility and 68 dwelling units in 32 residential buildings (duplexes)
25.83 gross acres

Construction Phase - Start dates of September 2022 with total project completion of 2nd quarter of 2024.
CalEEMod phase durations retained.
No demolition

Trips and VMT - Additional truck trips were added to each phase for mobilization/demobilization of on-site equipment (two trips per piece of equipment).

Grading - Cut/fill assumed to be balanced on site.

Vehicle Trips - Adjusted trip generation to match project-specific information.
404 daily trips for the mini storage use and ITE rates for the residential portion.

Woodstoves - SJVAPCD Rule 4901 Woodburning

Energy Use -

Construction Off-road Equipment Mitigation - Compliance with SJVAPCD Regulation VIII

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation - Compliance with Green Building Code Standards and California Model Water Efficient Landscape Ordinance

Fleet Mix - SJVAPCD-approved Residential Fleet Mix for the 2024 operational year applied to the multi-family residential development.

Energy Mitigation - 20% of electricity use assumed to be generated by on-site renewable energy to account for the project's inclusion of on-site solar

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFleetMix	HHD	0.15	0.02
tblFleetMix	LDA	0.49	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	9.0000e-004
tblFleetMix	LHD2	5.2590e-003	9.0000e-004

tblFleetMix	MCY	5.6980e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	7.1100e-004	2.0000e-003
tblFleetMix	MHD	0.02	8.0000e-003
tblFleetMix	OBUS	1.5990e-003	0.00
tblFleetMix	SBUS	8.9600e-004	2.0000e-004
tblFleetMix	UBUS	1.5700e-003	4.3000e-003
tblLandUse	LandUseSquareFeet	800.00	804.00
tblLandUse	LandUseSquareFeet	244,750.00	244,747.00
tblLandUse	LandUseSquareFeet	56,192.40	14,050.00
tblLandUse	LandUseSquareFeet	68,000.00	136,000.00
tblLandUse	LotAcreage	4.25	9.50
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblTripsAndVMT	HaulingTripNumber	0.00	14.00
tblTripsAndVMT	HaulingTripNumber	0.00	18.00
tblTripsAndVMT	HaulingTripNumber	0.00	16.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblVehicleTrips	ST_TR	5.67	8.14
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	ST_TR	1.68	1.65
tblVehicleTrips	SU_TR	4.84	6.28
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	SU_TR	1.68	1.65
tblVehicleTrips	WD_TR	5.81	7.32

tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblVehicleTrips	WD_TR	1.68	1.65
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	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											0.0000	518.0115	518.0115	0.0941	0.0000	520.3645
2023											0.0000	988.1384	988.1384	0.1021	0.0000	990.6905
2024											0.0000	355.4229	355.4229	0.0352	0.0000	356.3017
Maximum											**0.0000**	**988.1384**	**988.1384**	**0.1021**	**0.0000**	**990.6905**

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											0.0000	518.0112	518.0112	0.0941	0.0000	520.3642
2023											0.0000	988.1380	988.1380	0.1021	0.0000	990.6901
2024											0.0000	355.4228	355.4228	0.0352	0.0000	356.3016
Maximum											**0.0000**	**988.1380**	**988.1380**	**0.1021**	**0.0000**	**990.6901**

	ROG	NOx	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	30.7330	30.7330	1.3900e-003	5.5000e-004	30.9310
Energy											0.0000	554.6578	554.6578	0.0412	0.0129	559.5266
Mobile											0.0000	1,248.2361	1,248.2361	0.0624	0.0000	1,249.7947
Waste											53.4496	0.0000	53.4496	3.1588	0.0000	132.4190
Water											19.4274	31.9167	51.3441	1.9999	0.0480	115.6585
Total											**72.8770**	**1,865.5435**	**1,938.4205**	**5.2636**	**0.0615**	**2,088.3297**

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	0.8340	0.8340	8.0000e-004	0.0000	0.8541
Energy											0.0000	504.3830	504.3830	0.0341	0.0114	508.6385
Mobile											0.0000	1,174.3184	1,174.3184	0.0604	0.0000	1,175.8284
Waste											53.4496	0.0000	53.4496	3.1588	0.0000	132.4190
Water											15.5420	25.5334	41.0753	1.5999	0.0384	92.5268
Total											**68.9915**	**1,705.0687**	**1,774.0602**	**4.8540**	**0.0499**	**1,910.2667**

	ROG	NOx	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**	**5.33**	**8.60**	**8.48**	**7.78**	**18.89**	**8.53**

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	9/1/2022	9/28/2022	5	20	
2	Building Construction	Building Construction	9/1/2022	5/8/2024	5	440	
3	Grading	Grading	9/29/2022	11/30/2022	5	45	
4	Paving	Paving	12/1/2022	1/18/2023	5	35	
5	Architectural Coating	Architectural Coating	3/21/2024	5/8/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 10.37

Residential Indoor: 279,045; Residential Outdoor: 93,015; Non-Residential Indoor: 368,327; Non-Residential Outdoor: 122,776; Striped Parking Area: 24,579 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	14.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	324.00	115.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	16.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	12.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	65.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	33.4394	33.4394	0.0108	0.0000	33.7098
Total											**0.0000**	**33.4394**	**33.4394**	**0.0108**	**0.0000**	**33.7098**

3.2 Site Preparation - 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	0.5233	0.5233	3.0000e-005	0.0000	0.5240
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	1.2371	1.2371	3.0000e-005	0.0000	1.2378
Total											**0.0000**	**1.7604**	**1.7604**	**6.0000e-005**	**0.0000**	**1.7618**

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											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	33.4394	33.4394	0.0108	0.0000	33.7097
Total											**0.0000**	**33.4394**	**33.4394**	**0.0108**	**0.0000**	**33.7097**

3.2 Site Preparation - 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	0.5233	0.5233	3.0000e-005	0.0000	0.5240
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	1.2371	1.2371	3.0000e-005	0.0000	1.2378
Total											**0.0000**	**1.7604**	**1.7604**	**6.0000e-005**	**0.0000**	**1.7618**

3.3 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											0.0000	100.8005	100.8005	0.0242	0.0000	101.4042
Total											**0.0000**	**100.8005**	**100.8005**	**0.0242**	**0.0000**	**101.4042**

3.3 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	0.1330	0.1330	1.0000e-005	0.0000	0.1332
Vendor											0.0000	135.1729	135.1729	0.0100	0.0000	135.4234
Worker											0.0000	96.8654	96.8654	2.1300e-003	0.0000	96.9186
Total											**0.0000**	**232.1714**	**232.1714**	**0.0122**	**0.0000**	**232.4752**

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											0.0000	100.8004	100.8004	0.0242	0.0000	101.4041
Total											**0.0000**	**100.8004**	**100.8004**	**0.0242**	**0.0000**	**101.4041**

3.3 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	0.1330	0.1330	1.0000e-005	0.0000	0.1332
Vendor											0.0000	135.1729	135.1729	0.0100	0.0000	135.4234
Worker											0.0000	96.8654	96.8654	2.1300e-003	0.0000	96.9186
Total											**0.0000**	**232.1714**	**232.1714**	**0.0122**	**0.0000**	**232.4752**

3.3 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											0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total											**0.0000**	**301.3462**	**301.3462**	**0.0717**	**0.0000**	**303.1383**

3.3 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	0.3847	0.3847	1.0000e-005	0.0000	0.3851
Vendor											0.0000	393.9899	393.9899	0.0205	0.0000	394.5019
Worker											0.0000	278.5941	278.5941	5.6700e-003	0.0000	278.7360
Total											**0.0000**	**672.9687**	**672.9687**	**0.0262**	**0.0000**	**673.6229**

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											0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total											**0.0000**	**301.3458**	**301.3458**	**0.0717**	**0.0000**	**303.1380**

3.3 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	0.3847	0.3847	1.0000e-005	0.0000	0.3851
Vendor											0.0000	393.9899	393.9899	0.0205	0.0000	394.5019
Worker											0.0000	278.5941	278.5941	5.6700e-003	0.0000	278.7360
Total											**0.0000**	**672.9687**	**672.9687**	**0.0262**	**0.0000**	**673.6229**

3.3 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											0.0000	107.8098	107.8098	0.0255	0.0000	108.4472
Total											**0.0000**	**107.8098**	**107.8098**	**0.0255**	**0.0000**	**108.4472**

3.3 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	0.1365	0.1365	1.0000e-005	0.0000	0.1367
Vendor											0.0000	139.8462	139.8462	7.4300e-003	0.0000	140.0320
Worker											0.0000	95.8534	95.8534	1.8300e-003	0.0000	95.8991
Total											**0.0000**	**235.8361**	**235.8361**	**9.2700e-003**	**0.0000**	**236.0677**

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											0.0000	107.8097	107.8097	0.0255	0.0000	108.4471
Total											**0.0000**	**107.8097**	**107.8097**	**0.0255**	**0.0000**	**108.4471**

3.3 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	0.1365	0.1365	1.0000e-005	0.0000	0.1367
Vendor											0.0000	139.8462	139.8462	7.4300e-003	0.0000	140.0320
Worker											0.0000	95.8534	95.8534	1.8300e-003	0.0000	95.8991
Total											**0.0000**	**235.8361**	**235.8361**	**9.2700e-003**	**0.0000**	**236.0677**

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											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	122.7029	122.7029	0.0397	0.0000	123.6950
Total											**0.0000**	**122.7029**	**122.7029**	**0.0397**	**0.0000**	**123.6950**

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	0.5980	0.5980	3.0000e-005	0.0000	0.5988
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	3.0928	3.0928	7.0000e-005	0.0000	3.0945
Total											**0.0000**	**3.6908**	**3.6908**	**1.0000e-004**	**0.0000**	**3.6933**

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											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	122.7027	122.7027	0.0397	0.0000	123.6948
Total											**0.0000**	**122.7027**	**122.7027**	**0.0397**	**0.0000**	**123.6948**

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	0.5980	0.5980	3.0000e-005	0.0000	0.5988
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	3.0928	3.0928	7.0000e-005	0.0000	3.0945
Total											**0.0000**	**3.6908**	**3.6908**	**1.0000e-004**	**0.0000**	**3.6933**

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											0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084
Paving											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**22.0303**	**22.0303**	**7.1300e-003**	**0.0000**	**22.2084**

3.5 Paving - 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	0.2819	0.2819	2.0000e-005	0.0000	0.2823
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	1.1340	1.1340	2.0000e-005	0.0000	1.1346
Total											**0.0000**	**1.4159**	**1.4159**	**4.0000e-005**	**0.0000**	**1.4169**

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											0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084
Paving											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**22.0303**	**22.0303**	**7.1300e-003**	**0.0000**	**22.2084**

3.5 Paving - 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	0.2819	0.2819	2.0000e-005	0.0000	0.2823
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	1.1340	1.1340	2.0000e-005	0.0000	1.1346
Total											**0.0000**	**1.4159**	**1.4159**	**4.0000e-005**	**0.0000**	**1.4169**

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road											0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.1612	0.1612	1.0000e-005	0.0000	0.1614
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	0.6449	0.6449	1.0000e-005	0.0000	0.6452
Total											**0.0000**	**0.8061**	**0.8061**	**2.0000e-005**	**0.0000**	**0.8066**

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											0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.1612	0.1612	1.0000e-005	0.0000	0.1614
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	0.6449	0.6449	1.0000e-005	0.0000	0.6452
Total											**0.0000**	**0.8061**	**0.8061**	**2.0000e-005**	**0.0000**	**0.8066**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total											**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0718	0.0718	0.0000	0.0000	0.0718
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	7.2370	7.2370	1.4000e-004	0.0000	7.2405
Total											**0.0000**	**7.3088**	**7.3088**	**1.4000e-004**	**0.0000**	**7.3123**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total											**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling											0.0000	0.0718	0.0718	0.0000	0.0000	0.0718
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	7.2370	7.2370	1.4000e-004	0.0000	7.2405
Total											**0.0000**	**7.3088**	**7.3088**	**1.4000e-004**	**0.0000**	**7.3123**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1,174.3184	1,174.3184	0.0604	0.0000	1,175.8284
Unmitigated											0.0000	1,248.2361	1,248.2361	0.0624	0.0000	1,249.7947

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	497.76	553.52	427.04	1,441,284	1,341,835
General Office Building	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	403.84	403.84	403.84	1,179,008	1,097,657
Total	901.60	957.36	830.88	2,620,292	2,439,492

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
Condo/Townhouse	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.527700	0.209000	0.167500	0.055600	0.000900	0.000900	0.008000	0.021400	0.000000	0.004300	0.002500	0.000200	0.002000
General Office Building	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Other Asphalt Surfaces	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Other Non-Asphalt Surfaces	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Parking Lot	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Single Family Housing	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711
Unrefrigerated Warehouse-No Rail	0.492592	0.029877	0.172571	0.108744	0.015451	0.005259	0.018880	0.146151	0.001599	0.001570	0.005698	0.000896	0.000711

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable 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	201.0993	201.0993	0.0283	5.8600e-003	203.5525
Electricity Unmitigated											0.0000	251.3741	251.3741	0.0354	7.3200e-003	254.4406
NaturalGas Mitigated											0.0000	303.2837	303.2837	5.8100e-003	5.5600e-003	305.0860
NaturalGas Unmitigated											0.0000	303.2837	303.2837	5.8100e-003	5.5600e-003	305.0860

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					
Condo/Townhouse	1.22166e+006											0.0000	65.1924	65.1924	1.2500e-003	1.2000e-003	65.5798
General Office Building	10492.2											0.0000	0.5599	0.5599	1.0000e-005	1.0000e-005	0.5632
Other Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	26145.2											0.0000	1.3952	1.3952	3.0000e-005	3.0000e-005	1.4035
Unrefrigerated Warehouse-No Rail	4.42503e+006											0.0000	236.1362	236.1362	4.5300e-003	4.3300e-003	237.5395
Total												**0.0000**	**303.2837**	**303.2837**	**5.8200e-003**	**5.5700e-003**	**305.0860**

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	1.22166e+006											0.0000	65.1924	65.1924	1.2500e-003	1.2000e-003	65.5798
General Office Building	10492.2											0.0000	0.5599	0.5599	1.0000e-005	1.0000e-005	0.5632
Other Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	26145.2											0.0000	1.3952	1.3952	3.0000e-005	3.0000e-005	1.4035
Unrefrigerated Warehouse-No Rail	4.42503e+006											0.0000	236.1362	236.1362	4.5300e-003	4.3300e-003	237.5395
Total												**0.0000**	**303.2837**	**303.2837**	**5.8200e-003**	**5.5700e-003**	**305.0860**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	374551	34.9980	4.9300e-003	1.0200e-003	35.4250
General Office Building	7332.48	0.6852	1.0000e-004	2.0000e-005	0.6935
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	1400	0.1308	2.0000e-005	0.0000	0.1324
Single Family Housing	8760.74	0.8186	1.2000e-004	2.0000e-005	0.8286
Unrefrigerated Warehouse-No Rail	2.29817e+006	214.7415	0.0302	6.2500e-003	217.3611
Total		**251.3741**	**0.0354**	**7.3100e-003**	**254.4406**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	299641	27.9984	3.9400e-003	8.2000e-004	28.3400
General Office Building	5865.98	0.5481	8.0000e-005	2.0000e-005	0.5548
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	1120	0.1047	1.0000e-005	0.0000	0.1059
Single Family Housing	7008.59	0.6549	9.0000e-005	2.0000e-005	0.6629
Unrefrigerated Warehouse-No Rail	1.83854e+006	171.7932	0.0242	5.0000e-003	173.8889
Total		**201.0993**	**0.0283**	**5.8600e-003**	**203.5525**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	0.8340	0.8340	8.0000e-004	0.0000	0.8541
Unmitigated											0.0000	30.7330	30.7330	1.3900e-003	5.5000e-004	30.9310

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
Hearth											0.0000	29.8913	29.8913	5.7000e-004	5.5000e-004	30.0689
Landscaping											0.0000	0.8416	0.8416	8.2000e-004	0.0000	0.8620
Total											**0.0000**	**30.7330**	**30.7330**	**1.3900e-003**	**5.5000e-004**	**30.9310**

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
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	0.8340	0.8340	8.0000e-004	0.0000	0.8541
Total											**0.0000**	**0.8340**	**0.8340**	**8.0000e-004**	**0.0000**	**0.8541**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	41.0753	1.5999	0.0384	92.5268
Unmitigated	51.3441	1.9999	0.0480	115.6585

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	4.43047 / 2.79312	4.5591	0.1448	3.5000e-003	9.2226
General Office Building	0.142187 / 0.0871469	0.1455	4.6500e-003	1.1000e-004	0.2952
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.0671	2.1300e-003	5.0000e-005	0.1356
Unrefrigerated Warehouse-No Rail	56.5984 / 0	46.5725	1.8483	0.0444	106.0051
Total		**51.3441**	**1.9999**	**0.0480**	**115.6585**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	3.54438 / 2.2345	3.6473	0.1159	2.8000e-003	7.3781
General Office Building	0.11375 / 0.0697175	0.1164	3.7200e-003	9.0000e-005	0.2361
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.0521232 / 0.0328603	0.0536	1.7000e-003	4.0000e-005	0.1085
Unrefrigerated Warehouse-No Rail	45.2788 / 0	37.2580	1.4786	0.0355	84.8041
Total		**41.0753**	**1.5999**	**0.0384**	**92.5268**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	53.4496	3.1588	0.0000	132.4190
Unmitigated	53.4496	3.1588	0.0000	132.4190

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	31.28	6.3496	0.3753	0.0000	15.7308
General Office Building	0.74	0.1502	8.8800e-003	0.0000	0.3722
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Unrefrigerated Warehouse-No Rail	230.06	46.7001	2.7599	0.0000	115.6975
Total		**53.4496**	**3.1588**	**0.0000**	**132.4190**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	31.28	6.3496	0.3753	0.0000	15.7308
General Office Building	0.74	0.1502	8.8800e-003	0.0000	0.3722
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Unrefrigerated Warehouse-No Rail	230.06	46.7001	2.7599	0.0000	115.6975
Total		**53.4496**	**3.1588**	**0.0000**	**132.4190**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Derrel's Mini Storage and Residential Project - BAU Operations

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	0.80	1000sqft	0.02	804.00	0
Unrefrigerated Warehouse-No Rail	244.75	1000sqft	5.62	244,747.00	0
Other Asphalt Surfaces	8.99	Acre	8.99	391,604.40	0
Other Non-Asphalt Surfaces	1.29	Acre	1.29	14,050.00	0
Parking Lot	10.00	Space	0.09	4,000.00	0
Condo/Townhouse	68.00	Dwelling Unit	9.50	136,000.00	194
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	3

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 - Derrel’s Mini Storage and Residential Project - BAU Operations (2005)

Land Use - Development contemplated by the proposed project
Darrel’s Mini Storage facility and 68 dwelling units in 32 residential buildings (duplexes)
25.83 gross acres

Construction Phase - Operational run only

Off-road Equipment - Operational run only

Trips and VMT - Operational run only

Grading -

Vehicle Trips - Adjusted trip generation to match project-specific information.
404 daily trips for the mini storage use and ITE rates for the residential portion.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - SJVAPCD Rule 4901 Woodburning

Area Coating -

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Fleet Mix - SJVAPCD-approved Residential Fleet Mix for the earliest available operational year (2013) applied to the multi-family residential development to represent BAU emissions.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	35.00	1.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFleetMix	HHD	0.14	0.02

tblFleetMix	LDA	0.39	0.53
tblFleetMix	LDT1	0.06	0.19
tblFleetMix	LDT2	0.15	0.17
tblFleetMix	LHD1	0.05	2.0000e-003
tblFleetMix	LHD2	8.7770e-003	1.1000e-003
tblFleetMix	MCY	6.1030e-003	3.2000e-003
tblFleetMix	MDV	0.17	0.06
tblFleetMix	MH	2.3920e-003	1.6000e-003
tblFleetMix	MHD	0.02	9.7000e-003
tblFleetMix	OBUS	1.2660e-003	0.00
tblFleetMix	SBUS	9.5200e-004	1.2000e-003
tblFleetMix	UBUS	1.2200e-003	4.7000e-003
tblLandUse	LandUseSquareFeet	800.00	804.00
tblLandUse	LandUseSquareFeet	244,750.00	244,747.00
tblLandUse	LandUseSquareFeet	56,192.40	14,050.00
tblLandUse	LandUseSquareFeet	68,000.00	136,000.00
tblLandUse	LotAcreage	4.25	9.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblTripsAndVMT	WorkerTripNumber	65.00	0.00
tblVehicleTrips	ST_TR	5.67	8.14
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	ST_TR	1.68	1.65
tblVehicleTrips	SU_TR	4.84	6.28
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	8.62	0.00

tblVehicleTrips	SU_TR	1.68	1.65
tblVehicleTrips	WD_TR	5.81	7.32
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblVehicleTrips	WD_TR	1.68	1.65
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	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											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	30.7330	30.7330	1.9400e-003	5.5000e-004	30.9446
Energy											0.0000	1,164.0896	1,164.0896	0.0443	0.0138	1,169.3001
Mobile											0.0000	1,644.1023	1,644.1023	0.4482	0.0000	1,655.3080
Waste											53.4496	0.0000	53.4496	3.1588	0.0000	132.4190
Water											19.4274	99.3678	118.7953	1.9999	0.0480	183.1096
Total											**72.8770**	**2,938.2927**	**3,011.1697**	**5.6531**	**0.0624**	**3,171.0813**

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	30.7330	30.7330	1.9400e-003	5.5000e-004	30.9446
Energy											0.0000	1,164.0896	1,164.0896	0.0443	0.0138	1,169.3001
Mobile											0.0000	1,644.1023	1,644.1023	0.4482	0.0000	1,655.3080
Waste											53.4496	0.0000	53.4496	3.1588	0.0000	132.4190
Water											19.4274	99.3678	118.7953	1.9999	0.0480	183.1096
Total											**72.8770**	**2,938.2927**	**3,011.1697**	**5.6531**	**0.0624**	**3,171.0813**

	ROG	NOx	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	Architectural Coating	Architectural Coating	9/1/2022	9/1/2022	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 10.37

Residential Indoor: 279,045; Residential Outdoor: 93,015; Non-Residential Indoor: 368,327; Non-Residential Outdoor: 122,776; Striped Parking Area: 24,579 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	0.00	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
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 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					
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											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**

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
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 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					
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											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**

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
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	1,644.1023	1,644.1023	0.4482	0.0000	1,655.3080
Unmitigated											0.0000	1,644.1023	1,644.1023	0.4482	0.0000	1,655.3080

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	497.76	553.52	427.04	1,441,284	1,441,284
General Office Building	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	403.84	403.84	403.84	1,179,008	1,179,008
Total	901.60	957.36	830.88	2,620,292	2,620,292

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
Condo/Townhouse	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.532200	0.190100	0.167100	0.062800	0.002000	0.001100	0.009700	0.024300	0.000000	0.004700	0.003200	0.001200	0.001600
General Office Building	0.394323	0.055127	0.150223	0.171506	0.046756	0.008777	0.022924	0.138429	0.001266	0.001220	0.006103	0.000952	0.002392
Other Asphalt Surfaces	0.394323	0.055127	0.150223	0.171506	0.046756	0.008777	0.022924	0.138429	0.001266	0.001220	0.006103	0.000952	0.002392
Other Non-Asphalt Surfaces	0.394323	0.055127	0.150223	0.171506	0.046756	0.008777	0.022924	0.138429	0.001266	0.001220	0.006103	0.000952	0.002392
Parking Lot	0.394323	0.055127	0.150223	0.171506	0.046756	0.008777	0.022924	0.138429	0.001266	0.001220	0.006103	0.000952	0.002392
Single Family Housing	0.394323	0.055127	0.150223	0.171506	0.046756	0.008777	0.022924	0.138429	0.001266	0.001220	0.006103	0.000952	0.002392
Unrefrigerated Warehouse-No Rail	0.394323	0.055127	0.150223	0.171506	0.046756	0.008777	0.022924	0.138429	0.001266	0.001220	0.006103	0.000952	0.002392

5.0 Energy Detail

Historical Energy Use: Y

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	843.3591	843.3591	0.0381	7.8900e-003	846.6636
Electricity Unmitigated											0.0000	843.3591	843.3591	0.0381	7.8900e-003	846.6636
NaturalGas Mitigated											0.0000	320.7305	320.7305	6.1500e-003	5.8800e-003	322.6365
NaturalGas Unmitigated											0.0000	320.7305	320.7305	6.1500e-003	5.8800e-003	322.6365

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					
Condo/Townhouse	1.30598e+006											0.0000	69.6923	69.6923	1.3400e-003	1.2800e-003	70.1064
General Office Building	12590.6											0.0000	0.6719	0.6719	1.0000e-005	1.0000e-005	0.6759
Other Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	34153.3											0.0000	1.8226	1.8226	3.0000e-005	3.0000e-005	1.8334
Unrefrigerated Warehouse-No Rail	4.65754e+006											0.0000	248.5438	248.5438	4.7600e-003	4.5600e-003	250.0208
Total												**0.0000**	**320.7305**	**320.7305**	**6.1400e-003**	**5.8800e-003**	**322.6365**

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	1.30598e+006											0.0000	69.6923	69.6923	1.3400e-003	1.2800e-003	70.1064
General Office Building	12590.6											0.0000	0.6719	0.6719	1.0000e-005	1.0000e-005	0.6759
Other Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	34153.3											0.0000	1.8226	1.8226	3.0000e-005	3.0000e-005	1.8334
Unrefrigerated Warehouse-No Rail	4.65754e+006											0.0000	248.5438	248.5438	4.7600e-003	4.5600e-003	250.0208
Total												**0.0000**	**320.7305**	**320.7305**	**6.1400e-003**	**5.8800e-003**	**322.6365**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	326316	94.9290	4.2900e-003	8.9000e-004	95.3009
General Office Building	8530.44	2.4816	1.1000e-004	2.0000e-005	2.4913
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	3520	1.0240	5.0000e-005	1.0000e-005	1.0280
Single Family Housing	7945.88	2.3116	1.0000e-004	2.0000e-005	2.3206
Unrefrigerated Warehouse-No Rail	2.55271e+006	742.6130	0.0336	6.9500e-003	745.5227
Total		**843.3591**	**0.0381**	**7.8900e-003**	**846.6636**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	326316	94.9290	4.2900e-003	8.9000e-004	95.3009
General Office Building	8530.44	2.4816	1.1000e-004	2.0000e-005	2.4913
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	3520	1.0240	5.0000e-005	1.0000e-005	1.0280
Single Family Housing	7945.88	2.3116	1.0000e-004	2.0000e-005	2.3206
Unrefrigerated Warehouse-No Rail	2.55271e+006	742.6130	0.0336	6.9500e-003	745.5227
Total		**843.3591**	**0.0381**	**7.8900e-003**	**846.6636**

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	30.7330	30.7330	1.9400e-003	5.5000e-004	30.9446
Unmitigated											0.0000	30.7330	30.7330	1.9400e-003	5.5000e-004	30.9446

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
Hearth											0.0000	29.8913	29.8913	5.7000e-004	5.5000e-004	30.0689
Landscaping											0.0000	0.8416	0.8416	1.3600e-003	0.0000	0.8757
Total											**0.0000**	**30.7330**	**30.7330**	**1.9300e-003**	**5.5000e-004**	**30.9446**

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
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											0.0000	29.8913	29.8913	5.7000e-004	5.5000e-004	30.0689
Landscaping											0.0000	0.8416	0.8416	1.3600e-003	0.0000	0.8757
Total											**0.0000**	**30.7330**	**30.7330**	**1.9300e-003**	**5.5000e-004**	**30.9446**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	118.7953	1.9999	0.0480	183.1096
Unmitigated	118.7953	1.9999	0.0480	183.1096

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	4.43047 / 2.79312	11.2236	0.1448	3.5000e-003	15.8871
General Office Building	0.142187 / 0.0871469	0.3577	4.6500e-003	1.1000e-004	0.5073
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.1651	2.1300e-003	5.0000e-005	0.2336
Unrefrigerated Warehouse-No Rail	56.5984 / 0	107.0489	1.8483	0.0444	166.4815
Total		**118.7953**	**1.9999**	**0.0480**	**183.1096**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	4.43047 / 2.79312	11.2236	0.1448	3.5000e-003	15.8871
General Office Building	0.142187 / 0.0871469	0.3577	4.6500e-003	1.1000e-004	0.5073
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.1651	2.1300e-003	5.0000e-005	0.2336
Unrefrigerated Warehouse-No Rail	56.5984 / 0	107.0489	1.8483	0.0444	166.4815
Total		**118.7953**	**1.9999**	**0.0480**	**183.1096**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	53.4496	3.1588	0.0000	132.4190
Unmitigated	53.4496	3.1588	0.0000	132.4190

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	31.28	6.3496	0.3753	0.0000	15.7308
General Office Building	0.74	0.1502	8.8800e-003	0.0000	0.3722
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Unrefrigerated Warehouse-No Rail	230.06	46.7001	2.7599	0.0000	115.6975
Total		**53.4496**	**3.1588**	**0.0000**	**132.4190**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	31.28	6.3496	0.3753	0.0000	15.7308
General Office Building	0.74	0.1502	8.8800e-003	0.0000	0.3722
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Unrefrigerated Warehouse-No Rail	230.06	46.7001	2.7599	0.0000	115.6975
Total		**53.4496**	**3.1588**	**0.0000**	**132.4190**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Derrel's Mini Storage and Residential Project - 2030 Operations

Kern-San Joaquin County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	0.80	1000sqft	0.02	804.00	0
Unrefrigerated Warehouse-No Rail	244.75	1000sqft	5.62	244,747.00	0
Other Asphalt Surfaces	8.99	Acre	8.99	391,604.40	0
Other Non-Asphalt Surfaces	1.29	Acre	1.29	14,050.00	0
Parking Lot	10.00	Space	0.09	4,000.00	0
Condo/Townhouse	68.00	Dwelling Unit	9.50	136,000.00	194
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	3

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	32
Climate Zone	3			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	184	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Project Characteristics - 2030 operational year scenario
CO2 intensity factor adjusted based on Renewable Energy Portfolio and PG&E's Corporate Responsibility and Sustainability Report; see the CO2 Intensity Factor Adjustments sheet for source and calculations.

Land Use - Based on site plan and project description
Darrel’s Mini Storage facility and 68 dwelling units in 32 residential buildings (duplexes)
Project site: 25.83 gross acres

Construction Phase - Operational only run

Off-road Equipment - Operational only run

Trips and VMT - Operational only run

Vehicle Trips - Adjusted trip generation to match project-specific information.
404 daily trips for the mini storage use and ITE rates for the residential portion.

Fleet Mix - SJVAPCD-approved Residential Fleet Mix for the 2030 operational year applied to the multi-family residential development.

Woodstoves - Compliance with SJVAPCD Rule 4901 - Woodburning

Energy Use -

Mobile Land Use Mitigation - Project setting
The project is located approximately 0.25 mile from the nearest transit stop. The project would be built to applicable standards and would facilitate pedestrian access.

Area Mitigation - Building code standards (outside outlets) and no hearth.

Energy Mitigation - 20% of electricity use assumed to be generated by on-site renewable energy to account for the project's inclusion of on-site solar

Water Mitigation - Compliance with Green Building Code Standards and California Model Water Efficient Landscape Ordinance

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	35.00	1.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFleetMix	HHD	0.14	0.02
tblFleetMix	LDA	0.51	0.51
tblFleetMix	LDT1	0.03	0.22

tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	0.01	8.0000e-004
tblFleetMix	LHD2	4.0780e-003	1.0000e-003
tblFleetMix	MCY	5.4850e-003	2.5000e-003
tblFleetMix	MDV	0.10	0.06
tblFleetMix	MH	5.3100e-004	3.0000e-003
tblFleetMix	MHD	0.02	7.4000e-003
tblFleetMix	OBUS	1.5600e-003	0.00
tblFleetMix	SBUS	8.2300e-004	1.2000e-003
tblFleetMix	UBUS	1.3980e-003	4.4000e-003
tblLandUse	LandUseSquareFeet	800.00	804.00
tblLandUse	LandUseSquareFeet	244,750.00	244,747.00
tblLandUse	LandUseSquareFeet	56,192.40	14,050.00
tblLandUse	LandUseSquareFeet	68,000.00	136,000.00
tblLandUse	LotAcreage	4.25	9.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	184
tblTripsAndVMT	WorkerTripNumber	65.00	0.00
tblVehicleTrips	ST_TR	5.67	8.14
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	ST_TR	1.68	1.65
tblVehicleTrips	SU_TR	4.84	6.28
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	SU_TR	1.68	1.65

tblVehicleTrips	WD_TR	5.81	7.32
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblVehicleTrips	WD_TR	1.68	1.65
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	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											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	30.7330	30.7330	1.3800e-003	5.5000e-004	30.9308
Energy											0.0000	527.8120	527.8120	0.0412	0.0129	532.6808
Mobile											0.0000	1,077.5471	1,077.5471	0.0560	0.0000	1,078.9462
Waste											53.4496	0.0000	53.4496	3.1588	0.0000	132.4190
Water											19.4274	28.5081	47.9356	1.9999	0.0480	112.2499
Total											**72.8770**	**1,664.6002**	**1,737.4772**	**5.2572**	**0.0615**	**1,887.2268**

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	0.8340	0.8340	8.0000e-004	0.0000	0.8540
Energy											0.0000	482.9064	482.9064	0.0341	0.0114	487.1619
Mobile											0.0000	1,013.9851	1,013.9851	0.0546	0.0000	1,015.3492
Waste											53.4496	0.0000	53.4496	3.1588	0.0000	132.4190
Water											15.5420	22.8065	38.3484	1.5999	0.0384	89.7999
Total											**68.9915**	**1,520.5320**	**1,589.5235**	**4.8482**	**0.0499**	**1,725.5839**

	ROG	NOx	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**	**5.33**	**8.65**	**8.52**	**7.78**	**18.89**	**8.57**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	9/1/2022	9/1/2022	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 10.37

Residential Indoor: 279,045; Residential Outdoor: 93,015; Non-Residential Indoor: 368,327; Non-Residential Outdoor: 122,776; Striped Parking Area: 24,579 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	0.00	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
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 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					
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											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**

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
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 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					
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road											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**

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
Vendor											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1,013.9851	1,013.9851	0.0546	0.0000	1,015.3492
Unmitigated											0.0000	1,077.5471	1,077.5471	0.0560	0.0000	1,078.9462

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	497.76	553.52	427.04	1,441,284	1,341,835
General Office Building	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	403.84	403.84	403.84	1,179,008	1,097,657
Total	901.60	957.36	830.88	2,620,292	2,439,492

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
Condo/Townhouse	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	7.30	7.50	46.40	16.40	37.20	86	11	3
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.511000	0.223100	0.169000	0.059300	0.000800	0.001000	0.007400	0.017300	0.000000	0.004400	0.002500	0.001200	0.003000
General Office Building	0.509954	0.029502	0.179606	0.097359	0.010806	0.004078	0.016695	0.142203	0.001560	0.001398	0.005485	0.000823	0.000531
Other Asphalt Surfaces	0.509954	0.029502	0.179606	0.097359	0.010806	0.004078	0.016695	0.142203	0.001560	0.001398	0.005485	0.000823	0.000531
Other Non-Asphalt Surfaces	0.509954	0.029502	0.179606	0.097359	0.010806	0.004078	0.016695	0.142203	0.001560	0.001398	0.005485	0.000823	0.000531
Parking Lot	0.509954	0.029502	0.179606	0.097359	0.010806	0.004078	0.016695	0.142203	0.001560	0.001398	0.005485	0.000823	0.000531
Single Family Housing	0.509954	0.029502	0.179606	0.097359	0.010806	0.004078	0.016695	0.142203	0.001560	0.001398	0.005485	0.000823	0.000531
Unrefrigerated Warehouse-No Rail	0.509954	0.029502	0.179606	0.097359	0.010806	0.004078	0.016695	0.142203	0.001560	0.001398	0.005485	0.000823	0.000531

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable 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	179.6226	179.6226	0.0283	5.8600e-003	182.0759
Electricity Unmitigated											0.0000	224.5283	224.5283	0.0354	7.3200e-003	227.5948
NaturalGas Mitigated											0.0000	303.2837	303.2837	5.8100e-003	5.5600e-003	305.0860
NaturalGas Unmitigated											0.0000	303.2837	303.2837	5.8100e-003	5.5600e-003	305.0860

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					
Condo/Townhouse	1.22166e+006											0.0000	65.1924	65.1924	1.2500e-003	1.2000e-003	65.5798
General Office Building	10492.2											0.0000	0.5599	0.5599	1.0000e-005	1.0000e-005	0.5632
Other Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	26145.2											0.0000	1.3952	1.3952	3.0000e-005	3.0000e-005	1.4035
Unrefrigerated Warehouse-No Rail	4.42503e+006											0.0000	236.1362	236.1362	4.5300e-003	4.3300e-003	237.5395
Total												**0.0000**	**303.2837**	**303.2837**	**5.8200e-003**	**5.5700e-003**	**305.0860**

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	1.22166e+006											0.0000	65.1924	65.1924	1.2500e-003	1.2000e-003	65.5798
General Office Building	10492.2											0.0000	0.5599	0.5599	1.0000e-005	1.0000e-005	0.5632
Other Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	26145.2											0.0000	1.3952	1.3952	3.0000e-005	3.0000e-005	1.4035
Unrefrigerated Warehouse-No Rail	4.42503e+006											0.0000	236.1362	236.1362	4.5300e-003	4.3300e-003	237.5395
Total												**0.0000**	**303.2837**	**303.2837**	**5.8200e-003**	**5.5700e-003**	**305.0860**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	374551	31.2604	4.9300e-003	1.0200e-003	31.6873
General Office Building	7332.48	0.6120	1.0000e-004	2.0000e-005	0.6203
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	1400	0.1169	2.0000e-005	0.0000	0.1184
Single Family Housing	8760.74	0.7312	1.2000e-004	2.0000e-005	0.7412
Unrefrigerated Warehouse-No Rail	2.29817e+006	191.8079	0.0302	6.2500e-003	194.4276
Total		**224.5283**	**0.0354**	**7.3100e-003**	**227.5948**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	299641	25.0083	3.9400e-003	8.2000e-004	25.3499
General Office Building	5865.98	0.4896	8.0000e-005	2.0000e-005	0.4963
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	1120	0.0935	1.0000e-005	0.0000	0.0948
Single Family Housing	7008.59	0.5849	9.0000e-005	2.0000e-005	0.5929
Unrefrigerated Warehouse-No Rail	1.83854e+006	153.4463	0.0242	5.0000e-003	155.5420
Total		**179.6226**	**0.0283**	**5.8600e-003**	**182.0759**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	0.8340	0.8340	8.0000e-004	0.0000	0.8540
Unmitigated											0.0000	30.7330	30.7330	1.3800e-003	5.5000e-004	30.9308

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
Hearth											0.0000	29.8913	29.8913	5.7000e-004	5.5000e-004	30.0689
Landscaping											0.0000	0.8416	0.8416	8.1000e-004	0.0000	0.8619
Total											**0.0000**	**30.7330**	**30.7330**	**1.3800e-003**	**5.5000e-004**	**30.9308**

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
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	0.8340	0.8340	8.0000e-004	0.0000	0.8540
Total											**0.0000**	**0.8340**	**0.8340**	**8.0000e-004**	**0.0000**	**0.8540**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	38.3484	1.5999	0.0384	89.7999
Unmitigated	47.9356	1.9999	0.0480	112.2499

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	4.43047 / 2.79312	4.2223	0.1448	3.5000e-003	8.8858
General Office Building	0.142187 / 0.0871469	0.1348	4.6500e-003	1.1000e-004	0.2844
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.0621	2.1300e-003	5.0000e-005	0.1307
Unrefrigerated Warehouse-No Rail	56.5984 / 0	43.5164	1.8483	0.0444	102.9490
Total		**47.9356**	**1.9999**	**0.0480**	**112.2499**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	3.54438 / 2.2345	3.3779	0.1159	2.8000e-003	7.1086
General Office Building	0.11375 / 0.0697175	0.1078	3.7200e-003	9.0000e-005	0.2276
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.0521232 / 0.0328603	0.0497	1.7000e-003	4.0000e-005	0.1045
Unrefrigerated Warehouse-No Rail	45.2788 / 0	34.8131	1.4786	0.0355	82.3592
Total		**38.3484**	**1.5999**	**0.0384**	**89.7999**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	53.4496	3.1588	0.0000	132.4190
Unmitigated	53.4496	3.1588	0.0000	132.4190

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	31.28	6.3496	0.3753	0.0000	15.7308
General Office Building	0.74	0.1502	8.8800e-003	0.0000	0.3722
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Unrefrigerated Warehouse-No Rail	230.06	46.7001	2.7599	0.0000	115.6975
Total		**53.4496**	**3.1588**	**0.0000**	**132.4190**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	31.28	6.3496	0.3753	0.0000	15.7308
General Office Building	0.74	0.1502	8.8800e-003	0.0000	0.3722
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Unrefrigerated Warehouse-No Rail	230.06	46.7001	2.7599	0.0000	115.6975
Total		**53.4496**	**3.1588**	**0.0000**	**132.4190**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ATTACHMENT B

Additional Supporting Information

Derrel's Mini Storage and Residential Project Construction Assumptions

Construction Phase

Phase Name	Start Date	End Date	Num Days Week	Num Days
Site Preparation	9/1/2022	9/28/2022	5	20
Building Construction	9/1/2022	5/8/2024	5	440
Grading	9/29/2022	11/30/2022	5	45
Paving	12/1/2022	1/18/2023	5	35
Architectural Coating	3/21/2024	5/8/2024	5	35

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8	97	0.37
Building Construction	Cranes	1	7	231	0.29
Building Construction	Forklifts	3	8	89	0.20
Building Construction	Generator Sets	1	8	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7	97	0.37
Building Construction	Welders	1	8	46	0.45
Grading	Excavators	2	8	158	0.38
Grading	Graders	1	8	187	0.41
Grading	Rubber Tired Dozers	1	8	247	0.40
Grading	Scrapers	2	8	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8	97	0.37
Paving	Pavers	2	8	130	0.42
Paving	Paving Equipment	2	8	132	0.36
Paving	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

Trips and VMT

Phase Name	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	18	0	14	10.8	7.3	20
Building Construction	324	115	18	10.8	7.3	20
Grading	20	0	16	10.8	7.3	20
Paving	15	0	12	10.8	7.3	20
Architectural Coating	65	0	2	10.8	7.3	20

Pacific Gas Electric CO_2 Intensity Factors

Table 1. PG&E's 2018 Electric Power Mix[1]

Power Source	Percent of Total Mix
Eligible Renewable	39%
Natural Gas	15%
Nuclear	34%
Large Hydroelectric	13%
Coal	0%
Other	0%
Non-Renewable Total	61%
Total	**100%**

Table 2. PG&E's 2018 CO_2 Intensity Factors[2]

Power Source	Individual Intensity Factors
Eligible Renewable	163
Natural Gas	439
Nuclear	163
Large Hydroelectric	163
Coal	439
Other	439
Owned Sources %	*86%*
Not Owned Sources %	*15%*
Weighted Average	**206**

Table 3. PG&E's 2030 Electric Power Mix[1]

Power Source	Percent of Total Mix
Eligible Renewable	60%
Natural Gas	10%
Nuclear	22%
Large Hydroelectric	9%
Coal	0%
Other	0%
Non-Renewable Total	40%
Total	**100%**

Table 4. PG&E's 2030 CO_2 Intensity Factors[3]

Power Source	Weighted Intensity Factors
Eligible Renewable	163
Natural Gas	439
Nuclear	163
Large Hydroelectric	163
Coal	439
Other	439
Owned Sources %	*91%*
Not Owned Sources %	*10%*
Weighted Average	**191**

Notes:

[1] Adjustment to 2030 power mix is based on equal proportions of generation sources in 2018. The only factor that has been adjusted is the change of eligible renewable energy sources total proportion to 60% to reflect compliance with Senate Bill 100's 2030 performance goals.

[2] PG&E's total CO_2 emission intensity factor of 206 lbs/MWh and CO2 emission intensity factor specifically for all owned generation sources of 163 lbs/MWh were identified in PG&E's 2020 Corporate Responsibility and Sustainability Report; however, the CO_2 emission intensity factor for non-owned sources is unknown. Therefore, the 2018 CO_2 emission intensity factor for all non-owned generation sources were identified based on the given 206 lbs/MWh and 163 lbs/MWh values and the 2018 power mix using a convex combination equation. PG&E-owned sources are identified in PG&E's Reports as nuclear, hydroelectric, and renewable. All nuclear, hydroelectric, and renewable sources were assumed to be PG&E-owned, having an unweighted average CO_2 intensity factor of the provided 163 lbs/MWh. All remaining generation sources were assumed to not be owned by PG&E with an unweighted average CO_2 intensity factor necessary for the weighted average to total 206 lbs/MWh.

[3] PG&E's 2030 CO_2 emission intensity factor is based on equal proportions of renewable and non-renewable generation sources in 2018, as seen in Table 3. The only factor that was uniquely adjusted was the change of eligible renewable energy sources total proportion to 60% to reflect compliance with Senate Bill 100's 2030 performance goals. The CO_2 emission intensity factor is the weighted average using the adjusted renewable generation proportion (see Table 3) and the identified owned source intensity factors for 2018 (see Table 2).

PG&E's CO2 Emission Intensity Factor (2018)

PG&E's 2020 Corporate Responsibility and Sustainability Report, page 121

Voluntary Emissions Reporting

PG&E's voluntary greenhouse gas emissions reporting showed that PG&E's CO_2 emissions rate was our lowest level on record in 2018, the most recent year for which verified data are available. PG&E's emissions rate of 206 pounds of CO_2 per megawatt-hour of delivered electricity represented a slight reduction from the prior year's figure of 210. The emissions rate takes into account both PG&E-owned power generation and power purchased from third parties.

Benchmarking Greenhouse Gas Emissions for Delivered Electricity
(Pounds of CO_2 per MWh)

U.S. Average[1]	947
Pacific Gas and Electric Company[2]	
2018	206
2017	210
2016	294
2015	405
2014	435
2013	427
2012	445
2011	393
2010	445

1. U.S. Environmental Protection Agency eGRID 2018.

2. Because PG&E purchases a portion of its electricity from the wholesale market, we are not able to track some of our delivered electricity back to a specific generator. Therefore, there is some unavoidable uncertainty in PG&E's total emissions and emissions rate for delivered electricity.

PG&E's Renewable Power Mix (2019)

PG&E's 2020 Corporate Responsibility and Sustainability Report, page 120

Measuring Progress

Mandatory Emissions Reporting

Under AB 32's annual reporting requirements, PG&E reports greenhouse gas emissions to CARB. These reports include emissions from our electric generation facilities, natural gas compressor stations, natural gas supplied to customers and the fugitive emissions from our natural gas distribution system and compressor stations.

The following table shows the greenhouse gas emissions data PG&E reported to CARB under AB 32.

PG&E Emissions Reported to the California Air Resources Board:
CO_2-e Emissions from Owned Power Generation[1] and Operations

	2017	2018	2019
Total CO_2-e Emissions (metric tons)	**2,292,218**	**2,512,130**	**2,484,127**
Humboldt Bay Generating Station	199,338	179,025	189,163
Gateway Generating Station	1,111,268	1,163,952	1,137,160
Colusa Generating Station	981,613	1,169,153	1,157,804
CO_2 Emissions Rates (lbs/MWh)			
Humboldt Bay Generating Station	1,017	1,025	1,028
Gateway Generating Station	881	872	872
Colusa Generating Station	866	861	842
Fossil Plants[2]	940	876	868
All Plants[2]	146	171	163
Other CO_2-e Emissions (metric tons)			
Natural Gas Compressor Stations[3]	269,133	299,256	344,810
Distribution Fugitive Natural Gas Emissions	630,249	497,299	496,789
Customer Natural Gas Use[4]	38,202,174	41,664,525	42,058,499

1. PG&E's owned net generation was 33,849 GWh in 2019.

2. Applies to fossil-fuel combustion generating stations.

3. Includes all PG&E-owned generation sources, including nuclear, hydroelectric and renewable energy.

4. Includes, but is not limited to, compressor stations and storage facilities emitting more than 25,000 metric tons of CO_2-e annually.

PG&E also reports the greenhouse gas emissions from our facilities and operations to EPA under EPA's mandatory reporting requirements.

PG&E's Power Mix (2018)

PG&E's 2018 Power Content Label

Version: July 2019

2018 POWER CONTENT LABEL				
Pacific Gas and Electric Company				
www.pge.com/billinserts				
ENERGY RESOURCES	**Base Plan**	**100% Solar Choice**	**50% Solar Choice**	**2018 CA Power Mix****
Eligible Renewable	**39%**	**100%**	**69%**	**31%**
Biomass & Biowaste	4%	0%	2%	2%
Geothermal	4%	0%	2%	5%
Eligible Hydroelectric	3%	0%	1%	2%
Solar	18%	100%	59%	11%
Wind	10%	0%	5%	11%
Coal	**0%**	**0%**	**0%**	**3%**
Large Hydroelectric	**13%**	**0%**	**6%**	**11%**
Natural Gas	**15%**	**0%**	**7%**	**35%**
Nuclear	**34%**	**0%**	**17%**	**9%**
Other	**0%**	**0%**	**0%**	**<1%**
Unspecified sources of power*	**0%**	**0%**	**0%**	**11%**
TOTAL	**100%**	**100%**	**100%**	**100%**
* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources. ** Percentages are estimated annually by the California Energy Commission based on the electricity generated in California and net imports as reported to the Quarterly Fuel and Energy Report database and the Power Source Disclosure program.				
For specific information about this electricity product, contact:	**Pacific Gas and Electric Company 415-973-0640**			
For general information about the Power Content Label, please visit:	http://www.energy.ca.gov/pcl/			
For additional questions, please contact the California Energy Commission at:	Toll-free in California: 844-454-2906 Outside California: 916-653-0237			

District Accepted Fleet Mix for Residential Projects

	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
2013	0.5322	0.1901	0.1671	0.0628	0.0020	0.0011	0.0097	0.0243	0.0000	0.0047	0.0032	0.0012	0.0016
2014	0.5352	0.1905	0.1673	0.0609	0.0019	0.0010	0.0095	0.0232	0.0000	0.0047	0.0030	0.0012	0.0016
2015	0.5376	0.1911	0.1676	0.0591	0.0018	0.0010	0.0096	0.0219	0.0000	0.0047	0.0029	0.0011	0.0016
2016	0.5398	0.1917	0.1674	0.0576	0.0018	0.0010	0.0094	0.0213	0.0000	0.0046	0.0028	0.0011	0.0015
2017	0.5410	0.1927	0.1671	0.0563	0.0017	0.0010	0.0093	0.0210	0.0000	0.0045	0.0028	0.0011	0.0015
2018	0.5412	0.1941	0.1669	0.0553	0.0017	0.0009	0.0092	0.0209	0.0000	0.0045	0.0027	0.0011	0.0015
2019	0.5411	0.1955	0.1669	0.0545	0.0016	0.0009	0.0091	0.0208	0.0000	0.0044	0.0026	0.0011	0.0015
2020	0.5402	0.1972	0.1668	0.0540	0.0016	0.0009	0.0091	0.0206	0.0000	0.0044	0.0026	0.0011	0.0015
2021	0.5373	0.2000	0.1671	0.0542	0.0014	0.0009	0.0090	0.0206	0.0000	0.0044	0.0026	0.0009	0.0016
2022	0.5343	0.2030	0.1673	0.0545	0.0013	0.0009	0.0086	0.0207	0.0000	0.0044	0.0025	0.0007	0.0018
2023	0.5305	0.2058	0.1673	0.0550	0.0011	0.0009	0.0085	0.0218	0.0000	0.0043	0.0025	0.0004	0.0019
2024	0.5277	0.2090	0.1675	0.0556	0.0009	0.0009	0.0080	0.0214	0.0000	0.0043	0.0025	0.0002	0.0020
2025	0.5244	0.2120	0.1677	0.0563	0.0008	0.0009	0.0076	0.0212	0.0000	0.0043	0.0025	0.0001	0.0022
2026	0.5215	0.2146	0.1681	0.0569	0.0008	0.0009	0.0075	0.0203	0.0000	0.0044	0.0025	0.0002	0.0023
2027	0.5185	0.2170	0.1684	0.0575	0.0008	0.0010	0.0074	0.0195	0.0000	0.0044	0.0025	0.0005	0.0025
2028	0.5159	0.2192	0.1686	0.0582	0.0008	0.0010	0.0074	0.0187	0.0000	0.0044	0.0025	0.0007	0.0026
2029	0.5134	0.2212	0.1688	0.0587	0.0008	0.0010	0.0074	0.0181	0.0000	0.0044	0.0025	0.0009	0.0028
2030	0.5110	0.2231	0.1690	0.0593	0.0008	0.0010	0.0074	0.0173	0.0000	0.0044	0.0025	0.0012	0.0030
2031	0.5076	0.2254	0.1693	0.0598	0.0008	0.0010	0.0074	0.0174	0.0000	0.0044	0.0026	0.0012	0.0031
2032	0.5044	0.2274	0.1696	0.0602	0.0008	0.0010	0.0075	0.0176	0.0000	0.0044	0.0026	0.0012	0.0033
2033	0.5014	0.2291	0.1700	0.0606	0.0008	0.0010	0.0075	0.0178	0.0000	0.0044	0.0027	0.0012	0.0035
2034	0.4987	0.2308	0.1703	0.0609	0.0008	0.0010	0.0076	0.0180	0.0000	0.0044	0.0027	0.0012	0.0036
2035	0.4960	0.2323	0.1707	0.0613	0.0008	0.0010	0.0076	0.0182	0.0000	0.0044	0.0027	0.0012	0.0038
2036	0.4933	0.2333	0.1709	0.0615	0.0008	0.0010	0.0077	0.0191	0.0000	0.0044	0.0029	0.0012	0.0039
2037	0.4907	0.2341	0.1710	0.0618	0.0009	0.0010	0.0078	0.0202	0.0000	0.0044	0.0030	0.0011	0.0040
2038	0.4883	0.2348	0.1712	0.0620	0.0009	0.0010	0.0078	0.0213	0.0000	0.0044	0.0031	0.0011	0.0041
2039	0.4857	0.2356	0.1714	0.0623	0.0009	0.0010	0.0079	0.0223	0.0000	0.0043	0.0032	0.0011	0.0043
2040	0.4834	0.2363	0.1716	0.0625	0.0009	0.0010	0.0079	0.0233	0.0000	0.0043	0.0033	0.0011	0.0044

BIOLOGICAL RESOURCE EVALUATION

Assessor's Parcel Map No. APN 516-010-36
Bakersfield, California

Prepared for:

Derrel's Mini Storage
3265 W. Ashlan Avenue
Fresno, California 93722

Prepared by:

Pruett Biological Resource Consulting
8613 Beaver Drive
Bakersfield, California 93312
661.421.0006

13 May 2021

EXECUTIVE SUMMARY

Pruett Biological Resource Consulting, Inc. (PruettBio) has prepared this biological resource evaluation for a proposed General Plan Amendment (GPA) and Zone Change (ZC) of Assessor's Parcel Number (APN) 516-010-36, 23.87 acres (project). The project is located on the east side of South "H" Street, at Berkshire Road in south Bakersfield, County of Kern, California; Section 30, Township 30 South, Range 28 East, Mount Diablo Base and Meridian. The project is located within the geographic range of several federal-, and state-listed, threatened and/or endangered plant and animal taxa. Several non-listed, special-status species also have the potential to occur in the vicinity of the project.

The purpose of this report is to document biological resources identified during a reconnaissance-level field study of the project site and include potential biological resources identified during a literature review of the site and vicinity, identify potential impacts to biological resources resulting from the project, and to recommend avoidance and minimization measures for implementation prior to and during project activities. A literature review was conducted of the site and vicinity, prior to the field study, of the biological resources known to occur based on recorded, direct observation, or potentially occurring in the project impact area based on current or historical habitat conditions. During the field study, existing habitat conditions, direct observations and/or species sign was recorded to assess the potential for occurrence of special-status species. This report includes an evaluation of the potential for those special-status biological resources not observed during the field study, with the potential to occur on the property based on the habitat conditions observed.

The project area was historically farmed. Urban development has increased along the margins of Metropolitan Bakersfield in the past 50 years and has resulted in the conversion of farmland to residential and commercial properties. The project was entirely disced and fallow at the time of the field study. The site is surrounded by mixed use residential, agricultural, and commercial development with scattered oil production. No undisturbed, native, or recovering habitat is present on the site or adjacent parcels.

The literature review and database queries yielded 18 special-status plant species, 5 special-status natural communities, and 33 special-status animal species as potentially occurring within the vicinity of the project site. Of these, 5 plant species, and 12 animal species are federal-, and/or state-listed and are afforded protection under federal or state law.

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 is within the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP). The field study was conducted in accordance with the Federal Endangered Species Act section 10(a)(1)(B) permit and California Endangered Species Act incidental take permit (ITP) issued by the California Department of Fish and Wildlife, pursuant to Fish and Game Code section 2081(b)(ITP No. 2081-2013-058-04), for the MBHCP. Evaluation of potential impacts to plant and animal species are required under federal and state regulation during a General Plan Amendment and Zone Change. California Environmental Quality Act (CEQA) Appendix G thresholds have been used to evaluate potential impacts to the biological resources from the proposed project development.

Impacts to covered plant and animal species, other than blunt-nosed leopard lizard or bird species afforded protection under the MBTA, would be fully-mitigated by participation in the MBHCP. Recommendations included in this report when implemented in concert with the MBHCP, would mitigate any project impacts to biological resources to a less-than-significant level.

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INTRODUCTION

Pruett Biological Resource Consulting, Inc. (PruettBio) has prepared this biological resource evaluation for a proposed GPA/ZC of APN 516-010-36, 23.87 acres, in the City of Bakersfield, County of Kern, California. The report documents biological resources identified during fieldwork conducted on the project site and those identified through a literature search as potentially occurring based on the other known observations or historic habitat conditions. The report uses the information collected during the field study and literature search to evaluate potential impacts, resulting from the project, to biological resources.

Listed plant and animal species are protected under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). Protection of other non-listed, special-status species is afforded under additional regulation including the Migratory Bird Treaty Act (MBTA). Pursuant to CEQA impacts to non-listed, special-status species must be evaluated. The report recommends avoidance and minimization measures for implementation prior to and during project activities. The report is intended to provide technical information in support a CEQA preliminary review. 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* (2021).

PROJECT LEGAL DESCRIPTION

The project is located on the east side of South “H” Street at Berkshire Road in south Bakersfield, County of Kern, California; Section 30, Township 30 South, Range 28 East, Mount Diablo Base and Meridian. The project is zoned R1 with the current Kern County Land Use Code is 0081: 20.01 to 39.99 Acres, Zoned other than R-2, R-3, R-4, Commercial or Industrial. The project proposes a joint venture with Eagle Land Development dividing the existing APN into the construction of a mini storage facility and 34 duplexes.

PROJECT SETTING AND PHYSICAL DESCRIPTION

The project site is located in the southern 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 very subtly southwest with the project generally flat at about 355 feet (110 meters) above mean sea level. The project and vicinity have been historically farmed for decades. The site was entirely disced fallow at the time of the field study. site is surrounded by mixed use residential, agricultural, and commercial development with scattered oil production. No undisturbed, native, or recovering habitat is present on the site or adjacent parcels.

METHODS

LITERATURE REVIEW

PruettBio conducted a literature review to identify known observations and potential for listed, or otherwise special-status, species to occur in the vicinity of the project site. A standard, 10-mile radius query was performed. Database records reviewed included:

- **United States Fish & Wildlife Service iPac:** The iPac report generates a list of federal-listed species and other resources under the jurisdiction of the USFWS, including designated critical habitat for listed species, National Wildlife Refuge lands, and Wetlands in the National Wetlands Inventory. The list includes resources that are outside of the project area, but that have the potential to be impacted by project activities.

- **USFWS National Wetlands Inventory:** The Wetlands Mapper is an online inventory integrating digital map data and other resources to provide current information regarding the status of national wetlands, riparian, and deepwater habitats.

- **United States Department of Agriculture WebSoil Survey:** The report is an online database providing soil data produced by the National Cooperative Soil Survey, a joint effort of the USDA and other federal, state, and local agencies. The information drawn for the Soil Survey of Kern County. California, Northwestern Part was originally drawn from fieldwork completed in 1981 with soil names and descriptions approved in 1982.

- **California Natural Diversity Database (CNDDB-RareFind 5):** The CNDDB is a database of listed, or otherwise special-status, plant and animal species and sensitive communities maintained by the California Department of Fish and Wildlife (CDFW). The information queried for this report included a standard 10-mile radius of the project.

- **California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants:** CNPS is a private, professional organization that maintains a database evaluating the current conservation status of California's rare, threatened, and endangered plant species. The information queried for this report included a standard 10-mile radius of the project. The list includes resources that are outside of the project area, but that have the potential to be impacted by project activities based on known historic or current habitat features.

FIELD STUDY

A reconnaissance-level, biological field study was conducted by Steven P. Pruett on 06 March 2021. The entire project was surveyed on foot on random transects at no more than 100-foot (30-meter) intervals. Field notes included observations of all plant and wildlife species observed. Direct observations and/or species sign was recorded to assess the potential for occurrence. Land cover types and general habitat conditions were recorded and photographed. Special-status species and habitat features, such as vegetation communities or ephemeral channels, were also recorded and photographed if observed.

Coordinates for important biological resource elements and direct observations of special-status species were recorded using a handheld geographic positioning system unit. If observed, San Joaquin kit fox (SJKF) dens were classified as defined by the *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (2011). All plant taxa encountered were identified to the extent possible given the diagnostic features present. Identifications were made using keys contained in *The Jepson Manual: Vascular Plants of California* and online updates containing revisions to taxonomic treatments (Baldwin et al. 2012; Jepson Flora Project 2015).

RESULTS

This section summarizes the results of the field study conducted on the project and evaluates those results for the known or potential for occurrence of special-status species based on the literature review and database queries and pursuant to statutory regulation. Discussions are provided describing the existing habitat conditions including vegetation communities, land cover and current use; soils; special-status biological resources potentially occurring in the vicinity of the project; jurisdictional resources including designated critical habitat and riparian/wetland/water resource features; wildlife migration corridors and nursery sites; and regional and local policy.

VEGETATION COMMUNITIES, LAND COVER AND USE

The site is located south of Metropolitan Bakersfield in an area historically farmed. Urban development has increased along the margins of Metropolitan Bakersfield in the past 50 years and has resulted in the conversion of farmland to residential and commercial properties. The project was previous fully developed of the old Kern Valley Packing Company plant dating to at least 1933. The site consisted of a packing plant area and slaughterhouse with connecting buildings, and a residential structure. Portions of the site are also believed to have been farmed in row crops. The plant was closed in 1997 and the abandoned structures largely burned by fire in 2010. The buildings were demolished and removed and the site has been entirely cleared. Of previous development. No undisturbed, native, or recovering habitat is present on the site or adjacent parcels. Special-status herbaceous species are not expected due to historic and ongoing disturbance. The project is dominated by ruderal/invasive plant species. No undisturbed, native, or recovering habitat is present on the site or adjacent parcels.

SOILS

The USGS soil survey map describes the soil of the project as Unit 179, Kimberlina fine sandy loam, saline-sodic, 0 to 2 percent slopes, overwash. Kimberlina fine sandy loam is alluvium derived from granitoid and/or sedimentary rock found on alluvial fans. The typical profile is 09 inches (23 centimeters) fine sandy loam, 09 to 45 inches (23-114 centimeters) fine loamy sand, 45 to 71 inches (114-180 centimeters) sand, and from 36 to 62 inches (125-152 centimeters) stratified silt loam to sandy clay loam. The depth to the restrictive feature is more than 80 inches. The soil is classified as well drained with low runoff.

BIOLOGICAL RESOURCES

The literature review and database queries yielded 18 special-status plant species and 5 special-status natural communities as potentially occurring within the vicinity of the project site. Thirty-three special-status animal species were identified as potentially occurring in the region of the project site. An evaluation of these special-status species, including the likelihood of occurrence and potential impacts, is included in Appendix B. **Impacts to covered plant and animal species, other than blunt-nosed leopard lizard or bird species afforded protection under the MBTA, would be fully-mitigated by participation in the MBHCP. Recommendations included in this report when implemented in concert with the MBHCP, would mitigate any project impacts to biological resources to a less-than-significant level.**

Special-Status Plant Species

Special-status plant species considered in this evaluation include all plant species that meet one or more of the following criteria:

- Listed or proposed for listing as threatened or endangered under ESA or candidates for possible future listing as threatened or endangered under the ESA (50 CFR §17.12).

- Listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code §2050 et seq.). A species, subspecies, or variety of plant is endangered when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors (Fish and Game Code §2062). A plant is threatened when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures (Fish and Game Code §2067).

- Listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish and Game Code §1901).

- Meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
    - Species considered by the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (Lists 1A, 1B and 2);
    - Species that may warrant consideration on the basis of local significance or recent biological information.
    - Some species included on the California Natural Diversity Database's (CNDDB) Special Plants, Bryophytes, and Lichens List (California Department of Fish and Game 2008).

- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Precipitation has been below average to date, resulting in a less than acceptable year for annual plant species observations. Of the 18 special-status plant species returned during database queries for the project vicinity, 5 species have standing at either the state or federal level. Although CEQA requires consideration for impacts to locally significant plant species, no mitigation is legally required to compensate for impacts to non-listed plant species. No listed, or otherwise special-status plant species was observed during the fieldwork conducted for the preparation of this report. No listed, or otherwise special-status plant species, has been recorded as occurring within the project footprint.

Special-Status Animal Species

Special-status animal species considered in this evaluation include those that may occur in the project vicinity that have statutory protections. This includes 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 evaluation. Special-status bird species that are afforded protection under the MBTA which may nest on or within an approximate 10-mile (16-kilometer) radius of the project site are also evaluated. Of the 33 special-status animal species returned during the database queries for the project, 12 species have standing at the state or federal level. No listed, or otherwise special-status animal species was observed during the fieldwork conducted for the preparation of this report. No listed, or otherwise special-status animal species, has been recorded as occurring within the project footprint.

Designated Critical Habitat

The USFWS iPac report and USFWS Designated Critical Habitat Mapper lists no Designated Critical Habitat (USFWS 2021). Designated Critical Habitats closest to the project site include California condor (*Gymnogyps californianus*) approximately 22-miles south and Buena Vista Lake shrew (*Sorex ornatus*

relictus) approximately 12-miles southwest of the project. No suitable habitat for either species exists on the project.

Jurisdictional Water Resource Features

Section 404 of the Federal Clean Water Act (CWA) regulates discharge of dredged and fill material into Waters of the United States. Wetlands are included under this jurisdiction. Proposed activities that may result in discharge of material into Waters of the U.S. require a permit review process by the U.S. Army Corps of Engineers as set forth under CWA section 404(b)(1). Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW before beginning any activity that will substantially modify a river, stream, or lake.

A search of the USFWS National Wetlands Inventory resulted in no riparian, wetlands, or other jurisdictional water features mapped on the project site (USFWS 2020). These results are consistent with the observed conditions within the survey area.

Special-Status Natural Communities

No special-status vegetation communities on the project were identified by the USFWS iPac query, the CNDDB, or the CNPS Inventory (USFWS 2021, CDFW 2021, CNPS 2021). These results are consistent with the observed conditions within the survey area.

Wildlife Migration Corridors and 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. Development of the project would not impact wildlife migration corridors or nursery sites.

Regional and Local Policies

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 is located within the MBHCP, CDFW, ITP boundaries. Recommendations included in this report when implemented in concert with the MBHCP, would be expected to mitigate any project impacts to biological resources to a less-than-significant level.

IMPACT ANALYSIS AND RECOMMENDED MITIGATION MEASURES

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.

The project is located within the MBHCP ITP boundaries. Impacts to covered plant and animal species, other than blunt-nosed leopard lizard or bird species afforded protection under the MBTA, would be fully-mitigated by participation in the MBHCP. Recommendations included in this report when implemented in concert with the MBHCP, would be expected to mitigate any project impacts to biological resources to a less-than-significant level.

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.

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?

Direct and indirect impacts, in the form of “incidental take” of a threatened, endangered, or otherwise protected species, are not expected.

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. No adverse effect will occur as a result of the development of the project and no measures are recommended.

3. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The project does not propose any disturbance to wetland vegetation. No features identified in wetland categories appear on the USFWS National Wetlands Inventory mapping (USFWS 2021) within the proposed project area. No substantial adverse effect will occur as a result of the development of the project and no additional 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?**

No migratory wildlife corridors or wildlife nursery sites were identified during the literature search or field study. The project will not interfere substantially with the movement of any native fish of wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

If ground-disturbing activities are planned during the nesting season for migratory birds that may nest on or near the site (generally February 1 through August 31), nesting bird surveys are recommended prior to the commencement of ground disturbance for project activities. If nesting birds are present, no new construction or ground disturbance should occur within an appropriate avoidance area for that species until young have fledged, unless otherwise approved and monitored by a qualified onsite biologist. Appropriate avoidance should be determined by a qualified biologist. In general, minimum avoidance zones for active nests should be implemented as follows: 1) ground or low-shrub nesting non-raptors – 300 feet (91 meters); 2) burrowing owl – 600 feet (183 meters). Recommendation #4 has additional measures regarding burrowing owl; 3) Sensitive raptors (e.g., prairie falcon, golden eagle) – 0.5 miles (0.8 kilometers); 3) other raptors – 500 feet (152 meters).

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. Impacts from conflicts with local policies will not occur. No additional measures are recommended.

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 does not conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No additional measures are recommended.

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APPENDIX A

PROJECT VICINTY AND SITE

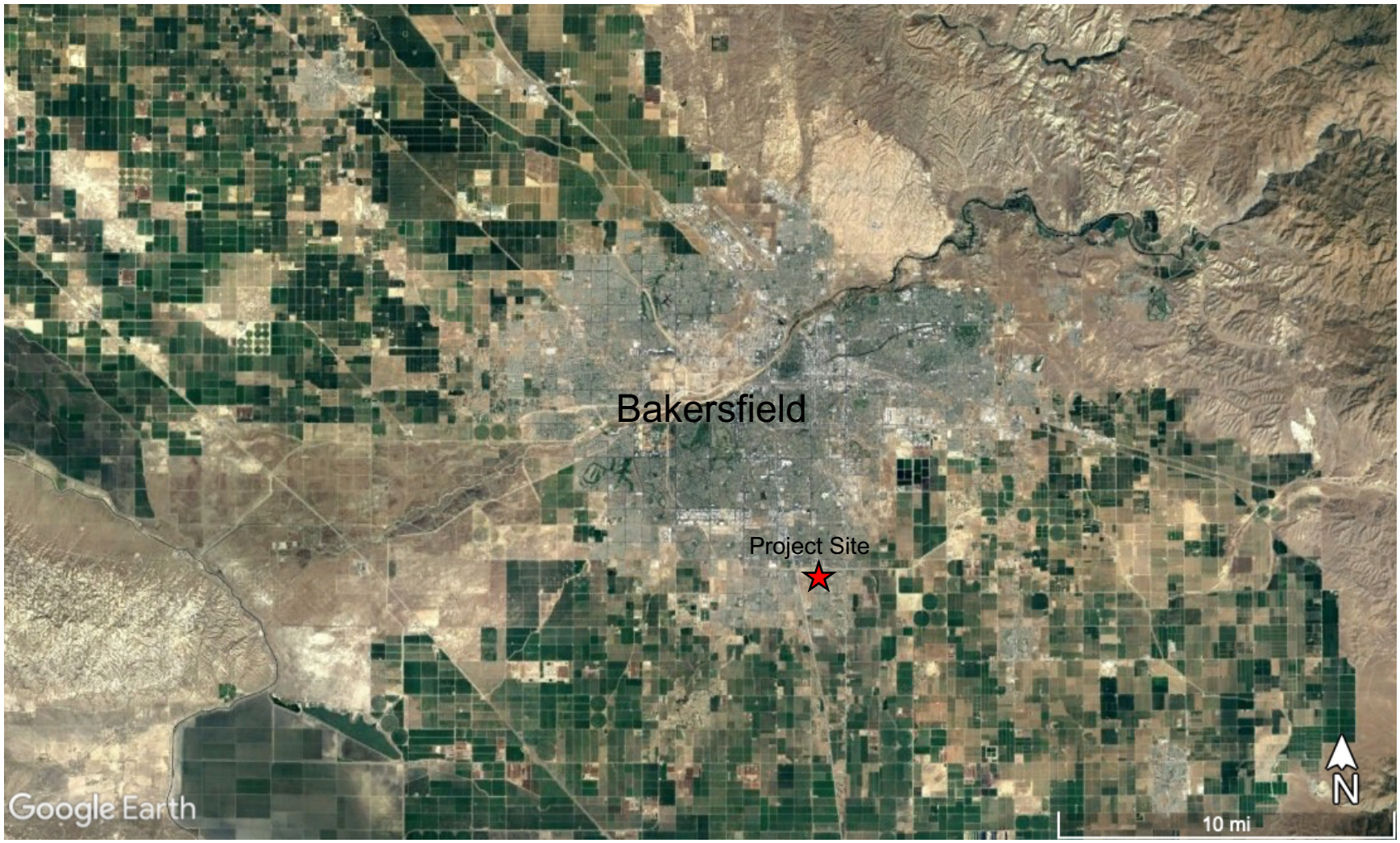

Figure A-1. Aerial photograph of the project and vicinity (Google Earth Pro 2021).

Figure A-2. Aerial photograph of the project site (Google Earth Pro 2021).

Figure A-3. Photograph of the project taken from near the southwest corner facing northeast (06MAR21).

Figure A-4. Photograph of the project taken from the northeast corner of the project facing southwest (06MAR21).

Figure A-5. Photograph taken from the northwest corner of the project, facing southeast (06MAR21).

Figure A-6. Photograph taken from the southeast corner of the project, facing northwest (06MAR21).

APPENDIX B

SPECIAL-STATUS PLANT AND ANIMAL EVALUATION

Table B-1: Special-status Plants That May Occur in the Vicinity of the Project.

Scientific Name **Common Name**	**Status Fed/State/CNPS**	**Description**	**Blooming Period**	**Field Study Results/Potential for 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	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
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	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
Atriplex coronata var. *vallicola* Lost Hills crownscale	S/-/1B.2	Herbaceous annual in the Chenopodiaceae found in valley and foothill grasslands, playas, and vernal pools on alkaline soils between 456 and 1,640 feet (139–500 meters) in elevation.	April to August	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
Atriplex tularensis Bakersfield smallscale	-/E/1A	Annual herb in the Chenopodiaceae found in valley and foothill grasslands, between 131 and 328 feet (40–100 meters) in elevation. Known to occur in the San Joaquin Valley from Northwestern Kern County north to Southern Merced County and in the Sacramento Valley in Southern Butte County.	June to August (occasionally October)	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
Calochortus striatus Alkali mariposa lily	S/-/1B.2	Bulbiferous perennial herb in the Liliaceae found in chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grasslands on sandy often granitic, sometimes serpentine soils, between 1,296 and 3,281 feet (395–1,000 meters). Known to occur in the Outer South Coast Ranges in Santa Barbara and San Luis Obispo Counties.	April to May	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
Caulanthus californicus California jewelflower	E/E/1B.1	Annual herb in the Brassicaceae family found on serpentinite soils in closed-cone coniferous forest, chaparral, and cismontane woodland between 1,542 and 4,003 feet (470–1,220 meters) in elevation.	May to July	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.

Scientific Name **Common Name**	**Status Fed/State/CNPS**	**Description**	**Blooming Period**	**Field Study Results/Potential for Occurrence**
Chloropyron molle ssp. *hispidum* Hispid bird's-beak	S/-/1B.1	Hemiparasitic annual herb in the Orobanchaceae family found on coastal dunes and coastal saltwater marshes and swamps below 98 feet (30 meters) in elevation.	May to October	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
Delphinium recurvatum Recurved larkspur	S/-/1B.2	Perennial herb in the Ranunculaceae family found in chaparral, cismontane woodland, and pinyon and juniper woodland on rocky, carbonate soils between 984 and 4,396 feet (300–1,340 meters) in elevation. Known to occur in Kern and Tulare Counties.	April to May	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
Diplacus pictus *Calico monkeyflower*	-/-/1B.2	Annual herb in the Phrymaceae family found in upland and cismontane woodland on granitic soils between 328 and 4690 feet (100-1430 meters). Known to occur in Kern and Tulare Counties.	March to May	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
Eremalche parryi ssp. *kernensis* Kern mallow	E/-/1B.1	Perennial, stoloniferous herb in the Onagraceae family found in meadows ad seeps, and subalpine coniferous forest in mesic soils between 6,562 and 10,236 feet (2,000–3,120 meters) in elevation. Known to occur in Alpine, El Dorado, Fresno, Madera, Mono, Nevada, Sierra, and Tuolumne Counties.	July to August	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
Eriastrum hooveri Hoover's eriastrum	D/-/4.2	Annual herb in the Polemoniaceae family 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	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
Eschscholzia lemmonii ssp. *kernensis* Tejon poppy	-/-/1B.1	Annual herb in the Papaveraceae family found in chaparral, cismontane woodland and valley and foothill grassland on serpentinite clay soil between 656 and 4,921 feet (200–1,500 meters) in elevation. Known to occur in Fresno, Imperial, Mendocino, Monterey, San Benito, and San Luis Obispo Counties.	March to June	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
Imperata brevifolia *California satintail*	-/-/2B.1	Perennial herb in the poaceae family found in chaparral, coastal sage scrub, creosote bush scrub and wetland-riparian communities. Known to occur in Butte, Lake, Fresno, Tulare, Inyo, Kern, Santa Barbara, Ventura, San Bernadino, Orange, Riverside, San Diego and Imperial Counties.	September to May	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.

Scientific Name **Common Name**	**Status Fed/State/CNPS**	**Description**	**Blooming Period**	**Field Study Results/Potential for Occurrence**
Lasthenia glabrata ssp. Coulteri *Coulter's goldfields*	-/-/1B.1	Annual herb found in vernal pools and saline places at elevations below 1000m. Known to occur in Kern and San Joaquin Counties	February to June	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
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	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
Monolopia congdonii San Joaquin woolly-threads	E/-/1B.2	Perennial, rhizomatous herb in the Ericaceae found in broadleafed upland forest and North Coast coniferous forest between 328 and 3,609 feet (100–1,100 meters) in elevation. Known to occur in Del Norte, Fresno, Humboldt and Siskiyou Counties.	May to August	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
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	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
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	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
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	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.
Stylocline citroleum Oil neststraw	S/-/1B.1	Annual herb in the Asteraceae found in chenopod scrub, coastal scrub, and valley and foothill grasslands on clay soils between 164 and 1,312 feet (50–400 meters) in elevation. Known from locations in Kern and San Diego Counties.	March to April	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.

Scientific Name **Common Name**	**Status Fed/State/CNPS**	**Description**	**Blooming Period**	**Field Study Results/Potential for Occurrence**
Stylocline masonii Mason's neststraw	S/-/1B.1	Annual herb in the Asteraceae found in chenopod scrub, coastal scrub, and valley and foothill grasslands on clay soils between 164 and 1,312 feet (50–400 meters) in elevation. Known from locations in Kern and San Diego Counties.	March to April	**Not Observed/Not Expected**. Decades of intensive farming has resulted in vegetation limited to invasive/ruderal species.

STATUS: Federal and State Listing Code

- D Delisted
- E Federally or State-listed Endangered
- T Federally or State-listed Threatened

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
- 2B.1 Plants considered rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California
- 4.2 Plants of limited distribution in California; fairly threatened in California

Table B-2: Special-status Animals That May Occur in the Vicinity of the Project.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
Invertebrates			
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).	**Not Present.** No suitable habitat for the species. No host plants present on the project or vicinity.
Branchinect lynchi Vernal pool fairy shrimp	T/-	Found in vernal pools throughout California. Exist as cysts during the dry season and reproduce when pools are filled with water again.	**Not Present**. No suitable habitat present.
Fishes			
Hypomesus transpacificus Delta smelt	T/-	Found only in the low-salinity and freshwater habitats of the Sacramento-San Joaquin Estuary. Historically, it was one of the most common pelagic fish in the estuary	**Not Present.** No suitable habitat present.
Amphibians			
Rana draytonii California red-legged frog	T/-	Found in habitat characterized by dense, shrubby, riparian vegetation and associated still, or slow-moving water that is at least 2.3 feet deep. The arroyo willow (*Salix lasiolepis*) cattails (*Typha* sp.) and bulrushes (*Scirpus* sp.) provide good habitat.	**Not Present.** No suitable habitat present.
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).	**Not Observed/Not Expected**. No known records in the vicinity of the project. No suitable habitat present on the project. Marginal habitat is present in the project vicinity.
Reptiles			
Anniella spp. California 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).	**Not Observed/Not Expected**. Suitable habitat absent from the site. Potential habitat in the project vicinity.
Arizona elegans occidentalis California glossy snake	-/CSC	Found in low elevation scrub, grasslands and chaparral habitats.	**Not Present**. No suitable habitat present.
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.	**Not Present.** No suitable habitat present.
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.	**Not Present.** No suitable habitat present.

Scientific Name **Common Name**	**Status** **Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
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.	**Not Present**. No suitable habitat present.
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.	**Not Present**. No suitable habitat present.
Thamnophis gigas Giant gartersnake	T/T	Found in areas of freshwater marshes or low-gradient streams. Can also be found in human-made habitats, such as drainage canals and irrigation ditches, especially those associated with rice farming.	**Not Present**. No suitable habitat present. Species believed to be extirpated from Kern County.
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.	**Not Present/Low Probability of Occurrence in the Project Vicinity**. No suitable nesting or foraging habitat on the site. Potential for marginal nesting and foraging habitat in farmlands in the vicinity of the project.
Athene cunicularia Burrowing owl	-/CSC	Inhabits 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.	**Not Observed/Moderate Probability of Occurrence in the Project Vicinity**. No suitable burrows present on the project. Suitable habitat for nesting and foraging in the vicinity of the project.
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.	**Not Observed/Low Probability of Occurrence in the Project Vicinity**. No suitable nesting sites on the project. Trees suitable for nesting occur in the vicinity of the project along State Route 99. Suitable foraging habitat exists across the row-crop farmland south of metropolitan Bakersfield. Swainson's hawk are uncommon in Kern County.
Charadrius alexandrinus nivosus Western snowy plover	T/-	Nests, feeds, and takes cover on sandy or gravelly beaches along the coast, on estuarine salt ponds, alkali lakes, and at the Salton Sea. On the Pacific coast, it nests on barren to sparsely vegetated sand beaches, dry salt flats in lagoons, dredge spoils deposited on beach or dune habitat, levees and flats at salt-evaporation ponds, and river bars.	**Not Present**. No suitable wintering habitat or foraging habitat exists on the project.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
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.	**Not Observed/Low Probability of Occurrence in the Project Vicinity**. No suitable nesting sites on the project. Trees suitable for nesting occur in the vicinity of the project along State Route 99. Suitable foraging habitat exists across the row-crop farmland south of metropolitan Bakersfield.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	T/E	Nests in walnut and almond orchards in California, natural nesting habitat is in cottonwood-tree willow riparian forest. Known populations of breeding western yellow-billed cuckoo are several disjunct locations in California, Arizona, and western New Mexico.	**Not Present**. No suitable nesting habitat exists on the project for this species. The site represents poor foraging habitat.
Elanus leucurus White tailed kite	-/SFP	Associated habitats include open grasslands, savannahs, agriculture, wetlands, oak woodland and riparian areas with associated open space.	**Not Observed/Low Probability of Occurrence in the Project Vicinity**. No suitable nesting sites on the project. Trees suitable for nesting occur in the vicinity of the project along State Route 99. Suitable foraging habitat exists across the row-crop farmland south of metropolitan Bakersfield. Swainson's hawk are uncommon in Kern County.
Empidonax traillii Willow Flycatcher	-/E	Nests and forages in riparian habitats with dense vegetation characterized by willows, buttonbush and coyote brush, with a scattered overstory of cottonwood. Have also been known to nest in thickets dominated by tamarisk.	**Not Present**. No suitable nesting or foraging habitat present.
Lanius ludovicianus Loggerhead shrike	-/CSC	Common resident and winter visitor in lowlands and foothills throughout California; species prefers open 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.	**Not Observed/Moderate Probability of Occurrence in the Project Vicinity**. No suitable nesting habitat present. Loggerhead shrike occur throughout the southern San Joaquin Valley and undoubtedly forage in the project vicinity.
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.	**Not Present**. No suitable habitat present. Outside of the current published range of the species.
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	**Not Present**. No suitable habitat present. Outside of the current published range of the species.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
		soils that are well-drained, fine sandy loams with gentle slopes.	
Dipodomys nitratoides brevinasus Short-nosed 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.	**Not Present**. No suitable habitat present. Outside of the range of the species.
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.	**Not Present**. No suitable habitat present.
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 Roosting Sites Present.** No known occurrences in the vicinity of the project. Information on some bat species indicates foraging may occur over 10's of miles from roosting sites. Impacts not expected.
Lasiurus cinereus Hoary 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 Roosting Sites Present.** No known occurrences in the vicinity of the project. Information on some bat species indicates foraging may occur over 10's of miles from roosting sites. Impacts not expected.
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.	**Not Observed/Not Expected**. No suitable habitat present.
Perognathus inornatus inornatus San Joaquin pocket mouse	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.	**Not Observed/Not Expected**. No suitable habitat present.
Sorex ornatus relictus Buena Vista Lake shrew	E/CSC	Formerly occupied marshlands of the San Joaquin Valley and the Tulare Basin. Its range has become much restricted due to the loss of lakes and sloughs in	**Not Observed/Not Expected**. No suitable habitat present.

Scientific Name **Common Name**	**Status Federal/State**	**General Habitat**	**Survey Results/Regional or Nearest Occurrence***
		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.	
Taxidea taxus American badger	-/CSC	Uncommon resident found through California; in less disturbed grassland and shrubland habitats in San Joaquin Valley.	**Not Observed/Not Expected**. No suitable habitat present on the project. Marginal habitat for burrowing and foraging exists on farmland south of metropolitan Bakersfield.
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.	**Not Observed/Moderate Probability of Occurrence in the Project Vicinity**. No dens present on the project. Suitable habitat for denning and foraging in the vicinity of the project

STATUS:

Federal

S Listed as a BLM Sensitive Species
D Delisted
E Listed as Endangered
PT Proposed as Threatened
T Listed as Threatened
C Candidate for Endangered Status

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

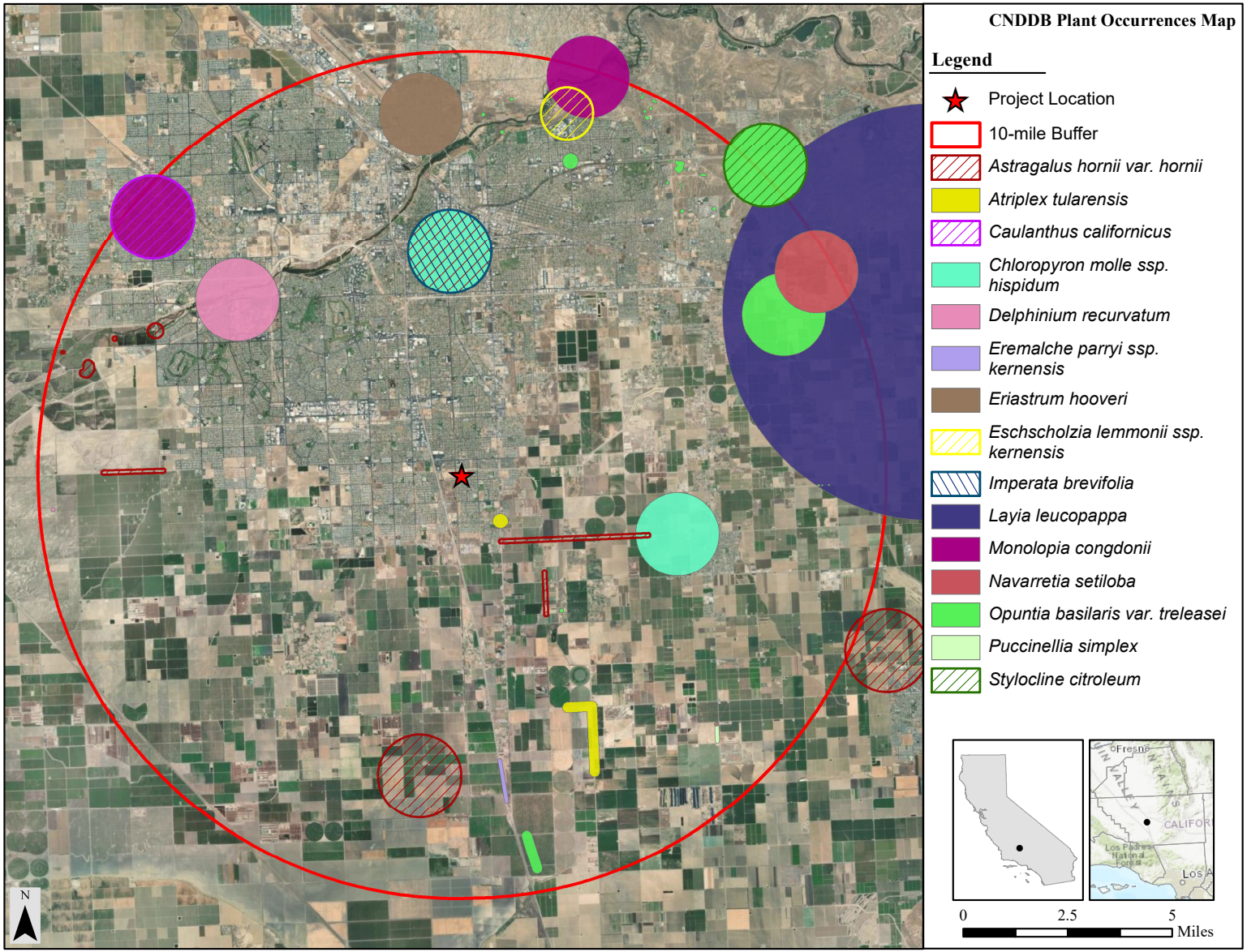

Figure B-1. CNDDB special-status plant species occurrences within a 10-mile radius of the project (CDFW 2021).

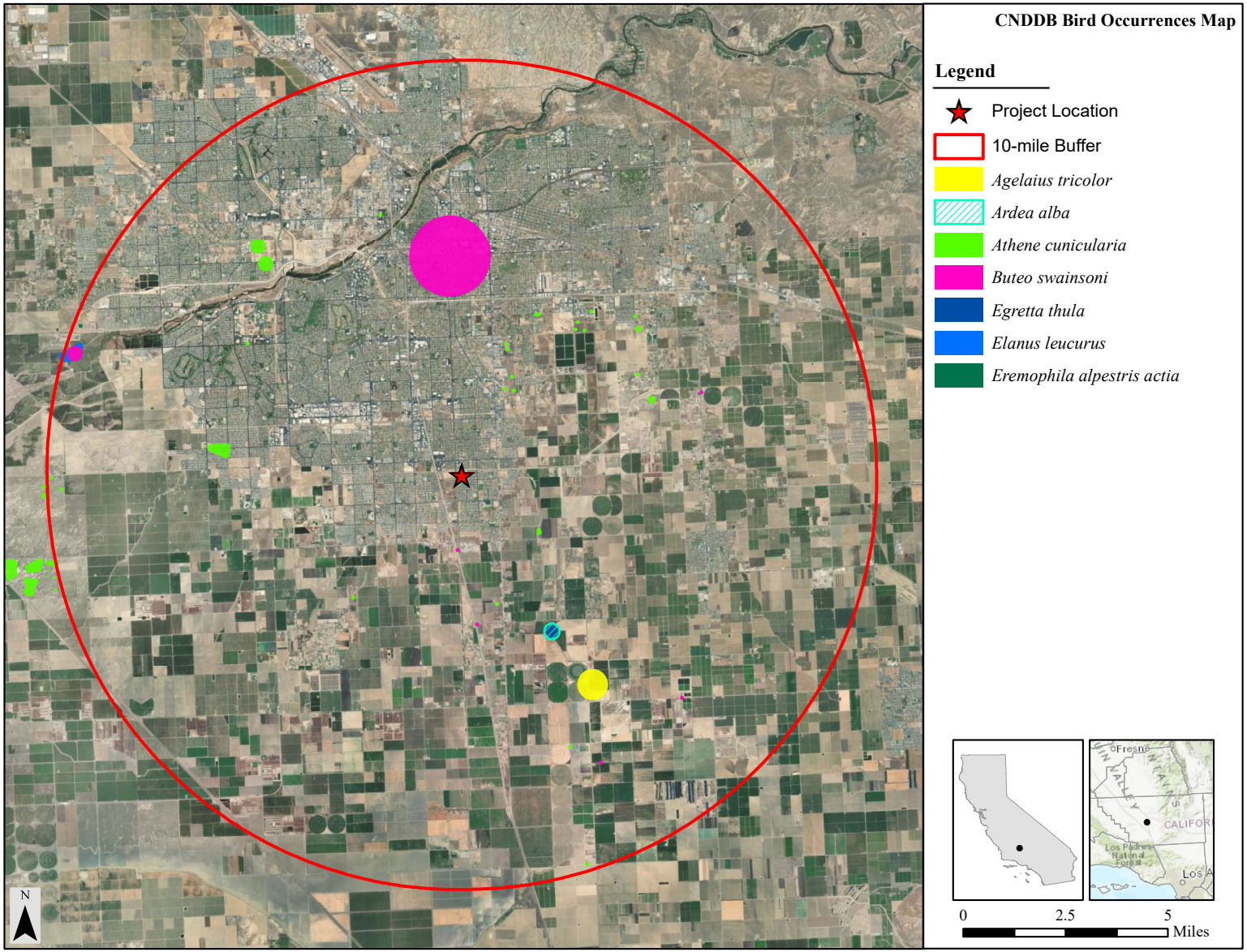

Figure B-2. CNDDB special-status bird species occurrences within a 10-mile radius of the project (CDFW 2021).

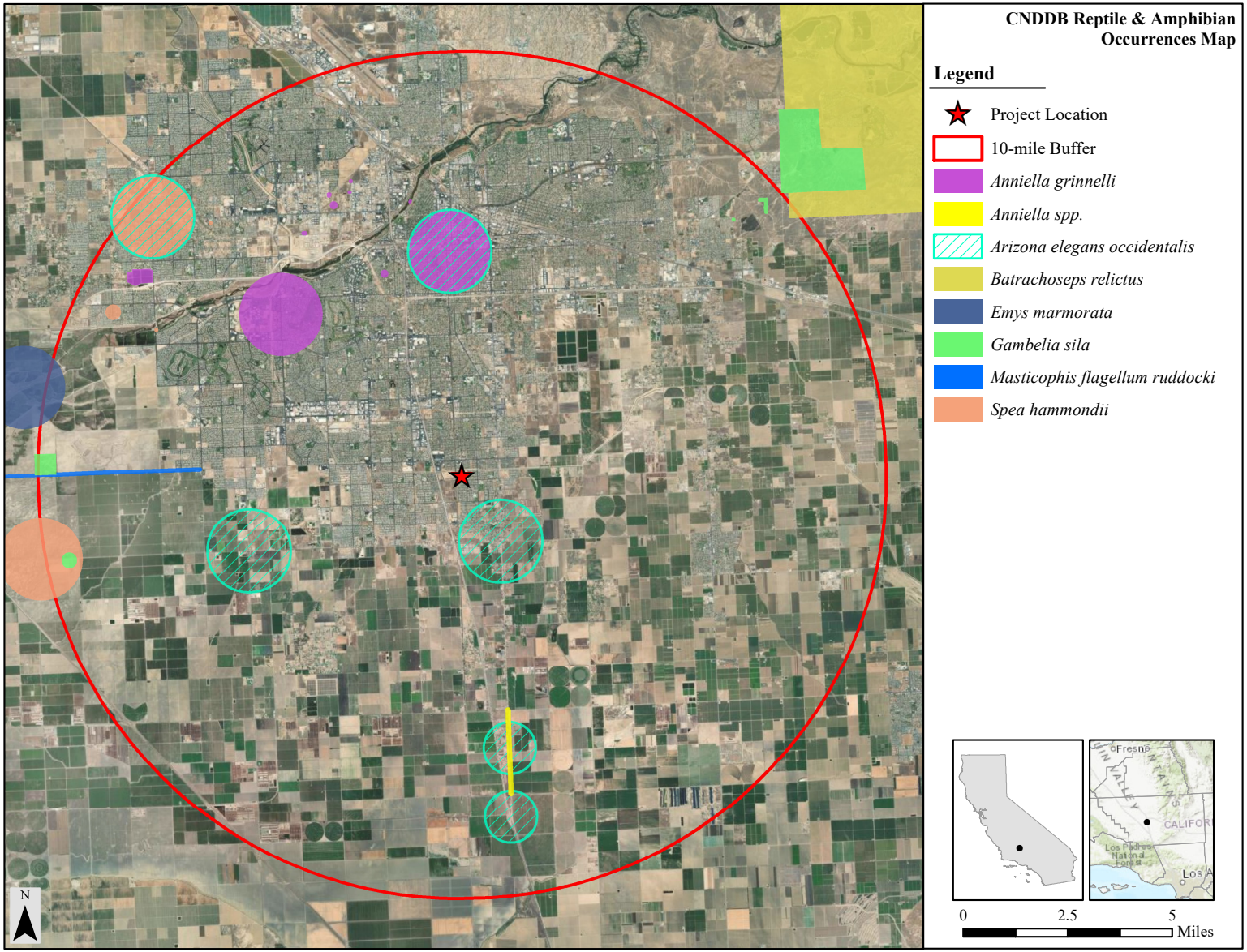

Figure B-3. CNDDB special-status amphibian and reptile species occurrences within a 10-mile radius of the project (CDFW 2021).

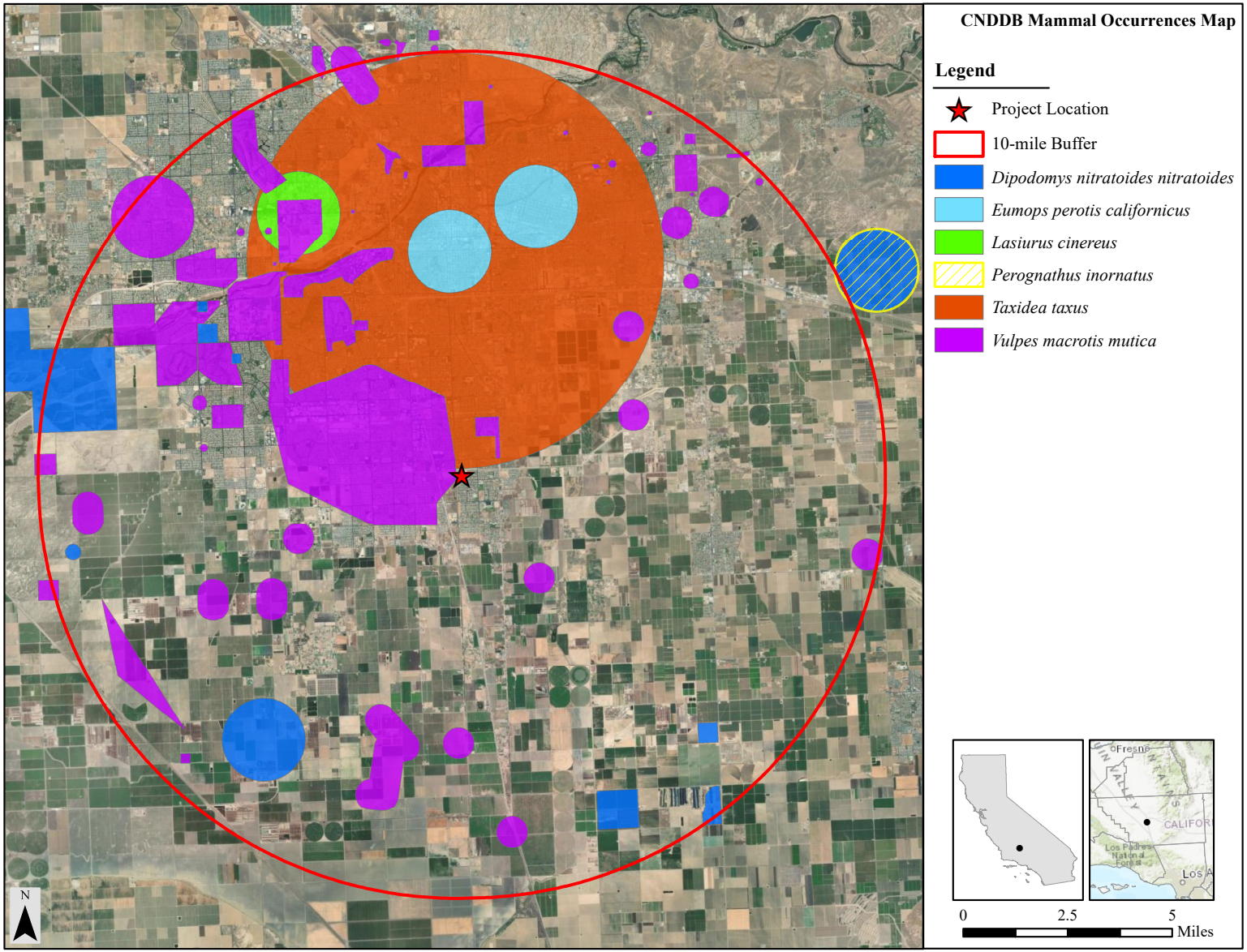

Figure B-4. CNDDB special-status mammal species occurrences within a 10-mile radius of the project (CDFW 2021).

APPENDIX C

PLANTS AND ANIMALS OBSERVED ON THE PROJECT

FIELD STUDY CONDUCTED
06 MARCH 2021

Table C-1. Vascular plant species observed during the field study conducted on the project.

Scientific Name	**Common Name**
Brassicaceae	
Sisymbrium irio	London rockets
Chenopodiaceae	
Chenopodium album	Lamb's quarters
Salsola tragus	Russian thistle
Geraniaceae	
Erodium cicutarium	Redstem filaree
Malvaceae	
Malva parviflora	Cheeseweed
Moraceae	
Morus sp.	Mulberry
Malvaceae	
Pinus sp.	Pine
Poaceae	
Bromus madritensis ssp. rubens	Red brome
Cynodon dactylon	Bermudagrass
Hordeum vugare	Farmer's foxtail
Platanaceae	
Platatnus occintalis	Sycamore
Solanaceae	
Datura wrightii	Jimson weed
Solanum elaeagnifolium	Silverleaf nightshade
Zygophyllaceae	
Tribulus terrestris	Puncturevine

Table C-2. Vertebrate animal species observed during the field study conducted on the project.

Scientific Name	**Common Name**
Birds	
Buteo jamaicensis	Red-tailed hawk
Columba livia	Rock dove
Corvus corax	Common raven
Haemorhous mexicanus	House finch
Passer domesticus	House sparrow
Zenaida macroura	Mourning dove
Zonotrichia leucophrys	White-crowned sparrow
Mammals	
Canis lupus familiaris	Domestic dog
Felis catus	Domestic cat
Otospermophilus beecheyi	California ground squirrel
Thomomys bottae	Pocket gopher
Reptiles	
Uta stansburiana	Side-blotched lizard

A
PHASE I CULTURAL RESOURCE SURVEY,
NORTHEAST CORNER OF S. H STREET AND BERKSHIRE ROAD,
CITY OF BAKERSFIELD, CALIFORNIA

Submitted to:
Derrel's Mini Storage, Inc.
3265 W. Ashlan Avenue
Fresno, California 93722

and

Eagle Land Development Inc.
4805 Centennial Plaza Way, Suite 300
Bakersfield, California 93312

Keywords:
Gosford 7.5' Quadrangle,
City of Bakersfield,
California Environmental Quality Act

Submitted by:
Hudlow Cultural Resource Associates
1405 Sutter Lane
Bakersfield, California 93309

Author:
Scott M. Hudlow

March 2021

Management Summary

At the request of Derrel's Mini Storage, Inc., and Eagle Land Development, Inc., a Phase I Cultural Resource Survey was conducted on approximately 23 acres. The property, APN 516-010-36, lies at the northeast corner of S. H Street and Berkshire Road, City of Bakersfield, California. The Phase I Cultural Resource Survey consisted of a pedestrian survey of the 23-acre site 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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List of Figures

1.0 Introduction

At the request of Derrel's Mini Storage, Inc., *Hudlow Cultural Resource Associates* conducted a Phase I Cultural Resource Survey on exactly 23 acres. The site, APN 516-010-36, lies at the northeast corner of S. H Street and Berkshire Road, City of Bakersfield, California. This project is being undertaken in accordance with the California Environmental Quality Act (CEQA). The Phase I Cultural Resource Survey consisted of a pedestrian survey and a cultural resource record search.

2.0 Survey Location

The project area is in the City of Bakersfield. The parcel is located in the SW ¼ of the NW ¼ of Section 30, T.30S., R.28E., Mount Diablo Baseline and Meridian, as displayed on the United States Geological Survey (USGS) Gosford 7.5-minute quadrangle map (Figure 1). The property lies at the northeast corner of S. H Street and Berkshire Road, City of Bakersfield, California.

3.0 Record Search

A record search of the project area and the environs within one-half mile was conducted at the Southern San Joaquin Archaeological Information Center. Information Center staff conducted the record search, RS# 21-092 on March 22, 2020 (Appendix II). The record search revealed that eighteen cultural resource surveys have been conducted within one-half mile radius of the project area, including one previous survey that has been conducted directly adjacent to the current project area (Hudlow 2004). Six cultural resources have been recorded within one half-mile of the current project area. Of those six, two are/were located directly adjacent to the current project, the Arvin-Edison Canal and the Kern Valley Packing Plant, which has been demolished. The remaining four cultural resources are three historic isolates and a historic trash scatter.

4.0 Environmental Background

The project area is located at an elevation of 360 feet above mean sea level in the Great Central Valley, which is composed of two valleys-- the Sacramento Valley and the San Joaquin Valley. The project area is located in the southwestern portion of the southern San Joaquin Valley. The lot is denuded of native vegetation. The lot have been plowed to keep the weeds down and covered in gravel and modern trash (Figures 2 and 3). Tomatoes, which are growing from seed, are present across the lot, particularly along Berkshire Road.

5.0 Prehistoric Archaeological Context

A limited amount of archaeological research has been conducted in the southern San Joaquin Valley. Thus, consensus on a generally agreed upon regional cultural chronology has yet to be developed. Most cultural sequences

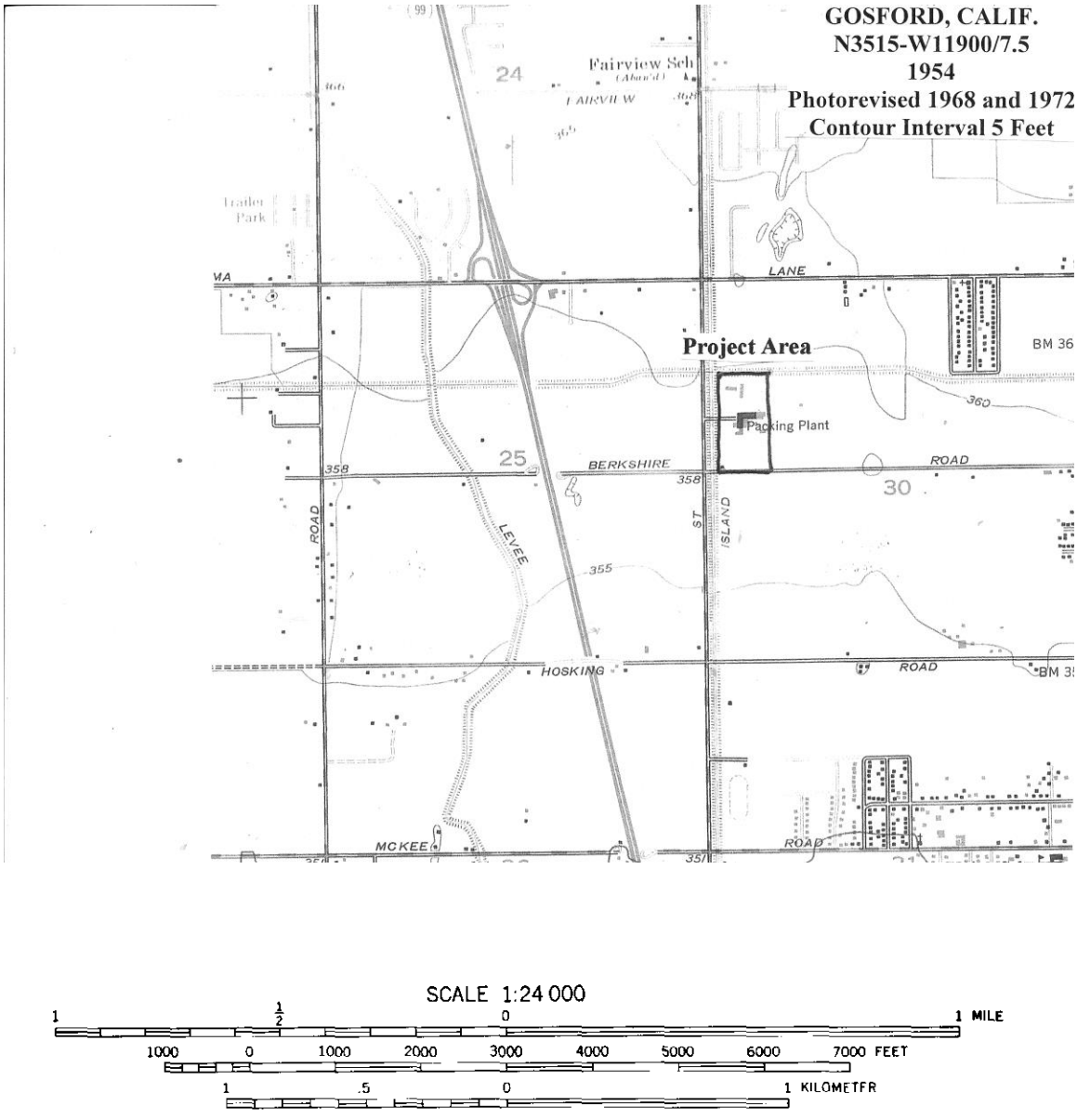

Figure 1
Project Area Location Map

can be summarized into several distinct time periods: Early, Middle, and Late. Sequences differ in their inclusion of various "horizons," "technologies," or "stages." A prehistoric archaeological summary of the southern San Joaquin Valley is available in Moratto (Moratto 1984).

Despite the preoccupation with chronological issues in most of the previous research, most suggested chronological sequences are borrowed from other regions with minor modifications based on sparse local data.

The following chronology is based on Parr and Osborne's Paleo-Indian, Proto-Archaic, Archaic, Post-Archaic periods (Parr and Osborne 1992:44-47). Most existing chronologies focus on stylistic changes of time-sensitive artifacts such as projectile points and beads rather than addressing the socioeconomic factors, which produced the myriad variations. In doing so, these attempts have encountered similar difficulties. These cultural changes are implied as environmentally determined, rather than economically driven.

Paleo-Indians, whom roamed the region approximately 12,000 years ago, were highly mobile individuals. Their subsistence is assumed to have been primarily big game, which was more plentiful 12,000 years ago than in the late twentieth century. However, in the Great Basin and California, Paleo people were also foragers who exploited a wide range of resources. Berries, seeds, and small game were also consumed. Their technology was portable, including manos (Parr and Osborne 1992:44). The paleo period is characterized by fluted Clovis and Folsom points, which have been identified throughout North America. The Tulare Lake region in Kings County has yielded several Paleo-Indian sites, which have included fluted points, scrapers, chipped crescents, and Lake Mojave-type points (Morratto 1984:81-2).

The Proto-Archaic period, which dates from approximately 11,000 to 8,000 years ago, was characterized by a reduction in mobility and conversely an increase in sedentism. This period is classified as the Western Pluvial Lake Tradition or the Proto-Archaic, of which the San Dieguito complex is a major aspect (Moratto 1984: 90-99; Warren 1967). An archaeological site along Buena Vista Lake in southwestern Kern County displays a similar assemblage to the San Dieguito type-site. Claude Warren proposes that a majority of Proto-Archaic southern California could be culturally classified as the San Dieguito Complex (Warren 1967). The Buena Vista Lake site yielded manos, millingstones, large stemmed and foliate points, a mortar, and red ochre. During this period, subsistence patterns began to change. Hunting focused on smaller game and plant collecting became more integral. Large stemmed, lancelote (foliate) projectile points represent lithic technology. Millingstones become more prevalent. The increased sedentism possibly began to create regional stylistic and cultural differences not evident in the paleo period.

The Archaic period persisted in California for the next 4000 years. In 1959, Warren and McKusiak proposed a three-phase chronological sequence based on a small sample of burial data for the Archaic period (Moratto 1984:189; Parr

Figure 2
Project Area, View to the North

Figure 3
Project Area, View to the East

and Osborne 1992:47). It is distinguished by increased sedentism and extensive seed and plant exploitation. Millingstones, shaped through use, were abundant. Manos and metates were the most prevalent types of millingstones (Parr and Osborne 1992:45). The central valley began to develop distinct cultural variations, which can be distinguished by different regions throughout the valley, including Kern County.

In the Post-Archaic period enormous cultural variations began manifesting themselves throughout the entire San Joaquin Valley. This period extends into the contact period in the seventeenth, eighteenth and nineteenth centuries. Sedentary village life was emblematic of the Post-Archaic period, although hunting and gathering continued as the primary subsistence strategy. Agriculture was absent in California, partially due to the dense, predictable, and easily exploitable natural resources. The ancestral Yokuts have possibly been in the valley by the sixteenth or seventeenth century, and by the eighteenth century were the largest pre-contact population, approximately 40,000 individuals, in California (Moratto 1984).

6.0 Ethnographic Background

The Yokuts are a Penutian-speaking, non-political cultural group. Penutian speakers inhabit the San Joaquin Valley, the Bay Area, and the Central Sierra Nevada Mountains. The Yokuts are split into three major groups, the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothill Yokuts.

The southern San Joaquin Valley in the Bakersfield and associated Kern County area was home to the Yokuts tribelet, Yawelmani. The tribelets averaged 350 people in size, had a special name for themselves, and spoke a unique dialect of the Yokuts language. Land was owned collectively and every group member enjoyed the right to utilize food resources. The Yawelmani inhabited a strip of the southeastern San Joaquin Valley, north of the Kern River to the Tehachapi Mountains on the south, and from the mountains on the east, to approximately the old south fork of the Kern River on the west (Wallace 1978:449; Parr and Osborne 1992:19). The Yawelmani were the widest ranging of the Yokuts tribelets. One half dozen villages were located along the Kern River, including *Woilo* ("planting place" or "sowing place"), which was located in downtown Bakersfield, where the original Amtrak station was located. A second village was located across the Kern River from *Woilo*, on the west bank.

The Southern Valley Yokuts established a mixed domestic economy emphasizing fishing, hunting, fowling, and collecting shellfish, roots, and seeds. Fish were the most prevalent natural resource; fishing was a productive activity throughout the entire year. Fish were caught in many different manners, including nets, conical basket traps, catching with bare hands, shooting with bows and arrows, and stunning fish with mild floral toxins. Geese, ducks, mud hens and other waterfowl were caught in snares, long-handled nets, stuffed decoys, and brushing brush to trick the birds to fly low into waiting hunters.

Mussels were gathered and steamed on beds of tule. Turtles were consumed, as were dogs, which might have been raised for consumption (Wallace 1978:449-450).

Wild seeds and roots provided a large portion of the Yokuts' diet. Tule seeds, grass seeds, fiddleneck, alfilaria were also consumed. Acorns, the staple crop for many California native cultures, were not common in the San Joaquin Valley. Acorns were traded into the area, particularly from the foothills. Land mammals, such as rabbits, ground squirrels, antelope and tule elk, were not hunted often (Wallace 1978:450).

The Yokuts occupied permanent structures in permanent villages for most of the year. During the late and early summer, families left for several months to gather seeds and plant foods, shifting camp locations when changing crops. Several different types of fiber-covered structures were common in Yokuts settlements. The largest was a communal tule mat-covered, wedge-shaped structure, which could house upward of ten individuals. These structures were established in a row, with the village chief's house in the middle and his messenger's houses were located at the ends of the house row. Dance houses and assembly buildings were located outside the village living area (Nabokov and Easton 1989:301).

The Yokuts also built smaller, oval, single-family tule dwellings. These houses were covered with tall mohya stalks or with sewn tule mats. These small houses were framed by bent-pole ribs, which met a ridgepole held by two crotched poles. The Yokuts also built a cone-shaped dwelling, which was framed with poles tied together with a hoop and then covered with tule or grass. These cone-shaped dwellings were large enough to contain multiple fireplaces (Nabokov and Easton 1989:301). Other structures included mat-covered granaries for storing food supplies, and a dirt-covered communally owned sweathouse.

Clothing was minimal; men wore a breechclout or were naked. Women wore a narrow-fringed apron. Rabbitskin or mud hen blankets were worn during the cold season. Moccasins were worn in certain places; however, most people went barefoot. Men wore no head coverings, but women wore basketry caps when they carried burden baskets on their heads. Hair was worn long. Women wore tattoos from the corners of the mouth to the chin; both men and women had ear and nose piercings. Bone, wood or shell ornaments were inserted into the ears and noses (Wallace 1978:450-451).

Tule dominated the Yokut's material culture. It was used for many purposes, including sleeping mats, wall coverings, cradles, and basketry. Ceramics are uncommon to Yokuts culture as is true throughout most California native cultures. Basketry was common to Yokuts culture. Yokuts made cooking containers, conical burden baskets, flat winnowing trays, seed beaters, and necked water bottles. Yokuts also manufactured wooden digging sticks, fire drills, mush stirrers, and sinew-backed bows. Knives, projectile points, and

scraping tools were chipped from imported lithic materials including obsidian, chert, and chalcedony. Stone mortars and pestles were secured in trade. Cordage was manufactured from milkweed fibers, animal skins were tanned, and awls were made from bone. Marine shells, particularly olivella shells, were used in the manufacture of money and articles of personal adornment. Shells were acquired from the Chumash along the coast (Wallace 1978:451-453).

The basic social and economic unit was the nuclear family. Lineages were organized along patrilineal lines. Fathers transmitted totems, particular to each paternal lineage, to each of his children. The totem was a bird or animal that no lineage member would kill or eat; the totems were dreamed of and prayers were given to the totems. The mother's totem was not passed to her offspring; but was treated with respect. Families sharing the same totem formed an exogamous lineage. The lineage had no formal leader nor did it own land. The lineage was a mechanism for transmitting offices and performing ceremonial functions. The lineages formed two moieties, East and West, which consisted of several different lineages. Moieties were customarily exogamous. Children followed the paternal moiety. Certain official positions within the villages were associated with certain totems. The most important was the Eagle lineage from which the village chief was appointed. A member of the Dove lineage acted as the chief's assistant. He supervised food distribution and gave commands during ceremonies. Another hereditary position was common to the Magpie lineage, was that of spokesman or crier.

7.0 Historical Overview

Kern County was settled in the 1860s, soon after California joined the United States after the passage of the Compromise of 1850. The Compromise of 1850 allowed California to join the Union as a free state even though a major portion of the state lied beneath the Missouri Compromise line; and was potentially subject to southern settlement and slavery. Americans had long been visiting and working in California prior to the admission of California into the Union.

The Spanish moving north from Baja California into Alta California began European settlement of California 1n 1769. Father Junipero Serra, a Franciscan friar founded Mission San Diego de Alcala, beginning California active European settlement. However, Spanish mission efforts were focused on California's coastal regions. Spanish exploration of the San Joaquin Valley region begins in the 1770s. In 1772, Pedro Fages arrived in the San Joaquin Valley searching for army deserters. Father Francisco Garces, a Franciscan priest, soon visited the vicinity in 1776. The Spanish empire collapsed in 1820, all of Spain's former Central and South American colonies became independent nations. As a result, California became Mexican territory. California stayed in Mexican hands until the Mexican-American War. Mexican California remained a coastal society with little interest in settling in California's hot, dry interior valleys.

American exploration of the San Joaquin Valley begins in the 1820s with Jedediah Smith, Kit Carson, and Joseph Walker looking for commercial opportunities. The United States government began exploring California in the 1830s. Soon, the Americans will be searching for intercontinental railroad routes to link the eastern and western halves of the continent.

The defeat of the Mexicans during the Mexican-American War and the subsequent discovery of gold will drastically alter the complicated political realities of the west. The Mexican-American War was ostensible fought to settle a boundary dispute with the Mexicans over the western boundary of the newly-annexed state of Texas, which had fought a successful rebellion against the Mexican Army in the mid 1830s. The Republic of Texas was an independent country for nine years until Texas was annexed by the United States in 1845. One major outcome of the Mexican-American War was that Mexico rescinded its claims to much of the American southwest. In 1848 these territories were folded into the United States, including California.

In January 1848, the discovery of gold in Coloma, California changed the settlement of California, forever. In the summer of 1848, when the gold strike was publicly announced, the overnight settlement of California began. The Mexican population of California was small and limited to the coasts and a few of southern California's interior valleys. A sizable native population settled the remainder of California; Bakersfield and Kern County was Yokuts territory. The Gold Rush tipped the balance of native communities throughout California, as many of California's natives were decimated.

Many areas experienced smaller gold rushes, including the Kern River Valley, when gold was discovered in Keyesville in 1853. The gold was soon played and the true future of the region was soon identified, farming, as the gold prospectors came down from the mountains. Kern Island, a median point along the Kern Delta, between the mouth of the Kern River and the Kern Lake, was settled in 1860. Soon, Col. Thomas Baker bought the property from the original owner, Christian Bohna and the settlement of Bakersfield began in earnest.

Col. Baker was lured to California by the prospects of gold. He was a practicing lawyer and surveyor and was slowing moved west from Ohio. He was involved in Iowa's territorial government and served in both the California senate and assembly. Col. Baker realized he had to drain the Kern Delta to manufacture usable farmland. He also improved his land, creating one of the only transit locations between Los Angeles and Visalia in the 1860s.

Baker laid out the town and began the process of draining, diverting, and controlling the Kern River. In 1873, Bakersfield was incorporated and was the first city in the newly-created Kern County, which was previously a portion of Tulare County. In 1874, Bakersfield got a rail link with the establishment of the Southern Pacific line over the Tehachapi Pass connecting Kern County to northern California to points east. The train station was located in Sumner, a spite town that was established by the Southern Pacific about a mile east of downtown

Bakersfield, now located in east Bakersfield. The train brought Bakersfield agricultural prosperity, since it now had quick, rail connections to larger California and eastern markets for its fruits and grains.

The city of Bakersfield was expanding to the north in the early twentieth-century toward the Kern River, after its 1898 reincorporation. The city centered along Chester Avenue, which was the main north/south thoroughfare. The community of Sumter lied to the east, and the surrounding area in all directions was farmland. The city of Bakersfield was a small community at the turn of the century, slightly less than 5,000 people lived in Bakersfield; an additional 17,000 people lived in Kern County (Maynard 1997:43). Bakersfield was a quiet city in the center of a farming region.

However, the discovery of the Kern River oil field in May 1899 quickly changed the face of the region. Bakersfield quickly became the center of a California oil boom, which remade the community. The population more than doubled in less than ten years, bringing prosperity to the area (Maynard 1997:43). Many people recognized that prosperity could not only be achieved through working in oil, but also through providing necessary services, such as milk products and lodging. The city of Bakersfield grew.

Between 1900 and 1950, Bakersfield and the greater Kern County region grew tremendously under the influence of two economic forces, agriculture and oil. By 1950, Bakersfield was a mid-sized city of approximately 50,000. It sported minor league baseball, had a regional airport, and was a major automobile link along Route 99, which connected northern and southern California. In the late 1960s, Bakersfield was beginning to change again, as the Kern County Land Company was sold to Tenneco West, and Bakersfield began to suburbanize.

8.0 Field Procedures and Methods

On March 10 and 24, 2021, Scott M. Hudlow (for qualifications see Appendix I) conducted a pedestrian survey of the entire proposed project area. Hudlow surveyed in north/south transects at 10-meter (33 feet) intervals across the entire parcel. All archaeological material more than fifty years of age or earlier encountered during the inventory was recorded.

9.0 Report of Findings

No cultural resources were identified. However, shade trees from a former occupation are still present along the western edge of the property along the Kern Island Canal. A smear of trash and gravel is present along a majority of the property, presumably from the demolition of the Kern Valley Packing Plant. However, nothing diagnostic is present.

10.0 Management Recommendations

At the request of Derrel's Mini Storage, Inc., and Eagle Land Development, Inc., a Phase I Cultural Resource Survey was conducted on approximately 23 acres. The property, APN 516-010-36, lies at the northeast corner of S. H Street and Berkshire Road, City of Bakersfield, California. The Phase I Cultural Resource Survey consisted of a pedestrian survey of the 23-acre site 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.

11.0 References

Hudlow, Scott

2004 *A Phase I Cultural Resource Survey for the Rudnick Property, City of Bakersfield, California.* Report on file, Southern San Joaquin Archaeological Information Center, California State University, Bakersfield, Bakersfield, California.

Maynard, John A.

1997 *Bakersfield: A Centennial Portrait*. Cherbo Publishing, Encino, California.

Moratto, Michael J.

1984 *California Archaeology*. Orlando, Florida, Academic Press.

Nabokov, Peter and Robert Easton

1989 *Native American Architecture*. Oxford University Press, New York, New York.

Parr, Robert E. and Richard Osborne

1992 *Route Adoption Study for Highway 58, Kern County, California.* Report on file, Southern San Joaquin Archaeological Information Center, California State University, Bakersfield, Bakersfield, California.

Wallace, William J.

1978 "Southern Valley Yokuts" in *Handbook of North American Indians*. Vol. 8, California, Robert F. Heizer, ed. Washington, D.C.: Smithsonian Institution, pp. 437-445.

Warren, Claude N. and M. B. McKusiak
1959 A Burial Complex from the southern San Joaquin Valley. Los Angeles: *University of California, Los Angeles, Archaeological Survey Annual Report, 1959*: 17-26.

Warren, Claude N.
1967 "The San Dieguito Complex: A Review and Hypothesis" *American Antiquity* 32(2): 168-185.

Appendix I

Scott M. Hudlow
1405 Sutter Lane
Bakersfield, California 93309
(661) 834-9183

Education

The George Washington University
M.A. American Studies, 1993
Specialization in Historical Archaeology
and Architectural History

University of California, Berkeley
B.A. History, 1987
B.A. Anthropology, 1987
Specialization in Historical Archaeology
and Colonial History

Public Service

3/94-12/02 *Historic Preservation Commission.* City of Bakersfield, Bakersfield, California 93305.

7/97-12/01 *Newsletter Editor. California History Action,* newsletter for the California Council for the Promotion of History.

Relevant Work Experience

8/96- *Adjutant Faculty.* Bakersfield College, 1801 Panorama Drive, Bakersfield, California, 93305. Teach History 17A, Introduction to American History and Anthropology 5, Introduction to North American Indians.

Owner, Sole Proprietorship. Hudlow Cultural Resource Associates. 1405 Sutter Lane, Bakersfield California 93309. Operate small cultural resource management business. Manage contracts, respond to RFP's, bill clients, manage temporary employees. Conduct Phase I archaeological and architectural surveys for private and public clients; including the cultural resource survey, documentary photography, measured drawings, mapping of structures, filing of survey forms, historic research, assessing impact and writing reports. Evaluated archaeological and architectural sites and properties in lieu of their eligibility for the National Register of Historic Places in association with Section 106 and 110 requirements of the National Historic Preservation Act of 1966 and CEQA (California Environmental Quality Act).

Full resume available upon request.

Appendix II

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

3/22/2021

Scott Hudlow
Hudlow Cultural Resource Associates
1405 Sutter Lane
Bakersfield, CA 93309

Re: DMS 21-01
Records Search File No.: 21-092

The Southern San Joaquin Valley Information Center received your record search request for the project area referenced above, located on the Gosford USGS 7.5' quad. The following reflects the results of the records search for the project area and the 0.5 mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☒ custom GIS maps ☐ GIS data

Resources within project area:	P-15-011715
Resources within 0.5 mile radius:	P-15-007994, 009205, 009206, 009207, 012539
Reports within project area:	KE-03106
Reports within 0.5 mile radius:	KE-00042, 00412, 00951, 01438, 02059, 02333, 02598, 02702, 02811, 02880, 03149, 03206, 03473, 03625, 03682, 04286, 04575

Note: Report locations were not included per the Data Request Form.

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☐ enclosed	☒ not requested	☐ nothing listed
OHP Built Environment Resources Directory:	☐ enclosed	☒ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☒ not requested	☐ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☒ not requested	☐ nothing listed

Caltrans Bridge Survey: Not available at SSJVIC; please see https://dot.ca.gov/programs/environmental-analysis/cultural-studies/california-historical-bridges-tunnels

Ethnographic Information: Not available at SSJVIC

Historical Literature: Not available at SSJVIC

Historical Maps: Not available at SSJVIC; please see http://historicalmaps.arcgis.com/usgs/

Local Inventories: Not available at SSJVIC

GLO and/or Rancho Plat Maps: Not available at SSJVIC; please see http://www.glorecords.blm.gov/search/default.aspx#searchTabIndex=0&searchByTypeIndex=1 and/or http://www.oac.cdlib.org/view?docId=hb8489p15p;developer=local;style=oac4;doc.view=items

Shipwreck Inventory: Not available at SSJVIC; please see https://www.slc.ca.gov/shipwrecks/

Soil Survey Maps: Not available at SSJVIC; please see http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Digitally signed by Celeste M. Thomson
Date: 2021.03.22 08:59:37 -07'00'

Celeste M. Thomson
Coordinator

PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

Ms. Karen Kendall
Derrel's Mini Storage
3265 West Ashlan Avenue
Bakersfield, California 93722

November 5, 2021

Subject: Vehicle Miles Traveled Analysis
Proposed Derrel's Mini Storage and Residential Duplex Project
Northeast of the Intersection of Berkshire Road and South H Street
Bakersfield, California

Dear Ms. Kendall:

Senate Bill (SB) 743 requires that relevant CEQA analysis of transportation impacts be conducted using a metric known as vehicle miles traveled (VMT). VMT measures how much actual automobile travel (additional miles driven) a proposed project would create on California roads. If the project adds excessive car travel onto roads, the project may cause a significant transportation impact.

CEQA Guidelines Section 15064.3(b)(4) states that "[a] lead agency has discretion to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revision to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."

The City of Bakersfield has not yet adopted significance criteria for VMT analyses. However, other similar jurisdictions in the San Joaquin Valley, including the City of Visalia, the City of Clovis, and the City of Fresno, have adopted criteria and presented the results in guidelines available at the following links:

- City of Visalia: https://www.visalia.city/civicax/filebank/blobdload.aspx?BlobID=47045
- City of Clovis: https://cityofclovis.com/wp-content/uploads/2020/10/PDS-SB-743-ATT-2-Interim-Transportation-Impact-Analysis-Guidelines.pdf
- City of Fresno: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2021/01/CEQA-Guidelines-for-Vehicle-Miles-Traveled-Final-Adopted-Version.pdf

Each of the documents listed above presents substantial evidence that allows the lead agency to presume that projects meeting certain criteria will cause a less-than-significant transportation impact. The City of Visalia guidelines indicate that projects consistent with the City's General Plan can be screened (presumed to cause a less-than-significant impact) if

the project would generate fewer than 1,000 average daily trips (ADT), and projects not consistent with the City's General Plan can be screened if the project would generate fewer than 500 ADT. The City of Clovis and City of Fresno guidelines include analyses and statements indicating that projects that will generate or attract fewer than 500 vehicle trips per day are presumed to cause a less-than-significant VMT impact.

Based on all three of these documents, 500 trips per day is a reasonable threshold below which a proposed project will not cause a significant transportation impact.

The State of California Governor's Office of Planning and Research document entitled *Technical Advisory on Evaluating Transportation Impacts in CEQA* dated December 2018 (Technical Advisory) also provides guidance for determining a project's transportation impacts based on VMT. With respect to projects with more than one land use, the Technical Advisory states*: "Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail)."* Therefore, the residential and mini storage portions of the proposed Project will be discussed independently of other with respect to the VMT impact analysis.

Trip generation analyses for the Project were previously presented in report dated April 19, 2021. The analyses indicated that the residential portion of the proposed Project will generate 498 trips per day. Based on the guidance provided in the Technical Advisory and the significance criteria described above, the residential portion of the Project will cause a less-than-significant transportation impact.

The Technical Advisory states: "*Of land use projects, residential, office, and retail projects tend to have the greatest influence on VMT.*" Mini storage projects are not addressed in the Technical Advisory. Although a mini storage project does not fit the description of any of the three uses described above, it tends to resemble a local-serving retail use serving nearby residences more closely than it would resemble office or residential uses. The Technical Advisory states: "*By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact.*"

The proposed mini storage is a local-serving use and the trip generation analyses indicated that the mini storage portion of the proposed Project will generate 404 trips per day. Based on the guidance provided in the Technical Advisory and the significance criteria described above, the mini storage portion of the Project will cause a less-than-significant transportation impact.

Thank you for the opportunity to present this discussion of VMT. Please feel free to call our office if you have any questions.

PETERS ENGINEERING GROUP

John Rowland, PE, TE

551 TAFT HWY | BAKERSFIELD, CA 93307
Phone (661) 831-0989
Fax (661) 831-2820

May 10th, 2021

Marcus Rudnick, LLC
c/o Jim Marino
Marino and Associates
15905 Lakefield Drive
La Mirada, CA 90638

Re: Request for Water Service
APN 516-010-36
North East Corner of Berkshire Rd. and South H. St.
25.83 Acres +/-

Dear Mr. Marino,

You, on behalf of the owner, Marucs Rudnick, LLC, have requested a will-serve letter from Greenfield County Water District **(District)** for the parcel referenced above. Your February 22, 2021 letter indicates devlopement of approximately 25.83 gross acres for Low-to-Medium Density Residential and a commercial mini-storage with an anticipated water demand of 73 Equivalent Dwelling Units **(EDUs)**. The maximum anticipated water use is estimated to be 38.43 acre-feet per year **(AFY).**

The Low-to-Medium Density Residential area of approximately 9.65 acres will be developed to duplexes with an anticipated demand of 70 EDUs or about 36.85 AFY.

The commercial mini-storage area of approximately 12.22 acres will be used for an estimated 250,000 square feet of building space with an anticipated water demand of 3 EDUs or about 1.58 AFY.

Greenfield conditionally agrees to provide water service based on the information you have provided. The decision is conditioned on the accuracy of the information contained in your prior letter to the District and on the following:

1. Compliance with the District's rules, regulations, and policies.
2. Design, construction, and dedication of water distribution facilities in accordance with District criteria and standards in effect at the time of construction.

This letter does not create a binding contract and will be valid for two years from the date of issuance. Should the development require an increased water supply, please contact the District to discuss your specific needs at that time.

If we may be of further service, please feel free to call.

Sincerely,

Nick Cooper