CLERK USE ONLY
BOS ACTION
#____________

BOARD AGENDA FACT SHEET

Planning & Development Services Dept.
Department /Agency

August 27, 2024
Requested Board Date

1. Request:

Board Approval	XX	**Information Only/Presentation**	
Other (specify) __________		**Schedule Hearing Time: 11:00 A.M**	XX

2. Requested Action: *Type requested action below*

The Imperial County Planning & Development Services Department respectfully requests the Board of Supervisors conduct a public hearing to consider the following actions for the Cal 98 Charger Logistics project, a trucking and warehouse operation:

1. Approve or Deny the Resolution adopting the Mitigated Negative Declaration; and,
2. Adopt or Deny the Codified Ordinance, with Finding for Zone Change #23-0007 (Zone Change Ordinance 92503.05); and,
3. Approve or Deny Conditional Use Permit #23-0027.

3. **Cost $** 0 **Source:** N/A

4. **If approval of Contract, reviewed/approved by County Counsel on:** N/A

   By: *N/A* **Action Request: #** N/A
   Assigned by County Counsel's Office

5. **If approval of position allocation change, approved by Human Resources on:** N/A

   By: N/A

6. **Electronic copy submittal date:** August 06, 2024 **By:** Valerie Grijalva, Office Supervisor II

____
Department Head/Agency Representative

INSTRUCTIONS: ***Back-up must be submitted 11 BUSINESS days prior to requested date. Back-up submitted must contain an Original and 6 copies. Copies must be submitted double sided and three (3) hole punched. Back-up must be submitted in a PDF format to cobstaff@co.imperial.ca.us.***

CEO/CLERK USE ONLY:

DATE STAMP

BOARD DATE: __________

Action _____ **Filing** _____

Consent _____ **Presentation** _____

Hearing _____ **CEO Approval** _____

Other (specify) __________

__________ *CEO* __________ *Date*

TO: Board of Supervisors August 27, 2024

FROM: Jim Minnick, Director of Planning & Development Services M/O______

SUBJECT: **Cal 98 Holdings / Cal 98 Charger Logistics – Mitigated Negative Declaration, Zone Change #23-0007, and Conditional Use Permit #23-0027**

Dear Board Members:

REQUESTED ACTION:

The Imperial County Planning & Development Services Department respectfully requests the Board of Supervisors conduct a public hearing to consider the following actions for the Cal 98 Charger Logistics project, a trucking and warehouse operation:

1. Approve or Deny the Resolution adopting the Mitigated Negative Declaration; and,

2. Adopt or Deny the Codified Ordinance, with Finding for Zone Change #23-0007 (Zone Change Ordinance 92503.05); and,

3. Approve or Deny Conditional Use Permit #23-0027.

BACKGROUND:

The project site is approximately 47 acres located at 15 E. Hwy-98 (SR-98) Calexico, CA 92231, and is identified as Assessor Parcel Number 058-180-001-000 (see Attachment "A" Site Vicinity Map).

The project proposes Zone Change #23-0007 from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) as well as Conditional Use Permit #23-0027 to construct and operate a trucking and warehousing operation that will consist of a warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. The proposed hours for the trucking and warehousing operation are 8 am – 9 pm with a proposed total of 100 trucks per day coming to and from the site and 20 onsite employees.

Access to the property will consist of onsite improvement on the west side of the property to create a north and south lane onto Dogwood Road and a left turn only lane on to SR-98 with no right turn on to eastbound SR-98 proposed. Additionally, a left turn lane for passenger vehicles is proposed on westbound SR-98 on to Kemp Road which is on the eastern side of the project. Kemp Road will also be required to be paved based on Imperial County specifications. A right turn lane onto Cole Rd. at the Dogwood Rd. intersection and a left turn lane onto Dogwood Rd. at the same intersection will be required as conditioned by Public Works.

Environmental Review:

The proposed project was environmentally assessed and reviewed by the Environmental Evaluation Committee and recommended a Mitigated Negative Declaration. The Mitigated Negative Declaration was publicly circulated from March 26, 2024, to April 30, 2024.

Summary:

The Planning staff is available to answer any questions you may have.

Thank you.

A. Vicinity Map
B. Site Plan
C. Mitigated Negative Declaration CEQA Resolution/MMRP
D. Zone Change #23-0007 Ordinance
E. Conditional Use Permit #23-0027 Resolution/CUP
F. PC Package dated July 10, 2024

cc: Miguel Figueroa, County Executive Officer
Eric Havens, County Counsel
Jim Minnick, Director of ICPDS
Michael Abraham, AICP Assistant Director of ICPDS
Diana Robinson, Planning Division Manager
File:

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ATTACHMENT "A"

Vicinity Map

PROJECT LOCATION MAP

CAL 98 HOLDINGS
ZC #23-0007 / CUP #23-0027
IS #23-0033
APN 058-180-001

Project Parcels
Centerline

N

ATTACHMENT "B"

Site Plan

PARKING COUNT:
TRAILER PARKING: 832 SPACES
TRUCK PARKING: 20 SPACES
CAR PARKING: 42 SPACES
2 ADA SPACES

KEY PLAN

1 SITE PLAN
SCALE: 1" = 80'-0"

PEARL CONTRACTING

SITE PLAN
CHARGER LOGISTICS
CALEXICO CA

A1.1

ATTACHMENT “C”

MND CEQA

Resolution/MMRP/Health Risk Assessment

RESOLUTION NO. ________

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL, CALIFORNIA, ADOPTING THE "MITITGATED NEGATIVE DECLARATION" FOR ZONE CHANGE #23-0007 AND CONDITIONAL USE PERMIT #23-0027 (TRUCKING AND WAREHOUSE FACILITY).

WHEREAS, on March 1, 2024, a Public Notice was mailed to the surrounding property owners advising them of the Environmental Evaluation Committee hearing scheduled for March 14, 2024; and

WHEREAS, a Mitigated Negative Declaration and CEQA findings were prepared in accordance with the requirements of the California Environmental Quality Act, State Guidelines, and the County's "Rules and Regulations to Implement CEQA, as Amended"; and

WHEREAS, on July March 14, 2024, the Environmental Evaluation Committee recommended to the Planning Commission of the County of Imperial to adopt the Mitigated Negative Declaration for Zone Change #23-0007 and Conditional Use Permit #23-0027; and

WHEREAS, the Negative Declaration was circulated for 30+ days from March 26, 2024 to April 30, 2024; and

WHEREAS, the **BOARD OF SUPEVISORS** for the County of Imperial has been has the responsibility of adoptions and certifications; and,

NOW, THEREFORE, the Board of Supervisors of the County of Imperial **DOES HEREBY RESOLVE** as follows:

The Board of Supervisors has reviewed the attached Mitigated Negative Declaration (ND) prior to approval of Zone Change #23-0007 and Conditional Use Permit #23-0027. The Board of Supervisors finds and determines that the Mitigated Negative Declaration is adequate and prepared in accordance with the requirements of the Imperial County General Plan and Land Use Ordinance, and the California Environmental Quality Act (CEQA), which analyzes the project's environmental effects, based upon the following findings and determinations:

1. That the recital set forth herein are true, correct, and valid; and,
2. That the Board of Supervisors has reviewed the attached Mitigated Negative Declaration (ND) for Zone Change #23-0007 and Conditional Use Permit #23-0027 and considered the information contained in the Mitigated Negative Declaration together with all comments received during the public review period and prior to the approving of the Zone Change and Conditional Use Permit; and,
3. That the Mitigated Negative Declaration reflects the Board of Supervisors independent judgment and analysis.

NOW, THEREFORE, the County of Imperial Board of Supervisors **DOES HEREBY ADOPT** the Mitigated Negative Declaration for **Zone Change #23-0007** and **Conditional Use Permit #23-0027**.

Luis A. Plancarte, Chairman
Imperial County Board of Supervisors

I hereby certify that the preceding resolution was taken by the Board of Supervisors at a meeting conducted on August 13, 2024, with the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

Blanca Acosta
Clerk of the Board of Supervisors

MITIGATION, MONTORING AND REPORTING PROGRAM

MITIGATION MEASURES
PURSUANT TO THE ENVIRONMENTAL EVALUATION COMMITTEE
March 14, 2024
Cal 98 Holdings
[ZC #23-0007-CUP #23-0027]

(APN 058-180-001-000)

(CEQA – Mitigated Negative Declaration)

Pursuant to the review and recommendations of the Imperial County Environmental Evaluation Committee (EEC) on March 14, 2024, the following Mitigation Measures are hereby proposed for the project:

MITIGATION MEASURE 1 BIOLOGICAL (a)[1] [2]

MM BIO-[A]: Assessment of Biological Resources:

Prior to Project construction activities, a complete and recent inventory of rare, threatened, endangered, and other sensitive species located within the Project footprint and within offsite areas with the potential to be affected, including California Species of Special Concern (CSSC) and California Fully Protected Species (Fish and Game Code § 3511), has been completed. Species were addressed that include all those which meet the CEQA definition (CEQA Guidelines § 15380). A qualified biologist will complete an initial take avoidance survey no more than 30 days or less than 14 days; and within 24 hours prior to ground disturbance activities and notify CDFW if any sensitive species are observed.

(Monitoring Agency: Imperial County Planning & Development Services Department; Timing: Prior to construction)

MM BIO-[B]: Focused and Pre-Construction Surveys for Burrowing Owl:

BUOW Potential for Occurrence Low on site but burrowing possible in water conveyance system (canals/drains). Those systems belong to the IID and BUOWs found on IIDROW are the responsibility of the IID (Quantified Settlement Agreement (QSA) requirement. Suitable burrowing owl foraging habitat has been confirmed on the site; therefore, a qualified biologist will complete an initial take avoidance survey no more than 30 days or less than 14 days; and within 24 hours prior to ground disturbance activities using the recommended methods described in the Detection Surveys section above. Implementation of avoidance and minimization measures would be triggered by positive owl presence on the site where project activities will occur. The development of avoidance and minimization approaches would be informed by monitoring the burrowing owls prior to vegetation removal or ground-disturbing activities. If burrowing owls are detected during the focused take avoidance preconstruction surveys, the qualified biologist and Project proponent shall prepare a Burrowing Owl Plan that shall be submitted to CDFW for review and approval prior to commencing Project activities. The Burrowing Owl Plan shall describe proposed avoidance, monitoring, relocation, minimization, and/or mitigation actions. The Burrowing Owl Plan shall include the number and location of occupied burrow sites, acres of burrowing owl habitat that will be impacted, details of site monitoring, and details on proposed buffers and other avoidance measures if avoidance is proposed. If impacts to occupied burrowing owl habitat or burrow cannot be avoided, the Burrowing Owl Plan shall also describe minimization and compensatory mitigation actions that will be implemented. Proposed implementation of burrow exclusion and closure should only be considered as a

[1] A,B,C,D, & G - Barrett Biological Enterprises response to CDFW MND comment letter dated: May 16, 2024
[2] E & F - California Department of Fish and Wild MND comment letter dated: April 26, 2024

last resort, after all other options have been evaluated as exclusion is not in itself an avoidance, minimization, or mitigation method and has the possibility to result in take. The Burrowing Owl Plan shall identify compensatory mitigation for the temporary or permanent loss of occupied burrow(s) and habitat consistent with the "Mitigation Impacts" section of the 2012 Staff Report and shall implement CDFW-approved mitigation prior to initiation of Project activities. If impacts to occupied burrows cannot be avoided, information shall be provided regarding adjacent or nearby suitable habitat available to owls. If no suitable habitat is available nearby, details regarding the creation and funding of artificial burrows (numbers, location, and type of burrows) and management activities for relocated owls shall also be included in the Burrowing Owl Plan. The Project proponent shall implement the Burrowing Owl Plan following CDFW review and approval.

(Monitoring Agency: Imperial County Planning & Development Services Department; Timing: Focused surveys: Prior to the start of Project-related activities. Preconstruction surveys: No more than 30 days or less than 14 days prior to start of Project-related activities and within 24 hours prior to ground disturbance)

MM BIO-[C]: Nesting Birds

Regardless of the time of year, nesting bird surveys shall be performed by a qualified avian biologist no more than 3 days prior to vegetation removal or ground-disturbing activities. Pre- construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the pre-construction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Construction activities may not occur inside the established buffers, which shall remain on site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance after concurrence with CDFW.

(Monitoring Agency: Imperial County Planning & Development Services Department; Timing: No more than 3 days prior to vegetation clearing or ground-disturbing activities)

MM BIO-[D]:

This project is located entirely on agricultural land. The vacant undisturbed portion of the property to the south will not be utilized and will be left as vacant undisturbed land. None of the following Lake and Stream Alteration activities will occur:

- **Divert or obstruct the natural flow of any river, stream, or lake;**
- **Change the bed, channel, or bank of any river, stream, or lake;**
- **Use material from any river, stream, or lake; or**
- **Deposit or dispose of material into any river, stream, or lake.**

MM BIO-[E]: Construction Noise

During all Project construction, Imperial County shall restrict use of equipment to hours least likely to disrupt wildlife (e.g., not at night or in early morning) and restrict use of generators except for temporary use in emergencies. Power to sites can be provided by solar PV (photovoltaic) systems, cogeneration systems (natural gas generator), small micro-hydroelectric systems, or small wind turbine systems. Imperial County shall ensure the use of noise suppression devices such as mufflers or enclosures for

generators. Sounds generated from any means must be below the 55-60 dB range within 50-feet from the source.
(Monitoring Agency: Imperial County Planning & Development Services Department; Timing: During project construction.)

MM BIO-[F]: Artificial Nighttime Lighting

During Project construction and operations over the lifetime of the Project, Imperial County shall eliminate all nonessential lighting throughout the Project area and avoid or limit the use of artificial light at night during the hours of dawn and dusk when many wildlife species are most active. Imperial County shall ensure that all lighting for the Project is fully shielded, cast downward and away from surrounding open-space areas, reduced in intensity to the greatest extent, and does not result in lighting trespass including glare into surrounding areas or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). Imperial County shall ensure use of LED lighting with a correlated color temperature of 3,000 Kelvins or less, proper disposal of hazardous waste, and recycling of lighting that contains toxic compounds with a qualified recycler.

(Monitoring Agency: Imperial County Planning & Development Services Department; Timing: During project construction and operation.)

MM BIO-[G]: Worker Education Program

Permittee shall conduct an education program for all persons employed or otherwise working on the Project prior to performing any work on-site. The education program shall consist of a presentation from a Designated Biologist or safety manager with access to the Designated Biologist that includes a brief discussion of the biology of the habitats and species identified in this letter expected and present at this site. The Designated Biologist or safety manager with access to the Designated Biologist shall also include as part of the education program a brief discussion information about the distribution and habitat needs of any protected species that may be present, legal protections for those species, penalties for violations, and Project-specific protective measures included in this Agreement. Interpretation shall be provided for non-English- speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. The Permittee shall prepare and distribute wallet-sized cards or a fact sheet that contains this information for workers to carry on-site. Upon completion of the education program, employees shall sign a form stating they attended the education program and understand all protection measures. These forms shall be filed at the worksite offices and be available to CDFW upon request. The education program shall be repeated annually for part of the Project extending more than one (1) year. Copies of the education program materials shall be maintained at the Project site for workers to reference as needed.

Permittee shall include a brief invasive species education program for all persons working on the Project prior to the performing any work on-site. The education program shall consist of a presentation from a Designated Biologist or safety manager with access to the Designated Biologist that includes a brief discussion of the invasive species currently present within the Project site as well as those that may pose a threat to or have the potential to invade the Project site. The brief discussion shall include a physical description of each species and information regarding their habitat preferences, local and statewide distribution, modes of dispersal, and impacts. The education program shall also include a brief discussion of Best Management Practices (BMPs) to be implemented at the Project site to avoid the introduction and spread of invasive species into and out of the Project site. Note: the WEAP presentation shall not exceed 15-20 minutes.

(Monitoring Agency: Imperial County Planning & Development Services Department; Timing: Prior to project construction.)

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environmental•management•planning

MEMO

TO:	Tom Dubose, DuBose Design Group Inc.
FROM:	Michael B. Rogozen, D. Env., UltraSystems Environmental Incorporated Bill Piazza, Air Quality Dynamics
DATE:	January 31, 2023
PROJECT #:	7189
RE:	Air Toxics Health Risk Assessment for Cal98 Charger Logistics Project, Calexico, California

1.0 BACKGROUND

This health risk assessment (HRA) was conducted in support of an initial study/mitigated negative declaration (IS/MND) to be prepared under the California Environmental Quality Act (CEQA). It covers a proposed warehouse facility on the southwest corner of the SR-98 and Kemp Road intersection in the County of Imperial. The Imperial County General Plan land use for the project site and its immediate surroundings is "Urban Area." The land northwest, west and southwest of the site is designated for agricultural land uses. Large residential neighborhoods are about 2,000 feet northeast and 1,500 feet southeast of the site. Scattered individual residences are nearer the site. The nearest one is about 32 feet due west. The facility will be visited about 12 hours per day by heavy duty diesel trucks. As the California Air Resources Board (ARB) has formally designated particulate emissions from diesel engines as a toxic air contaminant (TAC),[1] this HRA focuses on diesel particulate matter (DPM) emissions from diesel trucks used in freight service.

1.1 Proposed Project

The applicant, Cal98 RE Holdings Inc., proposes to build a project that includes 91,881 square feet (SF) of warehousing, 16,460 square feet of service space and 11,904 square feet of office space. Additionally, the project proposes to provide 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. Landscape improvements are also proposed onsite. Utility connections to water, sewer, and electricity would be constructed. The project proposes to provide warehousing, order fulfillment, logistics and transportation services. Trucks will travel to and from Mexico, San Diego, and Imperial County. Refer to **Figure 1.1-1**, **Figure 1.1-2** and **Figure 1.1-3**.

1 The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. Fact Sheet. California Air Resources Board, Sacramento, CA. October 1998. https://www.arb.ca.gov/toxics/dieseltac/factsht1.pdf.

Figure 1.0-1
REGIONAL LOCATION MAP

Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

Path: \\Gissvr\GIS\Projects\7189_Dubose_Calexico_AQ_GHG_HRA\MXDs\7189_Calexico_2_0_Regional_Location_2022_08_31.mxd
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community; Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community; UltraSystems Environmental, Inc. 2022

August 31, 2022

Scale: 1:950,400

N

0 7.5 15 Miles

0 8 16 Kilometers

Legend

Project Location

County Boundary

Cal98 Charger Logistics

Regional Location

UltraSystems

Figure 1.1-2
PROJECT LOCATION MAP

Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

Path: \\Gissvr\GIS\Projects\7189_Dubose_Calexico_AO_GHG_HRA\MXDs\7189_Calexico_3_0_Project_Location2_2022_08_31.mxd

August 31, 2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community; Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community; Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community; UltraSystems Environmental, Inc., 2022

Scale: 1:4,200

N

0 175 350 Feet

0 40 80 Meters

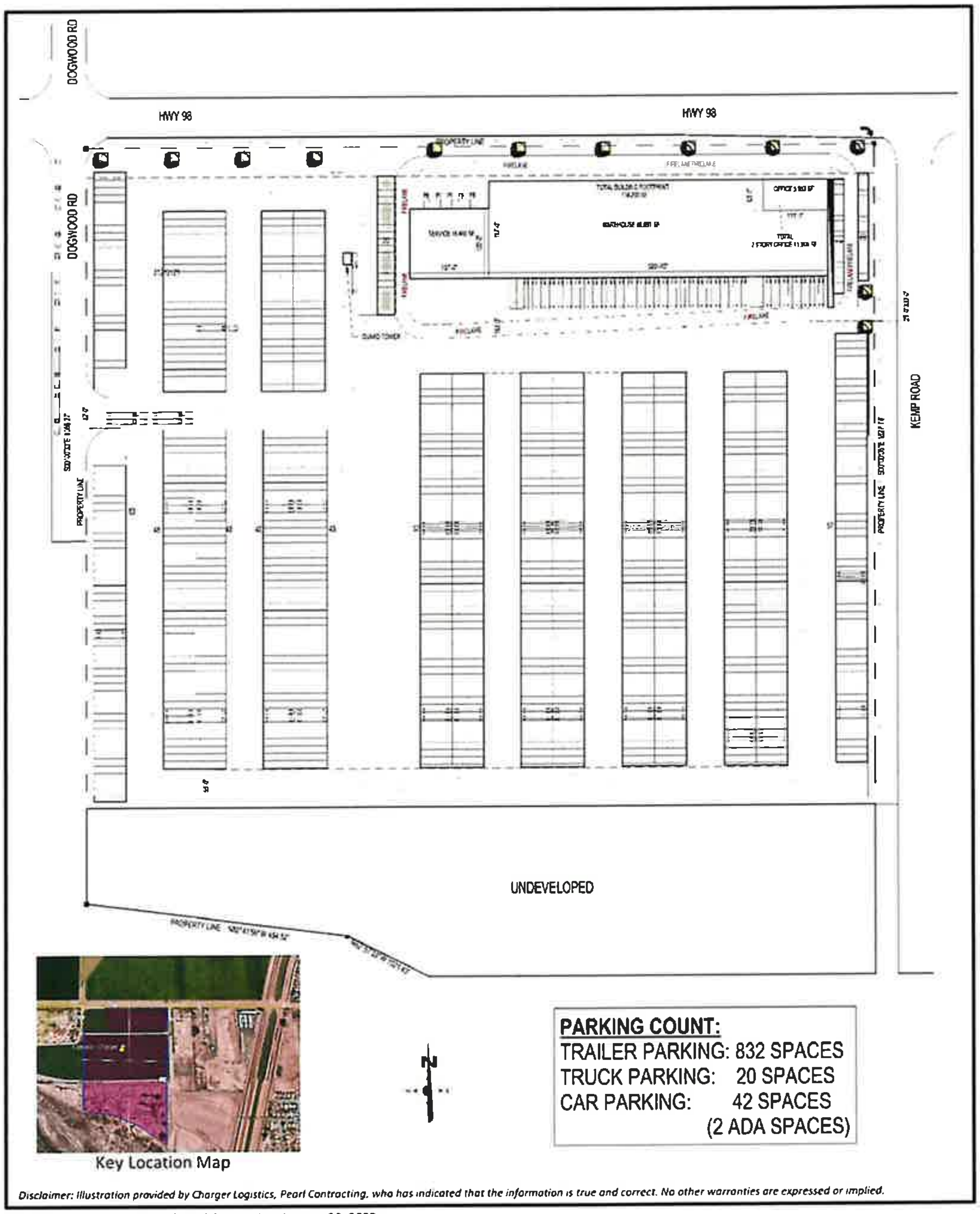
Legend

Project Boundary

Cal98 Charger Logistics

Project Location

<u>Figure 1.1-3</u>
PROJECT SITE PLAN



Source: Charger Logistics and Pearl Contracting, January 30, 2023.

Cal98 Charger Logistics

Site Plan

Access to the site would be via driveways off of Dogwood Road on the west (inbound) and Kemp Road on the east (outbound). Truck vehicle parking and queuing would be provided on the southern portion and the northwest corner of the site. The proposed building would be operational 12 hours per day, seven days per week. Operation of the proposed project would be conducted within the enclosed building, with the exception of truck traffic, parking, and loading/unloading of trucks onsite. The number of truck trips per day is estimated to be 200.[2] For the purpose of this HRA, 100 arrivals and 100 departures were assumed.[3] Although the traffic study estimated trips by employees, visitors and miscellaneous deliveries, none of these travel modes would use a significant amount of diesel fuel, the combustion of which is the only source of toxic air contaminants attributable to the project.

1.2 Scope of the Health Risk Assessment

The purpose of this HRA was to address partially question III.d of the CEQA Guidelines: "Would the project expose sensitive receptors to substantial pollutant concentrations?" Exposure of sensitive receivers to criteria pollutants is discussed in Section 4.5 of the corresponding Air Quality and Greenhouse Gas Emissions Study for this project.[4] This HRA expands the discussion to exposure to diesel exhaust, which has been determined by the State of California to be a toxic air contaminant.[5] HRAs frequently cover cancer risk and acute and chronic noncancer health hazards. As will be discussed below, this analysis was limited to cancer risk and chronic noncancer hazard. Reference exposure levels for DPM, which are used to compute noncancer hazards, are not available for acute exposure. The analysis included exposures during both project construction and operation. The objective was to determine whether the increase in maximum individual cancer risk (MICR) and maximum chronic noncancer hazard would exceed certain CEQA significance thresholds, which will be discussed later.

2.0 METHODS

2.1 Overview

The HRA generally followed procedures prescribed by air pollution control agencies for analyzing health risks from mobile source diesel idling and traveling emissions.[6] The analysis consisted of three steps:

- Estimation of emissions.
- Dispersion modeling to calculate ground-level concentrations of diesel particulate matter (DPM) in the vicinity of the site and along truck routes; and
- Calculation of individual cancer risk and chronic noncancer hazard.

---

2 Transportation Impact Analysis, Charger Logistics Cal-98 Holdings Project, County of Imperial, California. Prepared by Linscott Law & Greenspan, San Diego, CA, 3-22-3596. July 28, 2022, Table 7-1.

3 Estimation of truck trips is discussed further in **Section 2.2**.

4 Rogozen, M. and Shah, I., Air Quality and Greenhouse Gas Emissions Study for Cal98 Charger Logistics Project, Calexico, California. Prepared by UltraSystems Environmental Incorporated, Irvine, CA for DuBose Design Group, Inc., El Centro, CA. January 27, 2023.

5 The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. Fact Sheet. California Air Resources Board, Sacramento, CA. October 1998. https://www.arb.ca.gov/toxics/dieseltac/factsht1.pdf..

6 See, for example, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Idling Emissions for CEQA Air Quality Analysis. South Coast Air Quality Management District, Diamond Bar, CA. August 2003.

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2.2 Emissions Estimates

Following ARB guidance,[7] the analysis used particulate matter with an aerodynamic diameter less than 10 micrometers (PM_{10}) to represent DPM. This is a conservative approach, since about 90% of DPM emissions are actually less than 2.5 micrometers ($PM_{2.5}$),[8] and $PM_{2.5}$ emissions are always less than or equal to those of PM_{10}.

2.2.1 Construction Emissions

Construction emissions were estimated with the California Emission Estimator Model (CalEEMod), Version 2020.4.0.[9] Construction phase definitions and schedules, warehouse area, landscaping area, parking spaces and other site element data were obtained from the applicant. CalEEMod's default assumptions were used for other modeling parameters. Given the relatively low levels of diesel truck traffic during construction, only onsite emissions were included in this part of the HRA. Details of the CalEEMod inputs and emissions results are provided in **Attachment 1**. **Table 2.2-1** shows PM10 emissions by construction phase. Onsite construction work was assumed to last eight hours per day.

Table 2.2-1
CONSTRUCTION PM_{10} EMISSIONS USED IN DISPERSION MODEL

Phase	Year	Lb/day	No. days	Lb/hr	Grams/sec
Site Preparation	2023	1.2660	15	0.185	1.99×10^{-2}
Grading	2023	1.4245	15	0.178	2.24×10^{-2}
Building Construction	2023	0.6997	122	0.087	1.10×10^{-2}
Building Construction	2024	0.6133	4	0.767	9.66×10^{-3}
Paving	2024	0.4685	15	0.059	7.38×10^{-3}
Architectural Coatings	2024	0.0609	15	0.0076	9.59×10^{-4}
Source: CalEEMod and UltraSystems.					

2.2.2 Onroad Operational Emissions

2.2.2.1 Number of Daily Diesel Trucks

As noted in **Section 1.1**, the project's traffic study projected 100 incoming trucks and 100 outgoing trucks per day. The HRA considered four categories of freight trucks: two categories of light heavy duty (LHD); medium heavy duty (MHD); and heavy heavy duty (HHD). The fractional distribution of truck types was calculated from fleet distribution estimates in CalEEMod. **Table 2.2-2** shows the truck type definitions and percentages of the total traffic generated.

7 HARP Users Guide. Appendix K. Risk Assessment Procedures to Evaluate Particulate Emissions from Diesel-Fueled Engines. California Air Resources Board. 2003. https://www.arb.ca.gov/toxics/harp/docs/userguide/appendixK.pdf.

8 Overview: Diesel Exhaust and Health. California Air Resources Board. April 12, 2016. https://www.arb.ca.gov/research/diesel/diesel-health.htm.

9 BREEZE Software. User's Guide for CalEEMod Version 2020.4.0. Prepared for California Air Pollution Control Officers Association. May2021. Accessed online at http://www.aqmd.gov/docs/default-source/caleemod/user-guide-2021/01_user-39-s-guide2020-4-0.pdf?sfvrsn=6.

Table 2.2-2
DEFINITIONS AND DISTRIBUTIONS OF TRUCK CATEGORIES

Category	Axles	EMFAC2007 Class	Fraction of Total Heavy Duty Trucks[a]	No. Trucks Trips per Day
Light Heavy Duty	2	LHD1	0.1565	31
		LHD2	0.0494	10
Medium Heavy Duty	3	MHDT	0.1764	35
Heavy Heavy Duty	4 or more	HHDT	0.6177	124

[a]Fractions of total trucks calculated from fleet distribution projects by CalEEMod.

2.2.2.2 Onroad Emission Factors

Emission factors (in grams per vehicle-mile) for the four truck classes were obtained from the California Air Resources Board's (ARB's) mobile source emission factor model, EMFAC2021, Version 1.0.2.[10] EMFAC2021 input and output specifications[11] are shown in **Table 2.2-3**, and emission factors are shown in **Table 2.2-4**. The composite emission factors in **Table 2.2-4** are weighted averages, the weights being fleet fractions of the truck classifications.

Table 2.2-3
EMFAC2021 INPUT AND OUTPUT PARAMETERS

Input Parameter	Value(s)
Operational Year	2024
Geographic Area	Imperial (Salton Sea)
EMFAC2007 Class	LHDT1, LHDT2, MHD, HHD
Vehicle Speeds (miles/hour)	5, 10, 30, 35, 40, 65
Outputs	RUNEX (grams per vehicle-mile) IDLEX (grams per vehicle idle-hour)

Table 2.2-4
DIESEL TRUCK ONROAD EMISSION FACTORS

Speed (mph)	Emissions (g/mile) by Vehicle Class				
	LHD1	LHD2	MHD	HHD	Composite
5	0.1060	0.0862	0.0445	0.0131	0.0368
10	0.0859	0.0713	0.0367	0.0111	0.0303
30	0.0395	0.0341	0.0112	0.0069	0.0141
35	0.0330	0.0286	0.0101	0.0081	0.0134
40	0.0281	0.0243	0.0097	0.0103	0.0137
65	0.0257	0.0211	0.0167	0.0361	0.0303

Source: EMFAC2021m Version 1.0.2, UltraSystems.

10 https://arb.ca.gov/emfac/. Accessed January 12, 2023.
11 Definitions of EMFAC inputs and outputs are in EMFAC2021 Volume II-Handbook for Project-Level Analysis. California Air Resources Board, Air Quality Planning and Science Division, Mobile Source Analysis Branch, March 2021. Accessed at https://ww2.arb.ca.gov/sites/default/files/2021-03/emfac2021_volume_2_pl_handbook.pdf on January 12, 2023.

DPM emission rates were calculated for each of the volume sources used to represent truck travel (see **Section 2.3**). First, the local road network was divided into nine segments identified by the traffic study as being along arrival and/or departure routes.[12] From information in the traffic study, the ADT of truck traffic was determined for each segment. Truck emissions were calculated by:

g/day = (No. trucks)[Segment length (mi)][Emission factor (g/mi)]

This value was divided by the operating seconds per day, which is (12 hr/day)(3600 s/hr), to obtain emissions in grams per second for the segment. Finally, the segment-specific emissions were divided by the number of volume sources in the segment to obtain average daily grams per second per volume source.

2.2.3 Onsite Operational Emissions

For modeling purposes, it was assumed that each of the 100 incoming trucks per day would arrive on site, go to a loading dock, be unloaded and/or loaded, and depart from the site. The 100 trip cycles were distributed evenly from 9 a.m. to 9 p.m. Two types of emissions, transient travel onsite and truck idling, were calculated, combined and averaged over 136 volume sources distributed over the paved area of the project site.

2.2.3.1 Transient Travel Emissions

Trucks were assumed to spend 300 seconds per day for travel onto, on and off the project site, and to have an average speed of five miles per hour. An exhaust emission rate of 0.0368 gram per mile per vehicle was obtained from the aforementioned EMFAC 2021 analysis.[13] Calculation details are provided in **Attachment 2**. The total onsite emission rate for transient travel was calculated to be 1.45×10^{-5} gram per second. This value was divided by the number of volume sources to obtain an input to the dispersion modeling,

2.2.3.2 Truck Idling

Each of the 200 truck trips (combined in and out) was assumed to include 300 seconds of idling onsite. A weighted average of 0.191 gram per truck-idle hour, computed from the aforementioned EMFAC2021 run results,[14] was used. Calculation details are provided in **Attachment 2**. The total onsite emission rate for truck idling was calculated to be 7.37×10^{-5} gram per second. This value was divided by the number of volume sources to obtain an input to the dispersion modeling,

2.3 Dispersion Modeling

To assess the impact of DPM emissions, the American Meteorological Society (AMS)/U.S. Environmental Protection Agency (USEPA) Regulatory Model (AERMOD v22112) was used to estimate ambient pollutant concentrations at locations outside the project. AERMOD is a steady-state Gaussian plume model applicable to directly emitted air pollutants that employs best state-of-

12 Road segments lacking sensitive receptors were not included in the analysis, except where needed to define a continuous dispersion modeling receptor grid.

13 See **Table 2.2-4**.

14 Ibid.

practice parameterizations for characterizing meteorological influences and atmospheric dispersion. Separate AERMOD runs were performed for the project's construction and operation.

2.3.1 Construction

Source treatment outlined in the South Coast Air Quality Management District's Localized Significance Threshold (LST) methodology[15] was used. Exhaust emissions from construction equipment were treated as a set of side-by-side elevated volume sources with a release height of five meters and an initial vertical (sigma z) dimension of 1.4 meters. The elevated source characterization accounts for a mid-range plume rise height associated with exhaust stack emissions for typical off-road equipment. Horizontal (sigma y) parameters were produced by dividing source separation distances by a standard deviation of 2.15.

For efficiency in reporting modeling results, the onsite volume sources were divided into eight "source groups," which were placed inside four onsite polygons that defined specific areas of constructions. The schema is described in **Table 2.3-1**. Three of the four polygons were not simple rectangles, and had to be divided into two source groups each. Note that the building envelope consists of a polygon whose sides are five meters outside the boundaries of the building itself. The polygon was designed this way to recognize that many emissions come from equipment outside of, but near to, the building.

Table 2.3-1
ORGANIZATION OF CONSTRUCTION VOLUME SOURCES

Polygon Representing	Construction Activity	Source Group
Entire Site	Site Preparation	1
	Grading	2
Building Envelope	Building Construction	3
		4
Future Paved Area	Paving	5
		6
Building	Architectural Coating	7
		8

All volume sources have a square footprint. The length of the sides of the volume sources followed the Sacramento Metropolitan Air Quality Management District's recommendation of using a minimum of four volume sources per acre represented.[16] **Table 2.3-2** lists the source groups and their emissions characteristics.

15 Chico, T. and Koizumi, J. Final Localized Significance Threshold Methodology. South Coast Air Quality Management District, Diamond Bar, California, 2008. URL: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2.

16 Dispersion Modeling of Construction-Generated PM_{10} Emissions. Sacramento Metropolitan Air Quality Management District CEQA Guide, Revised July 2013, p.2. URL: https://www.airquality.org/LandUseTransportation/Documents/Ch3PMDispersionModelingGuidanceFINAL7-2013.pdf.

A model scalar value of 1 was assigned to account for emissions generated during construction related activity corresponding to 8 hours per day from 8 a.m. to 4 p.m. (ending hours 9 to 16). A scalar value of 0 was used for non-operational hours.

Table 2.3-2
SOURCE GROUP CHARACTERISTICS FOR CONSTRUCTION EMISSIONS MODELING

Source Group	Construction Phase	Number of Volume Sources	Emissions per Volume Source (g/s)
1	Site Preparation	168	1.19×10^{-4}
2	Grading	168	1.34×10^{-4}
3	Building Construction	4	4.02×10^{-4}
4		12	7.81×10^{-4}
5	Paving	55	5.12×10^{-5}
6		81	5.63×10^{-5}
7	Architectural Coating	4	3.42×10^{-5}
8		12	6.85×10^{-5}

Although the immediate surroundings of the project site are predominantly rural, residential neighborhoods of the city of Calexico are nearby on the east and similar neighborhoods in the Mexican city of Mexicali are nearby on the south. AERMOD requires specification of whether the modeling domain is "urban" or "rural." The USEPA's Guideline on Air Quality Models (40 CFR Part 51, Appendix W) has two alternative criteria for determining whether an area is urban. One is based on land use and the other on population density. As appropriate data for evaluating the former were unavailable, the latter criterion was used. An area is considered urban if the average population density (in persons per square kilometer) within a circle with a three-kilometer radius exceeds 750. Using U.S. Census data and information on population density within the circle and in Mexico,[17] we determined that the population density in the area is 361.4 persons per square kilometer, and thus classified as rural for the purpose of dispersion modeling.

To accommodate a Cartesian receptor grid format, direction dependent calculations were obtained by identifying the Universal Transverse Mercator (UTM) coordinates for each volume source location. UTM coordinates were also identified for sensitive receptors located immediately west and east of the Project site. Flagpole heights were not assigned. Terrain height adjustments accessed from the U.S. Geological Survey (USGS) one-third-arc-second database were incorporated into the modeling exercise to account for the discrepancy in source-receptor elevations.

Refined air dispersion models require meteorological information to account for local atmospheric conditions. Due to their sensitivity to individual meteorological parameters such as wind speed and direction, the U.S. Environmental Protection Agency recommends that meteorological data used as input into dispersion models be selected on the basis of relative spatial and temporal conditions that exist in the area of concern. In response to this recommendation, meteorological data from the Imperial County Airport monitoring station which is located approximately 11 miles northwest of

17 Diagnóstico del Contexto Socio-Demográfico del Área de Influencia del CIJ Mexicali. Estudio Básico de Comunidad Objetivo 2018. Centros de Integración Juvenil, A.C. URL: http://www.cij.gob.mx/ebco2018-2024/9661/9661CSD.html#:~:text=La%20densidad%20poblacional%20del%20municipio,y%20el%20pa%C3%ADs%20(Cuadro%201.4.

the Project site, were used to represent local weather conditions and prevailing winds.[18] For the assessment of DPM exposures, maximum concentrations were produced by incorporating all five years (i.e., 2015 through 2018 and 2021) of available data.

2.3.2 Operations

The dispersion modeling sources for project operations included both onsite truck movements and onroad travel to and from the site. For onsite sources, the volume source algorithm was utilized to model the emissions generated from transient semitrailer truck activity within the warehouse property boundary. Vertical (sigma z) dispersion parameters and source release heights were based upon the *Risk Characterization Scenarios* published by the California Air Resources Board for the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.*[19] The horizontal (sigma y) parameters were generated by dividing the source separation distance by a standard deviation of 2.15. All of the onsite emissions were assumed to occur in the polygon associated with paving in the construction analysis described in **Section 2.3.1**. The volume sources were the same as defined as Source Groups 5 and 6 in **Table 2.3-2**.

The volume source algorithm was additionally utilized to model offsite emissions generated from semitrailer trucks traveling to and from the project site and were represented as adjacent (exact) sources commensurate with the width of the identified roadway segments. Vertical (sigma z) dispersion parameters were developed for each source location by approximating mixing zone residence time and quantifying the initial vertical term as performed in the California Line Source Dispersion Model Caline3. The horizontal (sigma y) parameters were generated by dividing the source separation distance by a standard deviation of 2.15.

The project traffic impact analysis estimates the likely routes for both incoming and outgoing traffic, along with the percentages of total traffic that would travel along specified road segments.[20] The project expects that 65 percent of the inbound trips will be from Mexico, 15 percent will be from San Diego and 20 percent will be from Imperial County north of the project site. Thirty percent of the outbound trips will be to Mexico, 50 percent will be to San Diego and 20 percent will be to Imperial County.[21] **Figure 2.3-1** shows the road segments used in the dispersion modeling and **Table 2.3-3** gives information about the volume sources. For all segments, the sides of the volume source footprints are equal to the average roadway widths.

2.3.3 Receptor Designation

For the construction risk analysis and hazard assessment, AERMOD was run for the two sensitive receptors nearest the project site. The Zone 11 Universal Trans Mercator (UTM) coordinates of these locations are shown in **Table 2.3-4**. For the operational risk analysis and hazard assessment, a cartesian grid with 65-meter spacing was used.

---

18 Preprocessed meteorological data for use with AERMOD were obtained from the California Air Resources Board. URL: https://ww2.arb.ca.gov/resources/documents/harp-aermod-meteorological-files.

19 Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. California Air Resources Board, Stationary Source Division, Mobile Source Control Division, October 2000. URL: https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rrpfinal.pdf.

20 Transportation Impact Analysis, Charger Logistics Cal-98 Holdings Project, County of Imperial, California. Prepared by Linscott Law & Greenspan, San Diego, CA, 3-22-3596. July 28, 2022, Figure 7-1.

21 Ibid., p. 17.

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Figure 2.3-1
ROAD SEGMENTS FOR DISPERSION MODELING OF OPERATIONAL EMISSIONS

Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

Path: \\gissvr\GIS\Projects\7189_Dubose_Calexico_AQ_GHG_HRA\MXDs\7189_Calexico_2_3_1_Emissions_Vol_Source_2023_01_25.mxd
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, UltraSystems Environmental, Inc. 2023

January 25, 2023

Scale: 1:36,000

N

0 1,500 3,000 Feet

0 500 1,000 Meters

Legend

- Project Boundary
- Onroad
- Onsite

Cal98 Charger Logistics

Volume Source Groups
For Dispersion Modelling
of Project Operations

UltraSystems

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Table 2.3-3

SOURCE GROUP CHARACTERISTICS FOR OPERATIONAL EMISSIONS MODELING

Source Group[a]	Location	Width (m)	Length (m)	Number of Volume Sources	Emissions per Volume Source (g/s)
ONTRUCKS1	Onsite travel and idling	N/A[b]	N/A	55	1.01×10^{-6}
ONTRUCKS2	Onsite travel and idling	N/A	N/A	81	1.10×10^{-6}
ROADA	SE 98 west of Dogwood Road	8	304	38	7.19×10^{-8}
ROADB	SR 98 between north portal and Dogwood Road	7.2	144	20	1.84×10^{-7}
ROADC	SR 98 between north portal and Kemp Road	7.2	252	35	2.89×10^{-8}
ROADD	Kemp Road between east portal and SR 98	13.5	94.5	7	2.97×10^{-7}
ROADE1	SR 98 between Kemp Road and SR 111	11.2	2,012	180	1.53×10^{-7}
ROADE2	SR 98 between Kemp Road and SR 111	24.4	462.8	19	3.34×10^{-7}
ROADE3	SR 98 between Kemp Road and SR 111	21.4	342.4	16	2.94×10^{-7}
ROADF	Dogwood Road between W. Cole Road and SR 98	7.2	1,600.0	221	1.19×10^{-7}
ROADG	W Cole Road between SR 111 and Dogwood Road	7.2	3,229.0	446	1.19×10^{-7}
ROADH	SR 111 between W Cole Road and SR 98	30.8	1,603.7	52	9.36×10^{-7}
ROADJ	W. Cole Road between SR 111 and SR 98	17.2	3,164,8	184	3.14×10^{-7}

[a]There is no Source Group ROADI.
[b]N/A = not applicable.

Table 2.3-4

UTM COORDINATES OF RESIDENTIAL RECEPTORS FOR CONSTRUCTION ANALYSIS

No.	Description	Zone	Easting	Northing
1	Residence west of project site	11	637,446.95	3,616,634,52
2	Residence east of project site	11	638,084.00	3,616,656.00

2.4 Risk Calculations

2.4.1 Cancer Risk

Carcinogenic compounds are not considered to have threshold levels (i.e., dose levels below which there are no risks). Any exposure, therefore, will have some associated risk. As a result, the State of California has established a threshold of one in one hundred thousand (1.0×10^{-5}) as a level posing no significant risk for exposures to carcinogens regulated under the Safe Drinking Water and Toxic Enforcement Act (Proposition 65).

Health risks associated with exposure to carcinogenic compounds can be defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. Under a deterministic approach (i.e., point estimate methodology), the cancer risk probability is determined by multiplying the chemical's annual concentration by its unit risk factor (URF). The URF is a measure of the carcinogenic potential of a chemical when a dose is received through the inhalation pathway. It represents an upper bound estimate of the probability of contracting cancer as a result of continuous exposure to an ambient concentration of one microgram per cubic meter ($\mu g/m^3$) over a 70-year lifetime. The URF and corresponding cancer potency factor for DPM utilized used in this assessment was obtained from the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values*.[22]

Current regulatory agency guidance was reviewed to determine applicability of the use of early life exposure adjustments to identified carcinogens. For risk assessments conducted under the auspices of The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, Connelly, Statutes of 1987; Health and Safety Code Section 44300 et seq.) a weighting factor is applied to all carcinogens regardless of purported mechanism of action. Notwithstanding, applicability of AB 2588 is limited to commercial and industrial operations. Two broad classes of facilities are subject to the AB 2588 program: core facilities and facilities identified within discrete industry-wide source categories. Core facilities subject to AB 2588 compliance are sources whose criteria pollutant emissions (particulate matter, oxides of sulfur, oxides of nitrogen and volatile organic compounds) are 25 tons per year or more as well as those whose criteria pollutant emissions are 10 tons per year or more but less than 25 tons per year. Industry-wide source facilities are classified as smaller operations with relatively similar emission profiles (e.g., auto body shops, gas stations and dry cleaners using perchloroethylene). The off-road source emissions generated by the construction or operations of the proposed project are below the thresholds for core operations and industry-wide source evaluation. Therefore, AB2588 requirements do not apply.

In light of this, the HRA relied upon USEPA guidance relating to the use of early life exposure adjustment factors (*Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens*, EPA/630/R-003F), whereby adjustment factors are only considered when carcinogens act "through the mutagenic mode of action." In 2006, the USEPA published a memorandum which provides guidance regarding the preparation of health risk assessments should carcinogenic compounds elicit a mutagenic mode of action.[23] In the technical memorandum, numerous compounds were identified as having a mutagenic mode of action. For DPM, polycyclic aromatic hydrocarbons (PAHs) and their derivatives, which are known to exhibit a mutagenic mode of action, comprise less than one percent of the exhaust particulate mass. To date, the USEPA has not reported that whole diesel engine exhaust has not been shown to elicit a mutagenic mode of action.

22 Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. California Air Resources Board. December 9, 2022. URL: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/healthval/contable12092022.pdf.

23 Implementation of the Cancer Guidelines and Accompanying Supplemental Guidance - Science Policy Council Cancer Guidelines Implementation Workgroup Communication II: Performing Risk Assessments that include Carcinogens Described in the Supplemental Guidance as having a Mutagenic Mode of Action. Memorandum from W.H. Farland, U.S. Environmental Protection Agency, Office of the Science Advisor to Science Policy Council. June 14, 2006. URL: https://www.epa.gov/sites/default/files/2015-01/documents/cgiwg-communication_ii.pdf.

Additionally, the California Department of Toxic Substances Control (DTSC), which is responsible for assessing, investigating and evaluating sensitive receptor populations to ensure that properties are free of contamination or that health protective remediation levels are achieved, has adopted the aforementioned USEPA policy in the application of early life exposure adjustments. Therefore, incorporation of early life exposure adjustments for exposures to DPM emissions in the quantification of carcinogenic risk for construction of the proposed project was not considered in this HRA.

To quantify dose, the procedure requires the incorporation of several discrete exposure variates. To account for upper bound exposures associated with residential occupancies, lifetime risk values were adjusted to account for an exposure frequency of 350 days per year for a period of 30 years (i.e., 0.25 year for the third trimester, 2 years for ages 0 to 2 years, 14 years for ages 2 to 16 years and 14 years for ages 16 to 30 years). Point estimates for daily breathing rates representing the 95th percentile of 361, 1090, 745 and 335 liter per kilogram-day for the identified age groups were utilized and incorporated into the following dose algorithm

$$Dose_{air} = C_{air} \times \{BR/BW\} \times A \times EF \times 10^{-6}$$

where:

$Dose_{air}$	=	*dose through inhalation (mg/kg/day)*
C_{air}	=	*concentration of contaminant in air (µg/m³)*
$\{BR/BW\}$	=	*daily breathing rate normalized to body weight (L/kg body weight/day)*
A	=	*inhalation absorption factor (unitless)*
EF	=	*exposure frequency (days/365 days)*
10^{-6}	=	*micrograms to milligrams conversion*

The above inhalation dose estimates and residential fractional adjustments (i.e., 0.85 for the third trimester and ages 0 to 2 years, 0.72 for ages 2 to 16 years and 0.73 for ages 16 to 30 years) were incorporated into the following equation to produce carcinogenic risk estimates for ages commensurate with the reported exposure durations.

$$Risk_{inh} = Dose_{air} \times CPF \times ED/AT \times FAH$$

where:

$Risk_{inh}$	=	*inhalation cancer risk*
$Dose_{air}$	=	*daily inhalation dose (mg/kg/day)*
CPF	=	*inhalation cancer potency factor ($mg/kg/day^{-1}$)*
ED	=	*exposure duration for specified age group (years)*
AT	=	*averaging time (years)*
FAH	=	*fraction of time at home (unitless)*

2.4.2 Noncancer Risk

An evaluation of the potential noncancer effects of DPM exposure was also conducted. Under the point estimate approach, adverse health effects are evaluated by comparing the pollutant concentration with the appropriate Reference Exposure Level (REL). The chronic REL presented in the Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values was considered in the assessment. There are no available acute/8-hour reference exposure levels for DPM.

To quantify noncarcinogenic impacts, the hazard index approach was used. The hazard index assumes that subthreshold exposures adversely affect a specific organ or organ system (i.e., toxicological endpoint). For DPM, the respiratory system is the only reported target organ. To calculate the hazard index, the pollutant concentration or dose is divided by its toxicity value. Should the total equal or exceed one (i.e., unity), a health hazard is presumed to exist. No exposure frequency or duration adjustments are considered for noncarcinogenic exposures.

3.0 RESULTS AND DISCUSSION

3.1 Construction Risk

Table 3.1-1 summarizes the results of the modeling and cancer risk calculation. It is clear that the maximum residential exposure is below the threshold of 10 in one million.

Table 3.1-1
MAXIMUM INDIVIDUAL CANCER RISK RESULTS FOR CONSTRUCTION

Receptor	Cancer Risk per Million		
	Third Trimester	0 – 2 Years	Total
Western	0.0025	0.0050	0.0075
Eastern	0.0013	0.0060	0.0073

Table 3.1-2 summarizes the results of the modeling and noncancer hazard calculation. It is clear that the maximum residential exposure is below the hazard index threshold of 1.0.

Table 3.1-2
MAXIMUM CHRONIC NONCANCER HAZARD RESULTS FOR CONSTRUCTION

Receptor	Chronic Noncancer Hazard Index		
	Third Trimester	0 – 2 Years	Total
Western	0.0060	0.0022	0.0082
Eastern	0.0031	0.0026	0.0058[a]
[a]The age-specific hazard indexes were rounded; the total for the eastern sensitive receiver is the sum of two unrounded values.			

3.2 Operational Risk

The location of maximum cancer risk and chronic noncancer hazard was determined to be UTM Zone 11 637,963E, 3,616,468N. This point is shown in **Figure 3.1-1**. **Table 3.1-3** summarizes the results of the modeling and cancer risk calculation. **Figure 3.1-1** shows the isopleth for the one in 10 million cancer risk. It is clear that the maximum residential exposure is below the threshold of 10 in one million

The modeling and chronic noncancer hazard calculation determined that the maximum hazard index would be **4.3×10^{-4}**, which is far below the significance threshold of 1.0.

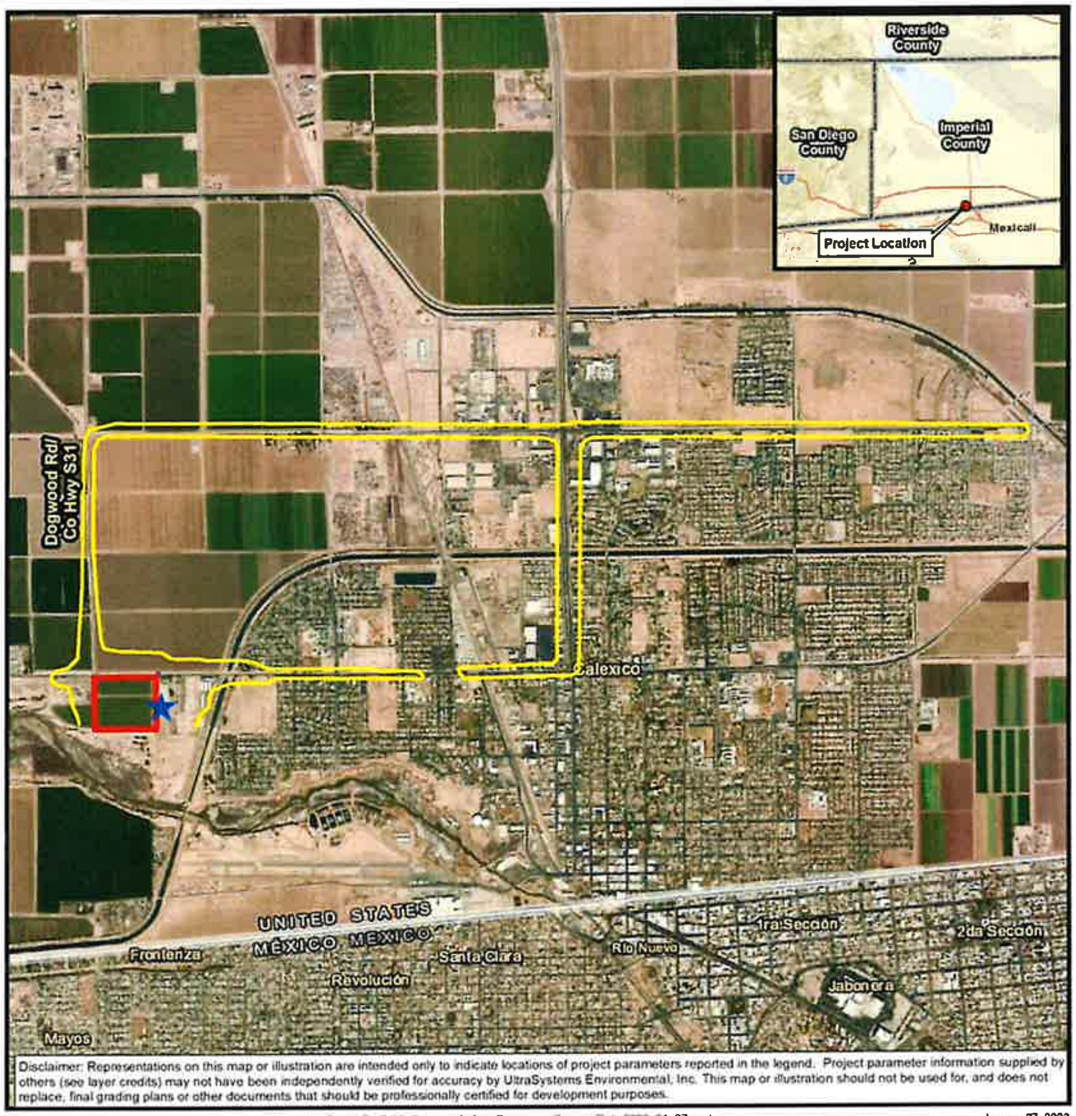
Table 3.1-3

MAXIMUM INDIVIDUAL CANCER RISK RESULTS FOR OPERATIONS

Receptor	Cancer Risk per Million			
	Third Trimester	0 - 2 Years	16 - 30 Years	Total
Maximum	0.0024	0.058	0.23	0.4

Figure 3.1-1

ISOPLETH OF ONE IN TEN MILLION CANCER RISK



Path: \\gissvr\GIS\Projects\7189_Dubose_Calexico_AQ_GHG_HRA\MXDs\7189_Calexico_2_3_1_Emissions_Cancer_Risk_2023_01_27.mxd

January 27, 2023

Service Layer Credits. Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, UltraSystems Environmental, Inc., 2023

Scale: 1:36,000

N

0 1,500 3,000 Feet

0 500 1,000 Meters

Legend

- Project Boundary
- Point of Maximum Carcinogenic Risk
- One in Ten Million Cancer Risk

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Isopleth of One in Ten Million Cancer Risk

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ATTACHMENTS

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7189/ Calexico Warehouse

Imperial County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	5.95	1000sqft	0.14	11,904.00	0
Refrigerated Warehouse-No Rail	108.34	1000sqft	2.49	108,341.00	0
Parking Lot	894.00	Space	8.05	357,600.00	0
City Park	0.37	Acre	0.37	16,117.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Office building is inside main building; 2 stories
"City Park" = landscaping

Construction Phase - Start- Q2 (June) 2023
End- Q1 (Feb) 2024

On-road Fugitive Dust - 100% paved roads

Grading -

Architectural Coating - Imperial County Air Pollution Control District Rule 424, Table 424-2. Parking lot coatings assumed to be "traffic marking coatings"

Road Dust - paved 100%

Area Coating - Coating emission factors per ICAPCD Rule 424, Table 424-2

Construction Off-road Equipment Mitigation -

Vehicle Trips - No trips generated by landscaping

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	100
tblAreaCoating	Area_EF_Nonresidential_Interior	150	50
tblAreaCoating	Area_EF_Parking	150	100
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintParkingValue	150	100
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	30.00	15.00
tblConstructionPhase	NumDays	300.00	126.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	PhaseEndDate	6/28/2023	6/21/2023
tblConstructionPhase	PhaseEndDate	8/9/2023	7/12/2023
tblConstructionPhase	PhaseEndDate	10/2/2024	1/4/2024
tblConstructionPhase	PhaseEndDate	10/30/2024	1/25/2024
tblConstructionPhase	PhaseEndDate	11/27/2024	2/15/2024
tblConstructionPhase	PhaseStartDate	6/15/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	6/29/2023	6/22/2023
tblConstructionPhase	PhaseStartDate	8/10/2023	7/13/2023
tblConstructionPhase	PhaseStartDate	10/3/2024	1/5/2024
tblConstructionPhase	PhaseStartDate	10/31/2024	1/26/2024

tblLandUse	LandUseSquareFeet	5,950.00	11,904.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
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tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblRoadDust	RoadPercentPave	50	100
tblVehicleTrips	CC_TL	5.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	8.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	6.70	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	WD_TR	0.78	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					
2023	3.4089	34.5520	28.5832	0.0631	18.5183	1.4251	19.9434	7.3370	1.3111	8.6481	0.0000	6,118.2231	6,118.2231	1.9482	0.2932	6,167.9546
2024	47.0592	16.7259	22.5154	0.0546	1.7501	0.6475	2.3976	0.4789	0.6094	1.0883	0.0000	5,444.2728	5,444.2728	0.7167	0.2860	5,545.7010
Maximum	47.0592	34.5520	28.5832	0.0631	18.5183	1.4251	19.9434	7.3370	1.3111	8.6481	0.0000	6,118.2231	6,118.2231	1.9482	0.2932	6,167.9546

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.4089	34.5520	28.5832	0.0631	8.3944	1.4251	9.8194	3.3179	1.3111	4.6289	0.0000	6,118.2231	6,118.2231	1.9482	0.2932	6,167.9546
2024	47.0592	16.7259	22.5154	0.0546	1.7501	0.6475	2.3976	0.4789	0.6094	1.0883	0.0000	5,444.2728	5,444.2728	0.7167	0.2860	5,545.7010
Maximum	47.0592	34.5520	28.5832	0.0631	8.3944	1.4251	9.8194	3.3179	1.3111	4.6289	0.0000	6,118.2231	6,118.2231	1.9482	0.2932	6,167.9546

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	49.95	0.00	45.32	51.42	0.00	41.28	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	2.9022	9.3000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2208	0.2208	5.8000e-004		0.2352
Energy	0.1668	1.5163	1.2737	9.1000e-003		0.1152	0.1152		0.1152	0.1152		1,819.6005	1,819.6005	0.0349	0.0334	1,830.4135
Mobile	1.0927	0.9217	7.8408	0.0151	1.4794	0.0107	1.4900	0.3942	9.9700e-003	0.4042		1,560.6512	1,560.6512	0.0769	0.0727	1,584.2283
Total	**4.1617**	**2.4390**	**9.2173**	**0.0242**	**1.4794**	**0.1263**	**1.6056**	**0.3942**	**0.1256**	**0.5198**		**3,380.4725**	**3,380.4725**	**0.1123**	**0.1060**	**3,414.8770**

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	2.9022	9.3000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2208	0.2208	5.8000e-004		0.2352
Energy	0.1668	1.5163	1.2737	9.1000e-003		0.1152	0.1152		0.1152	0.1152		1,819.6005	1,819.6005	0.0349	0.0334	1,830.4135
Mobile	1.0927	0.9217	7.8408	0.0151	1.4794	0.0107	1.4900	0.3942	9.9700e-003	0.4042		1,560.6512	1,560.6512	0.0769	0.0727	1,584.2283
Total	**4.1617**	**2.4390**	**9.2173**	**0.0242**	**1.4794**	**0.1263**	**1.6056**	**0.3942**	**0.1256**	**0.5198**		**3,380.4725**	**3,380.4725**	**0.1123**	**0.1060**	**3,414.8770**

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

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2023	6/21/2023	5	15	
2	Grading	Grading	6/22/2023	7/12/2023	5	15	
3	Building Construction	Building Construction	7/13/2023	1/4/2024	5	126	
4	Paving	Paving	1/5/2024	1/25/2024	5	15	
5	Architectural Coating	Architectural Coating	1/26/2024	2/15/2024	5	15	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 8.05

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 155,678; Non-Residential Outdoor: 51,893; Striped Parking Area: 21,456 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	199.00	78.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	40.00	0.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1047	0.0000	13.1047	6.7350	0.0000	6.7350			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	2.6595	27.5242	18.2443	0.0381	13.1047	1.2660	14.3707	6.7350	1.1647	7.8997		3,687.3081	3,687.3081	1.1926		3,717.1219

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0784	0.0327	0.4788	9.4000e-004	0.1000	5.2000e-004	0.1005	0.0265	4.8000e-004	0.0270		96.0708	96.0708	3.5800e-003	3.1000e-003	97.0839
Total	0.0784	0.0327	0.4788	9.4000e-004	0.1000	5.2000e-004	0.1005	0.0265	4.8000e-004	0.0270		96.0708	96.0708	3.5800e-003	3.1000e-003	97.0839

3.2 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.8971	0.0000	5.8971	3.0307	0.0000	3.0307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**5.8971**	**1.2660**	**7.1631**	**3.0307**	**1.1647**	**4.1955**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0784	0.0327	0.4788	9.4000e-004	0.1000	5.2000e-004	0.1005	0.0265	4.8000e-004	0.0270		96.0708	96.0708	3.5800e-003	3.1000e-003	97.0839
Total	**0.0784**	**0.0327**	**0.4788**	**9.4000e-004**	**0.1000**	**5.2000e-004**	**0.1005**	**0.0265**	**4.8000e-004**	**0.0270**		**96.0708**	**96.0708**	**3.5800e-003**	**3.1000e-003**	**97.0839**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.4072	0.0000	18.4072	7.3075	0.0000	7.3075			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	3.3217	34.5156	28.0512	0.0621	18.4072	1.4245	19.8317	7.3075	1.3105	8.6180		6,011.4777	6,011.4777	1.9442		6,060.0836

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0872	0.0364	0.5320	1.0400e-003	0.1111	5.8000e-004	0.1117	0.0295	5.3000e-004	0.0300		106.7454	106.7454	3.9800e-003	3.4400e-003	107.8710
Total	0.0872	0.0364	0.5320	1.0400e-003	0.1111	5.8000e-004	0.1117	0.0295	5.3000e-004	0.0300		106.7454	106.7454	3.9800e-003	3.4400e-003	107.8710

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.2832	0.0000	8.2832	3.2884	0.0000	3.2884			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**8.2832**	**1.4245**	**9.7077**	**3.2884**	**1.3105**	**4.5989**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0872	0.0364	0.5320	1.0400e-003	0.1111	5.8000e-004	0.1117	0.0295	5.3000e-004	0.0300		106.7454	106.7454	3.9800e-003	3.4400e-003	107.8710
Total	**0.0872**	**0.0364**	**0.5320**	**1.0400e-003**	**0.1111**	**5.8000e-004**	**0.1117**	**0.0295**	**5.3000e-004**	**0.0300**		**106.7454**	**106.7454**	**3.9800e-003**	**3.4400e-003**	**107.8710**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1679	2.9687	1.5001	0.0178	0.6445	0.0288	0.6733	0.1856	0.0276	0.2131		1,875.4142	1,875.4142	8.5600e-003	0.2589	1,952.7925
Worker	0.8671	0.3617	5.2936	0.0104	1.1056	5.7800e-003	1.1114	0.2933	5.3200e-003	0.2987		1,062.1163	1,062.1163	0.0396	0.0343	1,073.3169
Total	1.0350	3.3304	6.7936	0.0282	1.7501	0.0346	1.7847	0.4789	0.0329	0.5118		2,937.5306	2,937.5306	0.0482	0.2932	3,026.1094

3.4 Building Construction - 2023

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1679	2.9687	1.5001	0.0178	0.6445	0.0288	0.6733	0.1856	0.0276	0.2131		1,875.4142	1,875.4142	8.5600e-003	0.2589	1,952.7925
Worker	0.8671	0.3617	5.2936	0.0104	1.1056	5.7800e-003	1.1114	0.2933	5.3200e-003	0.2987		1,062.1163	1,062.1163	0.0396	0.0343	1,073.3169
Total	1.0350	3.3304	6.7936	0.0282	1.7501	0.0346	1.7847	0.4789	0.0329	0.5118		2,937.5306	2,937.5306	0.0482	0.2932	3,026.1094

3.4 Building Construction - 2024

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1617	2.9597	1.4481	0.0176	0.6445	0.0287	0.6732	0.1856	0.0275	0.2131		1,850.2576	1,850.2576	8.2900e-003	0.2542	1,926.2130
Worker	0.8028	0.3225	4.9006	0.0101	1.1056	5.4800e-003	1.1111	0.2933	5.0500e-003	0.2984		1,038.3163	1,038.3163	0.0358	0.0318	1,048.6803
Total	0.9644	3.2822	6.3486	0.0277	1.7501	0.0342	1.7843	0.4789	0.0325	0.5114		2,888.5739	2,888.5739	0.0441	0.2860	2,974.8934

3.4 Building Construction - 2024

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1617	2.9597	1.4481	0.0176	0.6445	0.0287	0.6732	0.1856	0.0275	0.2131		1,850.2576	1,850.2576	8.2900e-003	0.2542	1,926.2130
Worker	0.8028	0.3225	4.9006	0.0101	1.1056	5.4800e-003	1.1111	0.2933	5.0500e-003	0.2984		1,038.3163	1,038.3163	0.0358	0.0318	1,048.6803
Total	0.9644	3.2822	6.3486	0.0277	1.7501	0.0342	1.7843	0.4789	0.0325	0.5114		2,888.5739	2,888.5739	0.0441	0.2860	2,974.8934

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	1.4061					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.3942	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0605	0.0243	0.3694	7.6000e-004	0.0833	4.1000e-004	0.0838	0.0221	3.8000e-004	0.0225		78.2651	78.2651	2.7000e-003	2.3900e-003	79.0463
Total	0.0605	0.0243	0.3694	7.6000e-004	0.0833	4.1000e-004	0.0838	0.0221	3.8000e-004	0.0225		78.2651	78.2651	2.7000e-003	2.3900e-003	79.0463

3.5 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	1.4061					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3942**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0605	0.0243	0.3694	7.6000e-004	0.0833	4.1000e-004	0.0838	0.0221	3.8000e-004	0.0225		78.2651	78.2651	2.7000e-003	2.3900e-003	79.0463
Total	**0.0605**	**0.0243**	**0.3694**	**7.6000e-004**	**0.0833**	**4.1000e-004**	**0.0838**	**0.0221**	**3.8000e-004**	**0.0225**		**78.2651**	**78.2651**	**2.7000e-003**	**2.3900e-003**	**79.0463**

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	46.7171					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	46.8979	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1614	0.0648	0.9850	2.0200e-003	0.2222	1.1000e-003	0.2233	0.0590	1.0100e-003	0.0600		208.7068	208.7068	7.2000e-003	6.3900e-003	210.7900
Total	0.1614	0.0648	0.9850	2.0200e-003	0.2222	1.1000e-003	0.2233	0.0590	1.0100e-003	0.0600		208.7068	208.7068	7.2000e-003	6.3900e-003	210.7900

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.7171					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	46.8979	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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1614	0.0648	0.9850	2.0200e-003	0.2222	1.1000e-003	0.2233	0.0590	1.0100e-003	0.0600		208.7068	208.7068	7.2000e-003	6.3900e-003	210.7900
Total	0.1614	0.0648	0.9850	2.0200e-003	0.2222	1.1000e-003	0.2233	0.0590	1.0100e-003	0.0600		208.7068	208.7068	7.2000e-003	6.3900e-003	210.7900

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0927	0.9217	7.8408	0.0151	1.4794	0.0107	1.4900	0.3942	9.9700e-003	0.4042		1,560.6512	1,560.6512	0.0769	0.0727	1,584.2283
Unmitigated	1.0927	0.9217	7.8408	0.0151	1.4794	0.0107	1.4900	0.3942	9.9700e-003	0.4042		1,560.6512	1,560.6512	0.0769	0.0727	1,584.2283

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
General Office Building	57.95	13.15	4.17	82,330	82,330
User Defined Industrial	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	229.68	229.68	229.68	592,912	592,912
Total	287.64	242.83	233.85	675,242	675,242

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
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
General Office Building	6.70	5.00	8.90	33.00	48.00	19.00	77	19	4

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

	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
User Defined Industrial	6.70	5.00	8.90	0.00	0.00	0.00	0	0	0
Parking Lot	6.70	5.00	8.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	6.70	5.00	8.90	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
City Park	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
General Office Building	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
User Defined Industrial	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Parking Lot	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Refrigerated Warehouse-No Rail	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1668	1.5163	1.2737	9.1000e-003		0.1152	0.1152		0.1152	0.1152		1,819.6005	1,819.6005	0.0349	0.0334	1,830.4135
NaturalGas Unmitigated	0.1668	1.5163	1.2737	9.1000e-003		0.1152	0.1152		0.1152	0.1152		1,819.6005	1,819.6005	0.0349	0.0334	1,830.4135

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					
City Park	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
General Office Building	111.865	1.2100e-003	0.0110	9.2100e-003	7.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004		13.1606	13.1606	2.5000e-004	2.4000e-004	13.2388
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
Refrigerated Warehouse-No Rail	15354.7	0.1656	1.5054	1.2645	9.0300e-003		0.1144	0.1144		0.1144	0.1144		1,806.4400	1,806.4400	0.0346	0.0331	1,817.1747
Total		**0.1668**	**1.5163**	**1.2737**	**9.1000e-003**		**0.1152**	**0.1152**		**0.1152**	**0.1152**		**1,819.6005**	**1,819.6005**	**0.0349**	**0.0334**	**1,830.4135**

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					
City Park	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
General Office Building	0.111865	1.2100e-003	0.0110	9.2100e-003	7.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004		13.1606	13.1606	2.5000e-004	2.4000e-004	13.2388
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
Refrigerated Warehouse-No Rail	15.3547	0.1656	1.5054	1.2645	9.0300e-003		0.1144	0.1144		0.1144	0.1144		1,806.4400	1,806.4400	0.0346	0.0331	1,817.1747
Total		**0.1668**	**1.5163**	**1.2737**	**9.1000e-003**		**0.1152**	**0.1152**		**0.1152**	**0.1152**		**1,819.6005**	**1,819.6005**	**0.0349**	**0.0334**	**1,830.4135**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.9022	9.3000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2208	0.2208	5.8000e-004		0.2352
Unmitigated	2.9022	9.3000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2208	0.2208	5.8000e-004		0.2352

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1920					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.7007					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4900e-003	9.3000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2208	0.2208	5.8000e-004		0.2352
Total	**2.9022**	**9.3000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2208**	**0.2208**	**5.8000e-004**		**0.2352**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1920					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.7007					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4900e-003	9.3000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2208	0.2208	5.8000e-004		0.2352
Total	**2.9022**	**9.3000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2208**	**0.2208**	**5.8000e-004**		**0.2352**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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

7189/ Calexico Warehouse

Imperial County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	5.95	1000sqft	0.14	11,904.00	0
Refrigerated Warehouse-No Rail	108.34	1000sqft	2.49	108,341.00	0
Parking Lot	894.00	Space	8.05	357,600.00	0
City Park	0.37	Acre	0.37	16,117.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Office building is inside main building; 2 stories
"City Park" = landscaping

Construction Phase - Start- Q2 (June) 2023
End- Q1 (Feb) 2024

On-road Fugitive Dust - 100% paved roads

Grading -

Architectural Coating - Imperial County Air Pollution Control District Rule 424, Table 424-2. Parking lot coatings assumed to be "traffic marking coatings"

Road Dust - paved 100%

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

Area Coating - Coating emission factors per ICAPCD Rule 424, Table 424-2

Construction Off-road Equipment Mitigation -

Vehicle Trips - No trips generated by landscaping

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	100
tblAreaCoating	Area_EF_Nonresidential_Interior	150	50
tblAreaCoating	Area_EF_Parking	150	100
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintParkingValue	150	100
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	30.00	15.00
tblConstructionPhase	NumDays	300.00	126.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	PhaseEndDate	6/28/2023	6/21/2023
tblConstructionPhase	PhaseEndDate	8/9/2023	7/12/2023
tblConstructionPhase	PhaseEndDate	10/2/2024	1/4/2024
tblConstructionPhase	PhaseEndDate	10/30/2024	1/25/2024
tblConstructionPhase	PhaseEndDate	11/27/2024	2/15/2024
tblConstructionPhase	PhaseStartDate	6/15/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	6/29/2023	6/22/2023
tblConstructionPhase	PhaseStartDate	8/10/2023	7/13/2023
tblConstructionPhase	PhaseStartDate	10/3/2024	1/5/2024
tblConstructionPhase	PhaseStartDate	10/31/2024	1/26/2024

tblLandUse	LandUseSquareFeet	5,950.00	11,904.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblRoadDust	RoadPercentPave	50	100
tblVehicleTrips	CC_TL	5.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	8.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	6.70	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	WD_TR	0.78	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					
2023	3.3839	34.5535	28.4435	0.0630	18.5183	1.4251	19.9434	7.3370	1.3111	8.6481	0.0000	6,102.3300	6,102.3300	1.9484	0.2952	6,152.0859
2024	47.0134	17.0407	21.2905	0.0532	1.7501	0.6476	2.3977	0.4789	0.6095	1.0884	0.0000	5,294.2656	5,294.2656	0.7168	0.2878	5,396.2936
Maximum	**47.0134**	**34.5535**	**28.4435**	**0.0630**	**18.5183**	**1.4251**	**19.9434**	**7.3370**	**1.3111**	**8.6481**	**0.0000**	**6,102.3300**	**6,102.3300**	**1.9484**	**0.2952**	**6,152.0859**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.3839	34.5535	28.4435	0.0630	8.3944	1.4251	9.8194	3.3179	1.3111	4.6289	0.0000	6,102.3300	6,102.3300	1.9484	0.2952	6,152.0858
2024	47.0134	17.0407	21.2905	0.0532	1.7501	0.6476	2.3977	0.4789	0.6095	1.0884	0.0000	5,294.2656	5,294.2656	0.7168	0.2878	5,396.2936
Maximum	**47.0134**	**34.5535**	**28.4435**	**0.0630**	**8.3944**	**1.4251**	**9.8194**	**3.3179**	**1.3111**	**4.6289**	**0.0000**	**6,102.3300**	**6,102.3300**	**1.9484**	**0.2952**	**6,152.0858**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	49.95	0.00	45.32	51.42	0.00	41.28	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	2.9022	9.3000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2208	0.2208	5.8000e-004		0.2352
Energy	0.1668	1.5163	1.2737	9.1000e-003		0.1152	0.1152		0.1152	0.1152		1,819.6005	1,819.6005	0.0349	0.0334	1,830.4135
Mobile	0.7022	1.0103	6.3613	0.0133	1.4794	0.0107	1.4900	0.3942	9.9800e-003	0.4042		1,376.8192	1,376.8192	0.0809	0.0746	1,401.0773
Total	**3.7712**	**2.5275**	**7.7378**	**0.0224**	**1.4794**	**0.1263**	**1.6057**	**0.3942**	**0.1256**	**0.5198**		**3,196.6405**	**3,196.6405**	**0.1164**	**0.1080**	**3,231.7260**

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	2.9022	9.3000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2208	0.2208	5.8000e-004		0.2352
Energy	0.1668	1.5163	1.2737	9.1000e-003		0.1152	0.1152		0.1152	0.1152		1,819.6005	1,819.6005	0.0349	0.0334	1,830.4135
Mobile	0.7022	1.0103	6.3613	0.0133	1.4794	0.0107	1.4900	0.3942	9.9800e-003	0.4042		1,376.8192	1,376.8192	0.0809	0.0746	1,401.0773
Total	**3.7712**	**2.5275**	**7.7378**	**0.0224**	**1.4794**	**0.1263**	**1.6057**	**0.3942**	**0.1256**	**0.5198**		**3,196.6405**	**3,196.6405**	**0.1164**	**0.1080**	**3,231.7260**

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

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2023	6/21/2023	5	15	
2	Grading	Grading	6/22/2023	7/12/2023	5	15	
3	Building Construction	Building Construction	7/13/2023	1/4/2024	5	126	
4	Paving	Paving	1/5/2024	1/25/2024	5	15	
5	Architectural Coating	Architectural Coating	1/26/2024	2/15/2024	5	15	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 8.05

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 155,678; Non-Residential Outdoor: 51,893; Striped Parking Area: 21,456 (Architectural Coating – sqft)

OffRoad Equipment

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

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

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	199.00	78.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	40.00	0.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1047	0.0000	13.1047	6.7350	0.0000	6.7350			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**13.1047**	**1.2660**	**14.3707**	**6.7350**	**1.1647**	**7.8997**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0559	0.0341	0.3531	8.0000e-004	0.1000	5.2000e-004	0.1005	0.0265	4.8000e-004	0.0270		81.7671	81.7671	3.7600e-003	3.1600e-003	82.8021
Total	**0.0559**	**0.0341**	**0.3531**	**8.0000e-004**	**0.1000**	**5.2000e-004**	**0.1005**	**0.0265**	**4.8000e-004**	**0.0270**		**81.7671**	**81.7671**	**3.7600e-003**	**3.1600e-003**	**82.8021**

3.2 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.8971	0.0000	5.8971	3.0307	0.0000	3.0307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	2.6595	27.5242	18.2443	0.0381	5.8971	1.2660	7.1631	3.0307	1.1647	4.1955	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0559	0.0341	0.3531	8.0000e-004	0.1000	5.2000e-004	0.1005	0.0265	4.8000e-004	0.0270		81.7671	81.7671	3.7600e-003	3.1600e-003	82.8021
Total	0.0559	0.0341	0.3531	8.0000e-004	0.1000	5.2000e-004	0.1005	0.0265	4.8000e-004	0.0270		81.7671	81.7671	3.7600e-003	3.1600e-003	82.8021

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.4072	0.0000	18.4072	7.3075	0.0000	7.3075			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	3.3217	34.5156	28.0512	0.0621	18.4072	1.4245	19.8317	7.3075	1.3105	8.6180		6,011.4777	6,011.4777	1.9442		6,060.0836

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0621	0.0379	0.3923	8.9000e-004	0.1111	5.8000e-004	0.1117	0.0295	5.3000e-004	0.0300		90.8523	90.8523	4.1700e-003	3.5100e-003	92.0023
Total	0.0621	0.0379	0.3923	8.9000e-004	0.1111	5.8000e-004	0.1117	0.0295	5.3000e-004	0.0300		90.8523	90.8523	4.1700e-003	3.5100e-003	92.0023

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.2832	0.0000	8.2832	3.2884	0.0000	3.2884			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**8.2832**	**1.4245**	**9.7077**	**3.2884**	**1.3105**	**4.5989**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0621	0.0379	0.3923	8.9000e-004	0.1111	5.8000e-004	0.1117	0.0295	5.3000e-004	0.0300		90.8523	90.8523	4.1700e-003	3.5100e-003	92.0023
Total	**0.0621**	**0.0379**	**0.3923**	**8.9000e-004**	**0.1111**	**5.8000e-004**	**0.1117**	**0.0295**	**5.3000e-004**	**0.0300**		**90.8523**	**90.8523**	**4.1700e-003**	**3.5100e-003**	**92.0023**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1579	3.2726	1.5507	0.0179	0.6445	0.0289	0.6734	0.1856	0.0277	0.2132		1,879.6645	1,879.6645	8.2300e-003	0.2603	1,957.4465
Worker	0.6183	0.3766	3.9032	8.8300e-003	1.1056	5.7800e-003	1.1114	0.2933	5.3200e-003	0.2987		903.9802	903.9802	0.0415	0.0349	915.4226
Total	0.7762	3.6492	5.4539	0.0267	1.7501	0.0347	1.7848	0.4789	0.0330	0.5119		2,783.6446	2,783.6446	0.0498	0.2952	2,872.8692

3.4 Building Construction - 2023

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1579	3.2726	1.5507	0.0179	0.6445	0.0289	0.6734	0.1856	0.0277	0.2132		1,879.6645	1,879.6645	8.2300e-003	0.2603	1,957.4465
Worker	0.6183	0.3766	3.9032	8.8300e-003	1.1056	5.7800e-003	1.1114	0.2933	5.3200e-003	0.2987		903.9802	903.9802	0.0415	0.0349	915.4226
Total	0.7762	3.6492	5.4539	0.0267	1.7501	0.0347	1.7848	0.4789	0.0330	0.5119		2,783.6446	2,783.6446	0.0498	0.2952	2,872.8692

3.4 Building Construction - 2024

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1520	3.2619	1.5001	0.0176	0.6445	0.0289	0.6733	0.1856	0.0276	0.2131		1,854.5090	1,854.5090	7.9700e-003	0.2555	1,930.8481
Worker	0.5748	0.3350	3.6236	8.5700e-003	1.1056	5.4800e-003	1.1111	0.2933	5.0500e-003	0.2984		884.0577	884.0577	0.0377	0.0323	894.6378
Total	0.7268	3.5969	5.1237	0.0262	1.7501	0.0343	1.7844	0.4789	0.0326	0.5115		2,738.5667	2,738.5667	0.0457	0.2878	2,825.4859

3.4 Building Construction - 2024

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1520	3.2619	1.5001	0.0176	0.6445	0.0289	0.6733	0.1856	0.0276	0.2131		1,854.5090	1,854.5090	7.9700e-003	0.2555	1,930.8481
Worker	0.5748	0.3350	3.6236	8.5700e-003	1.1056	5.4800e-003	1.1111	0.2933	5.0500e-003	0.2984		884.0577	884.0577	0.0377	0.0323	894.6378
Total	0.7268	3.5969	5.1237	0.0262	1.7501	0.0343	1.7844	0.4789	0.0326	0.5115		2,738.5667	2,738.5667	0.0457	0.2878	2,825.4859

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	1.4061					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3942**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0433	0.0253	0.2731	6.5000e-004	0.0833	4.1000e-004	0.0838	0.0221	3.8000e-004	0.0225		66.6375	66.6375	2.8400e-003	2.4400e-003	67.4350
Total	**0.0433**	**0.0253**	**0.2731**	**6.5000e-004**	**0.0833**	**4.1000e-004**	**0.0838**	**0.0221**	**3.8000e-004**	**0.0225**		**66.6375**	**66.6375**	**2.8400e-003**	**2.4400e-003**	**67.4350**

3.5 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	1.4061					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3942**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0433	0.0253	0.2731	6.5000e-004	0.0833	4.1000e-004	0.0838	0.0221	3.8000e-004	0.0225		66.6375	66.6375	2.8400e-003	2.4400e-003	67.4350
Total	**0.0433**	**0.0253**	**0.2731**	**6.5000e-004**	**0.0833**	**4.1000e-004**	**0.0838**	**0.0221**	**3.8000e-004**	**0.0225**		**66.6375**	**66.6375**	**2.8400e-003**	**2.4400e-003**	**67.4350**

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	46.7171					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	**46.8979**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1155	0.0673	0.7284	1.7200e-003	0.2222	1.1000e-003	0.2233	0.0590	1.0100e-003	0.0600		177.7000	177.7000	7.5800e-003	6.5000e-003	179.8267
Total	**0.1155**	**0.0673**	**0.7284**	**1.7200e-003**	**0.2222**	**1.1000e-003**	**0.2233**	**0.0590**	**1.0100e-003**	**0.0600**		**177.7000**	**177.7000**	**7.5800e-003**	**6.5000e-003**	**179.8267**

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.7171					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	**46.8979**	**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**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1155	0.0673	0.7284	1.7200e-003	0.2222	1.1000e-003	0.2233	0.0590	1.0100e-003	0.0600		177.7000	177.7000	7.5800e-003	6.5000e-003	179.8267
Total	**0.1155**	**0.0673**	**0.7284**	**1.7200e-003**	**0.2222**	**1.1000e-003**	**0.2233**	**0.0590**	**1.0100e-003**	**0.0600**		**177.7000**	**177.7000**	**7.5800e-003**	**6.5000e-003**	**179.8267**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7022	1.0103	6.3613	0.0133	1.4794	0.0107	1.4900	0.3942	9.9800e-003	0.4042		1,376.8192	1,376.8192	0.0809	0.0746	1,401.0773
Unmitigated	0.7022	1.0103	6.3613	0.0133	1.4794	0.0107	1.4900	0.3942	9.9800e-003	0.4042		1,376.8192	1,376.8192	0.0809	0.0746	1,401.0773

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
General Office Building	57.95	13.15	4.17	82,330	82,330
User Defined Industrial	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	229.68	229.68	229.68	592,912	592,912
Total	287.64	242.83	233.85	675,242	675,242

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
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
General Office Building	6.70	5.00	8.90	33.00	48.00	19.00	77	19	4

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

	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
User Defined Industrial	6.70	5.00	8.90	0.00	0.00	0.00	0	0	0
Parking Lot	6.70	5.00	8.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	6.70	5.00	8.90	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
City Park	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
General Office Building	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
User Defined Industrial	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Parking Lot	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Refrigerated Warehouse-No Rail	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1668	1.5163	1.2737	9.1000e-003		0.1152	0.1152		0.1152	0.1152		1,819.6005	1,819.6005	0.0349	0.0334	1,830.4135
NaturalGas Unmitigated	0.1668	1.5163	1.2737	9.1000e-003		0.1152	0.1152		0.1152	0.1152		1,819.6005	1,819.6005	0.0349	0.0334	1,830.4135

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					
City Park	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
General Office Building	111.865	1.2100e-003	0.0110	9.2100e-003	7.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004		13.1606	13.1606	2.5000e-004	2.4000e-004	13.2388
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
Refrigerated Warehouse-No Rail	15354.7	0.1656	1.5054	1.2645	9.0300e-003		0.1144	0.1144		0.1144	0.1144		1,806.4400	1,806.4400	0.0346	0.0331	1,817.1747
Total		**0.1668**	**1.5163**	**1.2737**	**9.1000e-003**		**0.1152**	**0.1152**		**0.1152**	**0.1152**		**1,819.6005**	**1,819.6005**	**0.0349**	**0.0334**	**1,830.4135**

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					
City Park	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
General Office Building	0.111865	1.2100e-003	0.0110	9.2100e-003	7.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004		13.1606	13.1606	2.5000e-004	2.4000e-004	13.2388
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
Refrigerated Warehouse-No Rail	15.3547	0.1656	1.5054	1.2645	9.0300e-003		0.1144	0.1144		0.1144	0.1144		1,806.4400	1,806.4400	0.0346	0.0331	1,817.1747
Total		**0.1668**	**1.5163**	**1.2737**	**9.1000e-003**		**0.1152**	**0.1152**		**0.1152**	**0.1152**		**1,819.6005**	**1,819.6005**	**0.0349**	**0.0334**	**1,830.4135**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.9022	9.3000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2208	0.2208	5.8000e-004		0.2352
Unmitigated	2.9022	9.3000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2208	0.2208	5.8000e-004		0.2352

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1920					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.7007					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4900e-003	9.3000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2208	0.2208	5.8000e-004		0.2352
Total	**2.9022**	**9.3000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2208**	**0.2208**	**5.8000e-004**		**0.2352**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1920					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.7007					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.4900e-003	9.3000e-004	0.1028	1.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004		0.2208	0.2208	5.8000e-004		0.2352
Total	**2.9022**	**9.3000e-004**	**0.1028**	**1.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**		**0.2208**	**0.2208**	**5.8000e-004**		**0.2352**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

7189/ Calexico Warehouse

Imperial County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	5.95	1000sqft	0.14	11,904.00	0
Refrigerated Warehouse-No Rail	108.34	1000sqft	2.49	108,341.00	0
Parking Lot	894.00	Space	8.05	357,600.00	0
City Park	0.37	Acre	0.37	16,117.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Office building is inside main building; 2 stories
"City Park" = landscaping

Construction Phase - Start- Q2 (June) 2023
End- Q1 (Feb) 2024

On-road Fugitive Dust - 100% paved roads

Grading -

Architectural Coating - Imperial County Air Pollution Control District Rule 424, Table 424-2. Parking lot coatings assumed to be "traffic marking coatings"

Road Dust - paved 100%

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

Area Coating - Coating emission factors per ICAPCD Rule 424, Table 424-2

Construction Off-road Equipment Mitigation -

Vehicle Trips - No trips generated by landscaping

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	50.00
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	100
tblAreaCoating	Area_EF_Nonresidential_Interior	150	50
tblAreaCoating	Area_EF_Parking	150	100
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	150	50
tblAreaMitigation	UseLowVOCPaintParkingValue	150	100
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	30.00	15.00
tblConstructionPhase	NumDays	300.00	126.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	PhaseEndDate	6/28/2023	6/21/2023
tblConstructionPhase	PhaseEndDate	8/9/2023	7/12/2023
tblConstructionPhase	PhaseEndDate	10/2/2024	1/4/2024
tblConstructionPhase	PhaseEndDate	10/30/2024	1/25/2024
tblConstructionPhase	PhaseEndDate	11/27/2024	2/15/2024
tblConstructionPhase	PhaseStartDate	6/15/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	6/29/2023	6/22/2023
tblConstructionPhase	PhaseStartDate	8/10/2023	7/13/2023
tblConstructionPhase	PhaseStartDate	10/3/2024	1/5/2024
tblConstructionPhase	PhaseStartDate	10/31/2024	1/26/2024

tblLandUse	LandUseSquareFeet	5,950.00	11,904.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblRoadDust	RoadPercentPave	50	100
tblVehicleTrips	CC_TL	5.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	8.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	6.70	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	WD_TR	0.78	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					
2023	0.1933	1.5609	1.6986	4.0700e-003	0.3440	0.0650	0.4089	0.1348	0.0608	0.1955	0.0000	366.1367	366.1367	0.0577	0.0163	372.4410
2024	0.3755	0.1152	0.1747	3.2000e-004	5.7500e-003	5.2800e-003	0.0110	1.5600e-003	4.9200e-003	6.4800e-003	0.0000	28.4319	28.4319	6.2100e-003	5.8000e-004	28.7599
Maximum	**0.3755**	**1.5609**	**1.6986**	**4.0700e-003**	**0.3440**	**0.0650**	**0.4089**	**0.1348**	**0.0608**	**0.1955**	**0.0000**	**366.1367**	**366.1367**	**0.0577**	**0.0163**	**372.4410**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1933	1.5609	1.6986	4.0700e-003	0.2140	0.0650	0.2790	0.0769	0.0608	0.1376	0.0000	366.1364	366.1364	0.0577	0.0163	372.4407
2024	0.3755	0.1152	0.1747	3.2000e-004	5.7500e-003	5.2800e-003	0.0110	1.5600e-003	4.9200e-003	6.4800e-003	0.0000	28.4319	28.4319	6.2100e-003	5.8000e-004	28.7599
Maximum	**0.3755**	**1.5609**	**1.6986**	**4.0700e-003**	**0.2140**	**0.0650**	**0.2790**	**0.0769**	**0.0608**	**0.1376**	**0.0000**	**366.1364**	**366.1364**	**0.0577**	**0.0163**	**372.4407**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	37.17	0.00	30.95	42.49	0.00	28.68	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	6-15-2023	9-14-2023	0.8250	0.8250
2	9-15-2023	12-14-2023	0.6621	0.6621
3	12-15-2023	3-14-2024	0.6034	0.6034
		Highest	0.8250	0.8250

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	0.5288	8.0000e-005	9.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0180	0.0180	5.0000e-005	0.0000	0.0192
Energy	0.0304	0.2767	0.2325	1.6600e-003		0.0210	0.0210		0.0210	0.0210	0.0000	1,108.3306	1,108.3306	0.0739	0.0138	1,114.2844
Mobile	0.1451	0.1715	1.1631	2.4600e-003	0.2573	1.8600e-003	0.2591	0.0686	1.7400e-003	0.0703	0.0000	230.3002	230.3002	0.0121	0.0116	234.0698
Waste						0.0000	0.0000		0.0000	0.0000	18.6610	0.0000	18.6610	1.1028	0.0000	46.2317
Water						0.0000	0.0000		0.0000	0.0000	7.0763	53.6522	60.7285	0.7313	0.0177	84.2894
Total	**0.7043**	**0.4483**	**1.4048**	**4.1200e-003**	**0.2573**	**0.0229**	**0.2802**	**0.0686**	**0.0228**	**0.0914**	**25.7372**	**1,392.3010**	**1,418.0382**	**1.9202**	**0.0431**	**1,478.8945**

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	0.5288	8.0000e-005	9.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0180	0.0180	5.0000e-005	0.0000	0.0192
Energy	0.0304	0.2767	0.2325	1.6600e-003		0.0210	0.0210		0.0210	0.0210	0.0000	1,108.3306	1,108.3306	0.0739	0.0138	1,114.2844
Mobile	0.1451	0.1715	1.1631	2.4600e-003	0.2573	1.8600e-003	0.2591	0.0686	1.7400e-003	0.0703	0.0000	230.3002	230.3002	0.0121	0.0116	234.0698
Waste						0.0000	0.0000		0.0000	0.0000	18.6610	0.0000	18.6610	1.1028	0.0000	46.2317
Water						0.0000	0.0000		0.0000	0.0000	7.0763	53.6522	60.7285	0.7313	0.0177	84.2894
Total	**0.7043**	**0.4483**	**1.4048**	**4.1200e-003**	**0.2573**	**0.0229**	**0.2802**	**0.0686**	**0.0228**	**0.0914**	**25.7372**	**1,392.3010**	**1,418.0382**	**1.9202**	**0.0431**	**1,478.8945**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2023	6/21/2023	5	15	
2	Grading	Grading	6/22/2023	7/12/2023	5	15	
3	Building Construction	Building Construction	7/13/2023	1/4/2024	5	126	

4	Paving	Paving	1/5/2024	1/25/2024	5	15	
5	Architectural Coating	Architectural Coating	1/26/2024	2/15/2024	5	15	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 8.05

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 155,678; Non-Residential Outdoor: 51,893; Striped Parking Area: 21,456 (Architectural Coating – sqft)

OffRoad Equipment

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

Trips and VMT

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	199.00	78.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	40.00	0.00	0.00	7.30	8.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0200	0.2064	0.1368	2.9000e-004		9.5000e-003	9.5000e-003		8.7400e-003	8.7400e-003	0.0000	25.0880	25.0880	8.1100e-003	0.0000	25.2909
Total	**0.0200**	**0.2064**	**0.1368**	**2.9000e-004**	**0.0983**	**9.5000e-003**	**0.1078**	**0.0505**	**8.7400e-003**	**0.0593**	**0.0000**	**25.0880**	**25.0880**	**8.1100e-003**	**0.0000**	**25.2909**

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	2.5000e-004	2.9100e-003	1.0000e-005	7.4000e-004	0.0000	7.5000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.5962	0.5962	2.0000e-005	2.0000e-005	0.6031
Total	**4.6000e-004**	**2.5000e-004**	**2.9100e-003**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**7.5000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5962**	**0.5962**	**2.0000e-005**	**2.0000e-005**	**0.6031**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0442	0.0000	0.0442	0.0227	0.0000	0.0227	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0200	0.2064	0.1368	2.9000e-004		9.5000e-003	9.5000e-003		8.7400e-003	8.7400e-003	0.0000	25.0880	25.0880	8.1100e-003	0.0000	25.2908
Total	**0.0200**	**0.2064**	**0.1368**	**2.9000e-004**	**0.0442**	**9.5000e-003**	**0.0537**	**0.0227**	**8.7400e-003**	**0.0315**	**0.0000**	**25.0880**	**25.0880**	**8.1100e-003**	**0.0000**	**25.2908**

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	2.5000e-004	2.9100e-003	1.0000e-005	7.4000e-004	0.0000	7.5000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.5962	0.5962	2.0000e-005	2.0000e-005	0.6031
Total	**4.6000e-004**	**2.5000e-004**	**2.9100e-003**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**7.5000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5962**	**0.5962**	**2.0000e-005**	**2.0000e-005**	**0.6031**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0548	0.0000	0.0548	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0249	0.2589	0.2104	4.7000e-004		0.0107	0.0107		9.8300e-003	9.8300e-003	0.0000	40.9014	40.9014	0.0132	0.0000	41.2321
Total	**0.0249**	**0.2589**	**0.2104**	**4.7000e-004**	**0.1381**	**0.0107**	**0.1487**	**0.0548**	**9.8300e-003**	**0.0646**	**0.0000**	**40.9014**	**40.9014**	**0.0132**	**0.0000**	**41.2321**

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	2.8000e-004	3.2300e-003	1.0000e-005	8.3000e-004	0.0000	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6624	0.6624	3.0000e-005	2.0000e-005	0.6701
Total	**5.2000e-004**	**2.8000e-004**	**3.2300e-003**	**1.0000e-005**	**8.3000e-004**	**0.0000**	**8.3000e-004**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.6624**	**0.6624**	**3.0000e-005**	**2.0000e-005**	**0.6701**

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					0.0621	0.0000	0.0621	0.0247	0.0000	0.0247	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0249	0.2589	0.2104	4.7000e-004		0.0107	0.0107		9.8300e-003	9.8300e-003	0.0000	40.9014	40.9014	0.0132	0.0000	41.2321
Total	**0.0249**	**0.2589**	**0.2104**	**4.7000e-004**	**0.0621**	**0.0107**	**0.0728**	**0.0247**	**9.8300e-003**	**0.0345**	**0.0000**	**40.9014**	**40.9014**	**0.0132**	**0.0000**	**41.2321**

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	2.8000e-004	3.2300e-003	1.0000e-005	8.3000e-004	0.0000	8.3000e-004	2.2000e-004	0.0000	2.2000e-004	0.0000	0.6624	0.6624	3.0000e-005	2.0000e-005	0.6701
Total	**5.2000e-004**	**2.8000e-004**	**3.2300e-003**	**1.0000e-005**	**8.3000e-004**	**0.0000**	**8.3000e-004**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.6624**	**0.6624**	**3.0000e-005**	**2.0000e-005**	**0.6701**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0959	0.8775	0.9909	1.6400e-003		0.0427	0.0427		0.0402	0.0402	0.0000	141.4009	141.4009	0.0336	0.0000	142.2418
Total	**0.0959**	**0.8775**	**0.9909**	**1.6400e-003**		**0.0427**	**0.0427**		**0.0402**	**0.0402**	**0.0000**	**141.4009**	**141.4009**	**0.0336**	**0.0000**	**142.2418**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7700e-003	0.1951	0.0927	1.0900e-003	0.0391	1.7600e-003	0.0408	0.0113	1.6800e-003	0.0130	0.0000	103.8809	103.8809	4.7000e-004	0.0144	108.1758
Worker	0.0418	0.0225	0.2617	5.8000e-004	0.0670	3.5000e-004	0.0673	0.0178	3.2000e-004	0.0181	0.0000	53.6069	53.6069	2.1600e-003	1.9000e-003	54.2272
Total	**0.0515**	**0.2176**	**0.3544**	**1.6700e-003**	**0.1060**	**2.1100e-003**	**0.1082**	**0.0290**	**2.0000e-003**	**0.0311**	**0.0000**	**157.4878**	**157.4878**	**2.6300e-003**	**0.0163**	**162.4030**

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	0.0959	0.8775	0.9909	1.6400e-003		0.0427	0.0427		0.0402	0.0402	0.0000	141.4007	141.4007	0.0336	0.0000	142.2417
Total	**0.0959**	**0.8775**	**0.9909**	**1.6400e-003**		**0.0427**	**0.0427**		**0.0402**	**0.0402**	**0.0000**	**141.4007**	**141.4007**	**0.0336**	**0.0000**	**142.2417**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7700e-003	0.1951	0.0927	1.0900e-003	0.0391	1.7600e-003	0.0408	0.0113	1.6800e-003	0.0130	0.0000	103.8809	103.8809	4.7000e-004	0.0144	108.1758
Worker	0.0418	0.0225	0.2617	5.8000e-004	0.0670	3.5000e-004	0.0673	0.0178	3.2000e-004	0.0181	0.0000	53.6069	53.6069	2.1600e-003	1.9000e-003	54.2272
Total	**0.0515**	**0.2176**	**0.3544**	**1.6700e-003**	**0.1060**	**2.1100e-003**	**0.1082**	**0.0290**	**2.0000e-003**	**0.0311**	**0.0000**	**157.4878**	**157.4878**	**2.6300e-003**	**0.0163**	**162.4030**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9400e-003	0.0269	0.0323	5.0000e-005		1.2300e-003	1.2300e-003		1.1500e-003	1.1500e-003	0.0000	4.6370	4.6370	1.1000e-003	0.0000	4.6644
Total	**2.9400e-003**	**0.0269**	**0.0323**	**5.0000e-005**		**1.2300e-003**	**1.2300e-003**		**1.1500e-003**	**1.1500e-003**	**0.0000**	**4.6370**	**4.6370**	**1.1000e-003**	**0.0000**	**4.6644**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1000e-004	6.3800e-003	2.9400e-003	4.0000e-005	1.2800e-003	6.0000e-005	1.3400e-003	3.7000e-004	6.0000e-005	4.2000e-004	0.0000	3.3603	3.3603	1.0000e-005	4.6000e-004	3.4985
Worker	1.2700e-003	6.5000e-004	7.9500e-003	2.0000e-005	2.2000e-003	1.0000e-005	2.2100e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.7186	1.7186	6.0000e-005	6.0000e-005	1.7374
Total	**1.5800e-003**	**7.0300e-003**	**0.0109**	**6.0000e-005**	**3.4800e-003**	**7.0000e-005**	**3.5500e-003**	**9.5000e-004**	**7.0000e-005**	**1.0100e-003**	**0.0000**	**5.0789**	**5.0789**	**7.0000e-005**	**5.2000e-004**	**5.2359**

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	2.9400e-003	0.0269	0.0323	5.0000e-005		1.2300e-003	1.2300e-003		1.1500e-003	1.1500e-003	0.0000	4.6370	4.6370	1.1000e-003	0.0000	4.6644
Total	**2.9400e-003**	**0.0269**	**0.0323**	**5.0000e-005**		**1.2300e-003**	**1.2300e-003**		**1.1500e-003**	**1.1500e-003**	**0.0000**	**4.6370**	**4.6370**	**1.1000e-003**	**0.0000**	**4.6644**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1000e-004	6.3800e-003	2.9400e-003	4.0000e-005	1.2800e-003	6.0000e-005	1.3400e-003	3.7000e-004	6.0000e-005	4.2000e-004	0.0000	3.3603	3.3603	1.0000e-005	4.6000e-004	3.4985
Worker	1.2700e-003	6.5000e-004	7.9500e-003	2.0000e-005	2.2000e-003	1.0000e-005	2.2100e-003	5.8000e-004	1.0000e-005	5.9000e-004	0.0000	1.7186	1.7186	6.0000e-005	6.0000e-005	1.7374
Total	**1.5800e-003**	**7.0300e-003**	**0.0109**	**6.0000e-005**	**3.4800e-003**	**7.0000e-005**	**3.5500e-003**	**9.5000e-004**	**7.0000e-005**	**1.0100e-003**	**0.0000**	**5.0789**	**5.0789**	**7.0000e-005**	**5.2000e-004**	**5.2359**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4100e-003	0.0714	0.1097	1.7000e-004		3.5100e-003	3.5100e-003		3.2300e-003	3.2300e-003	0.0000	15.0199	15.0199	4.8600e-003	0.0000	15.1413
Paving	0.0106					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0180**	**0.0714**	**0.1097**	**1.7000e-004**		**3.5100e-003**	**3.5100e-003**		**3.2300e-003**	**3.2300e-003**	**0.0000**	**15.0199**	**15.0199**	**4.8600e-003**	**0.0000**	**15.1413**

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	1.9000e-004	2.2500e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4858	0.4858	2.0000e-005	2.0000e-005	0.4911
Total	3.6000e-004	1.9000e-004	2.2500e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4858	0.4858	2.0000e-005	2.0000e-005	0.4911

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4100e-003	0.0714	0.1097	1.7000e-004		3.5100e-003	3.5100e-003		3.2300e-003	3.2300e-003	0.0000	15.0199	15.0199	4.8600e-003	0.0000	15.1413
Paving	0.0106					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0180	0.0714	0.1097	1.7000e-004		3.5100e-003	3.5100e-003		3.2300e-003	3.2300e-003	0.0000	15.0199	15.0199	4.8600e-003	0.0000	15.1413

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	1.9000e-004	2.2500e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4858	0.4858	2.0000e-005	2.0000e-005	0.4911
Total	**3.6000e-004**	**1.9000e-004**	**2.2500e-003**	**1.0000e-005**	**6.2000e-004**	**0.0000**	**6.2000e-004**	**1.6000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.4858**	**0.4858**	**2.0000e-005**	**2.0000e-005**	**0.4911**

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	0.3504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3600e-003	9.1400e-003	0.0136	2.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	1.9149	1.9149	1.1000e-004	0.0000	1.9176
Total	**0.3517**	**9.1400e-003**	**0.0136**	**2.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**1.9149**	**1.9149**	**1.1000e-004**	**0.0000**	**1.9176**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.6000e-004	4.9000e-004	5.9900e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2954	1.2954	5.0000e-005	4.0000e-005	1.3096
Total	**9.6000e-004**	**4.9000e-004**	**5.9900e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.2954**	**1.2954**	**5.0000e-005**	**4.0000e-005**	**1.3096**

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	0.3504					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3600e-003	9.1400e-003	0.0136	2.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	1.9149	1.9149	1.1000e-004	0.0000	1.9176
Total	**0.3517**	**9.1400e-003**	**0.0136**	**2.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**1.9149**	**1.9149**	**1.1000e-004**	**0.0000**	**1.9176**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.6000e-004	4.9000e-004	5.9900e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2954	1.2954	5.0000e-005	4.0000e-005	1.3096
Total	**9.6000e-004**	**4.9000e-004**	**5.9900e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.2954**	**1.2954**	**5.0000e-005**	**4.0000e-005**	**1.3096**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1451	0.1715	1.1631	2.4600e-003	0.2573	1.8600e-003	0.2591	0.0686	1.7400e-003	0.0703	0.0000	230.3002	230.3002	0.0121	0.0116	234.0698
Unmitigated	0.1451	0.1715	1.1631	2.4600e-003	0.2573	1.8600e-003	0.2591	0.0686	1.7400e-003	0.0703	0.0000	230.3002	230.3002	0.0121	0.0116	234.0698

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
General Office Building	57.95	13.15	4.17	82,330	82,330
User Defined Industrial	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	229.68	229.68	229.68	592,912	592,912
Total	287.64	242.83	233.85	675,242	675,242

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
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
General Office Building	6.70	5.00	8.90	33.00	48.00	19.00	77	19	4
User Defined Industrial	6.70	5.00	8.90	0.00	0.00	0.00	0	0	0
Parking Lot	6.70	5.00	8.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	6.70	5.00	8.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

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

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
General Office Building	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
User Defined Industrial	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Parking Lot	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504
Refrigerated Warehouse-No Rail	0.526464	0.059349	0.179786	0.147621	0.026929	0.006851	0.008316	0.016412	0.000925	0.000120	0.022958	0.000766	0.003504

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	807.0753	807.0753	0.0681	8.2600e-003	811.2389
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	807.0753	807.0753	0.0681	8.2600e-003	811.2389
NaturalGas Mitigated	0.0304	0.2767	0.2325	1.6600e-003		0.0210	0.0210		0.0210	0.0210	0.0000	301.2553	301.2553	5.7700e-003	5.5200e-003	303.0455
NaturalGas Unmitigated	0.0304	0.2767	0.2325	1.6600e-003		0.0210	0.0210		0.0210	0.0210	0.0000	301.2553	301.2553	5.7700e-003	5.5200e-003	303.0455

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					
City Park	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
General Office Building	40830.7	2.2000e-004	2.0000e-003	1.6800e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.1789	2.1789	4.0000e-005	4.0000e-005	2.1918
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
Refrigerated Warehouse-No Rail	5.60448e+006	0.0302	0.2747	0.2308	1.6500e-003		0.0209	0.0209		0.0209	0.0209	0.0000	299.0764	299.0764	5.7300e-003	5.4800e-003	300.8537
Total		**0.0304**	**0.2767**	**0.2325**	**1.6600e-003**		**0.0210**	**0.0210**		**0.0210**	**0.0210**	**0.0000**	**301.2553**	**301.2553**	**5.7700e-003**	**5.5200e-003**	**303.0455**

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					
City Park	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
General Office Building	40830.7	2.2000e-004	2.0000e-003	1.6800e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	2.1789	2.1789	4.0000e-005	4.0000e-005	2.1918
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
Refrigerated Warehouse-No Rail	5.60448e+006	0.0302	0.2747	0.2308	1.6500e-003		0.0209	0.0209		0.0209	0.0209	0.0000	299.0764	299.0764	5.7300e-003	5.4800e-003	300.8537
Total		**0.0304**	**0.2767**	**0.2325**	**1.6600e-003**		**0.0210**	**0.0210**		**0.0210**	**0.0210**	**0.0000**	**301.2553**	**301.2553**	**5.7700e-003**	**5.5200e-003**	**303.0455**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	109398	19.4012	1.6400e-003	2.0000e-004	19.5013
Parking Lot	125160	22.1966	1.8700e-003	2.3000e-004	22.3111
Refrigerated Warehouse-No Rail	4.31631e+006	765.4775	0.0646	7.8300e-003	769.4265
Total		**807.0753**	**0.0681**	**8.2600e-003**	**811.2389**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	109398	19.4012	1.6400e-003	2.0000e-004	19.5013
Parking Lot	125160	22.1966	1.8700e-003	2.3000e-004	22.3111
Refrigerated Warehouse-No Rail	4.31631e+006	765.4775	0.0646	7.8300e-003	769.4265
Total		807.0753	0.0681	8.2600e-003	811.2389

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	0.5288	8.0000e-005	9.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0180	0.0180	5.0000e-005	0.0000	0.0192
Unmitigated	0.5288	8.0000e-005	9.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0180	0.0180	5.0000e-005	0.0000	0.0192

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	0.0350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4929					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.5000e-004	8.0000e-005	9.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0180	0.0180	5.0000e-005	0.0000	0.0192
Total	**0.5288**	**8.0000e-005**	**9.2500e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0180**	**0.0180**	**5.0000e-005**	**0.0000**	**0.0192**

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	0.0350					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4929					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.5000e-004	8.0000e-005	9.2500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0180	0.0180	5.0000e-005	0.0000	0.0192
Total	**0.5288**	**8.0000e-005**	**9.2500e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0180**	**0.0180**	**5.0000e-005**	**0.0000**	**0.0192**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	60.7285	0.7313	0.0177	84.2894
Unmitigated	60.7285	0.7313	0.0177	84.2894

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.440848	0.8686	7.0000e-005	1.0000e-005	0.8731
General Office Building	1.05752 / 0.648155	4.0546	0.0348	8.5000e-004	5.1777
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	21.2473 / 0	55.8053	0.6965	0.0169	78.2386
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		60.7285	0.7313	0.0177	84.2894

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.440848	0.8686	7.0000e-005	1.0000e-005	0.8731
General Office Building	1.05752 / 0.648155	4.0546	0.0348	8.5000e-004	5.1777
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	21.2473 / 0	55.8053	0.6965	0.0169	78.2386
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		60.7285	0.7313	0.0177	84.2894

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	18.6610	1.1028	0.0000	46.2317
Unmitigated	18.6610	1.1028	0.0000	46.2317

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.03	6.0900e-003	3.6000e-004	0.0000	0.0151
General Office Building	5.53	1.1225	0.0663	0.0000	2.7811
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	86.37	17.5323	1.0361	0.0000	43.4356
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**18.6610**	**1.1028**	**0.0000**	**46.2317**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.03	6.0900e-003	3.6000e-004	0.0000	0.0151
General Office Building	5.53	1.1225	0.0663	0.0000	2.7811
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	86.37	17.5323	1.0361	0.0000	43.4356
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**18.6610**	**1.1028**	**0.0000**	**46.2317**

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 “D”

Zone Change #23-0007

Ordinance

Ordinance No. ____________

AN ORDINANCE AMENDING THE CODIFIED ORDINANCE OF THE COUNTY OF IMPERIAL RELATING TO ZONES

The Board of Supervisors of the County of Imperial, State of California, ordain as follows:

SECTION 1: Section 92503.05, is added to Chapter 3 of Division 25 of Title 9 of the codified Ordinance of the County of Imperial, State of California, to read as follows:

The map entitled "Calexico Area" Zoning Map No. 03 (Section 92503.00 of the Codified Ordinances) is hereby amended in the following particular only.

Section 92503.05, Amendment to Zoning Map No. 03 "Calexico Area".

The zone classification of those certain parcels of real property situated in the County of Imperial, State of California, more particularly described as:

A Portion of the West Half of the Northwest Quarter of Section 15, T17S, R14E, S.B.B.M., APN: 058-180-001-000

"A-2-U" (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area)

SECTION 2: This Ordinance shall take effect thirty (30) days after the date of its adoption and prior to the expiration of fifteen (15) days from the passage thereof, shall be published at least once in a newspaper of general circulation printed and published in the County of Imperial, State of California, together with the names of the Board of Supervisors voting for and against the same.

PASSED, ADOPTED AND APPROVED by the Board of Supervisors of the County of Imperial this ___ day of __________________, 2024

____
Clerk of the Board of Supervisors

____
Luis A. Plancarte
CHAIRMAN
Board of Supervisors

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ATTACHMENT "E"

CUP Resolution /

CUP #23-0027

RESOLUTION NO.

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF IMPERIAL, CALIFORNIA, FOR THE APPROVAL OF CONDITIONAL USE PERMIT #23-0027 FOR CAL 98 HOLDINGS.

WHEREAS, Cal 98 Holdings has submitted an application for Conditional Use Permit (CUP) #23-0027 to construct and operate a trucking and warehouse operation on the disturbed agricultural field approximately 33 acres; and,

WHEREAS, a Mitigated Negative Declaration and Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA, as Amended"; and,

WHEREAS, the Board of Supervisors of the County of Imperial the responsibility of approvals of conditional use permits.

WHEREAS, public notice of said application has been given, and the Board of Supervisors has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on August 13, 2024, and,

WHEREAS, on March 14, 2024, the Environmental Evaluation Committee heard the proposed project and recommended the Planning Commission recommend to the Board of Supervisors to adopt the Mitigated Negative Declaration; and,

NOW, THEREFORE, the Board of Supervisors of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Board of Supervisors has considered the proposed Conditional Use Permit #23-0027 prior to consideration for approval and the County's consideration of the Project has been noticed in compliance with law.

SECTION 2. That the Project complies with the requirements of the Imperial County Code and is in accordance with State Planning and Zoning law therefore, the following findings are made pursuant to Imperial County Code § 90203.09 as follows:

A. The proposed use is consistent with goals and policies of the adopted County General Plan. (Imperial County Code § 90203.09.A)

The current General Plan land use designations of the project site and proposed parcels are "Urban Area" Therefore, the proposed uses could be found consistent with the General Plan.

B. The proposed use is consistent with the purpose of the zone or sub-zone within which the use will be used. (Imperial County Code § 90203.09.B)

Approval of proposed Zone Change #23-0007 changing the project parcel from A-2-U to M-1-U would allow the proposed trucking and warehouse operation CUP to be consistent with the zone as trucking operations are an allowed use with an approved Conditional Use Permit in the M-1-U zone.

C. The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.00. (Imperial County Code § 90203.09.C)

The proposed use will be consistent with approval of the proposed zone change as trucking operations are an allowed use with an approved Conditional Use Permit in the M-1-U (Light Industrial within Urban Area).

D. The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulation of the County of Imperial and the State of California. (Imperial County Code § 90203.09.D)

The Project complies with the minimum requirements of this Title by, among other things, obtaining a CUP, complying with the California Environmental Quality Act, and participating in the public review and hearing process. The Conditions of Approval will ensure that the project complies with all applicable regulations of the County of Imperial and the State of California as well. Therefore, the proposed project meets the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity. (Imperial County Code § 90203.09.E)

The project was environmentally evaluated and received a Mitigated Negative Declaration from the Environmental Evaluation Committee on March 14, 2024.

The project would not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity due to the conditions of approval, the Mitigation, Monitoring and Reporting Program, and the rules and regulations of Imperial County and the State of California.

F. **The proposed use does not violate any other law or ordinance. (Imperial County Code § 90203.09.F)**

The proposed project is conditioned to be consistent with Title 9, Codified Land Use Ordinance of the County of Imperial and CEQA. The proposed project will be subject to Conditions of Conditional Use Permit #23-0027 and current Federal, State, and Local regulations.

G. **The proposed use is not granting a special privilege. (Imperial County Code § 90203.09.G)**

The proposed trucking and warehouse operation is a permitted use subject to approval of the proposed Conditional Use Permit. No special privileges are being offered or will be granted.

SECTION 3. Approval of the Project is conditioned upon the terms and conditions set forth in the Agreement for Conditional Use Permit #23-0027 attached hereto and incorporated herein by this reference.

NOW, THEREFORE, based on the above findings, the Imperial County Board of Supervisors **DOES HEREBY APPROVE** of Conditional Use Permit #23-0027, subject to the attached Conditions of Approval.

____

Luis A. Plancarte, Chairman of the
Imperial County Board of Supervisors

I hereby certify that the preceding resolution was taken by the Board of Supervisors at a meeting conducted on **August 13, 2024** by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

ATTEST:

Blanca Acosta
Clerk of the board of Supervisors

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Recorded Requested by and
When Recorded Return To:

Imperial County Planning & Development
Services Department
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT #23-0027 FOR CAL 98 HOLDINGS COMMERCIAL TRUCKING AND WAREHOUSING FACILITY

Planning Commission Approved Conditions (XX/XX/XXXX)
Effective Date (XX/XX/XXXX)

Conditional Use Permit #23-0027 was approved by the Imperial County ☐ Planning Commission ☐ Board of Supervisors and has the Effective Date of MONTH DAY, YEAR. This Conditional Use Permit is by and between Cal 98 Holdings. - (hereinafter referred to as "Permittee"), and the COUNTY OF IMPERIAL, a political subdivision of the State of California, (hereinafter referred to as "COUNTY").

RECITALS

WHEREAS, Permittee is the owner, lessee or successor in interest in certain land in Imperial County located at 15 E Hwy 111, Calexico, CA 92231, a Portion of the West Half of the Northwest Quarter of Section 15, T17S, R14E, S.B.B.M., in an unincorporated area of the County of Imperial. The Assessor's Parcel Number is 058-180-001-000; and,

WHEREAS, Permittee has applied to the County for permission to operate a trucking and warehousing facility; and,

WHEREAS, the County, after a noticed public hearing, agreed to issue Conditional Use Permit #23-0027 to Permittee, and/or his or her successor in interest subject to the following conditions:

G-5 TIME LIMIT:

Unless otherwise specified within the project's specific conditions **this CUP shall be limited to a maximum of five (5) years from the Effective Date of the CUP**. The CUP may be administratively extended for successive five (5) years by the Planning Director upon a finding by the Planning & Development Services Department that the project is in full and complete compliance with all conditions of the CUP and any applicable land use regulation(s) and extension fees of the County of Imperial. Unless specified otherwise herein no CUP shall be extended for more than two (2) consecutive periods. If an extension is necessary or requested beyond fifteen (15) years, Permittee shall file a written request with the Planning Director for a hearing before the Planning Commission. Such request shall include the appropriate extension fee. **An extension of this CUP shall not be granted if the project is in violation of any one or all of the conditions or if there is a history of non-compliance with the project conditions.**

G-6 ABANDONMENT:

If a CUP has been unused, abandoned, discontinued, or ceased for one (1) year, the CUP shall be null and void, and be of no effect. Notice to applicant/permittee under this division will not be required or provided by the Department.

G-7 PERMIT/LICENSE:

Permittee shall obtain and comply with any and all required permits, licenses, and/or approvals, for the construction and/or operation of this project. This shall include, but shall NOT be limited to, permits from the County Division of Environmental Health Services (EHS), Planning & Development Services Department, Office of Emergency Services (OES), Imperial County Air Pollution Control District (ICAPCD) and Public Works Department. The permittee shall likewise comply with all such permit requirements for the life of the project. **Additionally, the Permittee shall submit a copy of such additional permit(s) and/or license(s) to the Planning & Development Services Department within 60-days of receipt, including amendments or alternatives thereto.**

G-8 APPROVALS AND CONDITIONS SUBSEQUENT TO GRANTING PERMIT:

Permittee acceptance of this CUP shall be deemed to constitute agreement with the terms and conditions contained herein. Where a requirement is imposed in this CUP that Permittee conduct a monitoring program, and where the County has reserved the right to impose or modify conditions with which the Permittee must comply based on data obtained therefrom, or where the Permittee is required to prepare specific plans for County approval and disagreement arises, the Permittee, operator and/or agent, the Planning and Development Services Director or other affected party, to be determined by the Planning and Development Services Director, may

G-11 INSURANCE:

The Permittee shall take out and maintain workers compensation insurance as required by the State of California. The Permittee shall also secure liability insurance and such other insurance as required by state and/or federal law. A Certificate of Insurance is to be provided to the Planning and Development Services Department by the insurance carrier and said insurance and certificate shall be kept current for the life of the project. Certificates of Insurance shall be sent directly to the Planning and Development Services Department by the insurance carrier and shall name the Department as a recipient of both renewal and cancellation notices.

G-12 RIGHT OF ENTRY:

The County reserves the right to enter the premises at any time, announced or unannounced, in order to make the appropriate inspection(s) and to determine if the condition(s) of this CUP are complied with. Access by authorized enforcement agency personnel shall not be denied.

G-13 SEVERABILITY:

Should any condition(s) of this CUP be determined by a Court or other agency with proper jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this CUP.

G-14 PROVISION TO RUN WITH LAND:

The provisions of this CUP are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest; assignee(s) and/or transferee(s) of said CUP. **The permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of CUP or any right or privilege therein.** The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective. The permitted use identified herein is limited for use upon this parcel described herein and may not be transferred to another parcel.

G-15 COMPLIANCE/REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this CUP, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning Commission for hearing to consider appropriate response

G-20 <u>WATER AND SEWER:</u>

The Permittee shall provide water and sewer to Federal, State and County standards. Water and sewer systems shall be approved by the Environmental Health Services and the Planning & Development Services Department. Permittee shall hook up to a public water system or supplier if and when available.

G-21 <u>DEFINITIONS:</u>

In the event of a dispute, the meaning(s) or the intent of any word(s) phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors ten (10) days from the date of their decision.

G-22 <u>SPECIFICITY:</u>

The issuance of this CUP does not authorize the Permittee to construct or operate this project in violation of any state, federal, local law nor beyond the specified boundaries of the project as shown in the application/project description/ CUP, nor shall this CUP allow any accessory or ancillary use not specified herein. This CUP does not provide any prescriptive right or use to the Permittee for future addition and/or modification to this project.

G-23 <u>HEALTH HAZARD:</u>

If the County Health Officer determines that a significant health hazard exists to the public, the County Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of the subject operations. However, within forty-five (45) days of any such suspension of operations, the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

G-24 <u>CHANGE OF OWNER/OPERATOR:</u>

In the event the ownership of the site or the operation of the site transfers from the current Permittee to a new successor Permittee, the successor Permittee shall be bound by all terms and conditions of this CUP as if said successor was the original

PROJECT SPECIFIC CONDITIONS:

S-1 PROJECT DESCRIPTION:

The permit authorizes the Permittee to construct and operate a trucking and warehousing facility consisting of a 120,245 square foot warehouse, a maximum of 832 semi-trailer parking spaces, and 20 truck parking spaces on the disturbed agricultural field only as proposed on the project site plan, 33.5 acres +/-.

S-2 PAVING AND PARKING:

Parking is only allowed within the fence line and on paved surfaces of the developed portion of the parcel. No parking is allowed on Kemp Road, SR-98, or on the remaining undeveloped land of the parcel nor on any unpaved portion of the property. Any parking of vehicles or trailers of any type outside of the area described above will be in violation of this condition and the permit.

S-3 ACCESS TO SITE:

Access to the site shall be as described in the traffic study and project description and/or as approved through an encroachment permit.

S-4 HOURS OF OPERATION:

The facility will be allowed to open Monday through Sunday from 8:00 a.m. to 9:00 p.m. seven (7) days a week.

S-5 LIGHT & GLARE:

The Permittee is allowed to have security as well as operational lighting. Said lighting shall be shielded and directed to on-site areas only to minimize off-site impacts due to unacceptable levels of light or glare.

S-6 FENCING:

A 7-foot masonry wall shall be constructed on the north, west and east sides of the developed area of the property with the south boundary of the developed area having a transparent fence to allow for monitoring of the southern undeveloped portion of the property for trespassing and illegal dumping.

S-7 LATEST CODES GOVERN:

All on-site structures shall be designed and built to comply with the latest edition of the applicable codes.

covered under an encroachment permit shall include the installation of, but not be limited to, stabilized construction entrances, driveways, road improvements, temporary traffic control devices, etc.

D. Prior to the issuance of grading and building permits, a stabilized construction entrance shall be installed under an encroachment permit from this ICDPW.

E. The Developer (Permittee) shall repair any damage caused to County Roads during construction and maintain such roads in safe condition as determined by the Imperial County Road Commissioner. Said road repairs shall be completed under an encroachment permit from ICDPW.

D. Developer (Permittee) will be responsible for any impact mitigation measures identified on the Traffic Study, including but not limited to, road improvements, intersection improvements, right/left turn lanes for site access, fair share costs, etc.

E. The Developer (Permittee) shall provide westbound left-turn and northbound right-turn improvements at the Dogwood and Cole Road Intersection.[3]

S-11 AIR POLLUTION CONTROL DISTRICT:[4]

A construction Dust Control Plan shall be submitted to the Imperial County Air Pollution Control District, as well as abide by all Air District rules and regulations with emphasis on Regulation VIII – Fugitive Dust Rules.

S-12 IMPERIAL COUNTY DIVISION OF ENVIRONMENTAL HEALTH (DEH):[5]

A. The Permittee shall apply for a public water system through DEH if required. If the applicant applies for a public water system permit, a technical report will need to be prepared, submitted, and approved by DEH and concurred on by the California State Water Resources Control Board, Division of Drinking Water.

B. The Permittee shall apply for an on-site wastewater treatment system.

C. The area of the property not being farmed, located on the southern portion of the property, has had some historical illegal dumping in and around this area. Applicant shall ensure any illegally dumped waste throughout the entire property is collected and properly disposed at a permitted disposal/recycling facility.

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3 Imperial County Department of Public Works comment email dated: March 12, 2024

4 Air Pollution Control District comment letters dated: February 29, 2024 and April 24, 2024

5 Imperial County Division of Environmental Health comment letter dated: December 07, 2024

B. Install adequate lighting, fencing and safety measures to prevent or deter criminal activity.

C. Install license plate reading cameras at all ingress and regress locations at the project site and grant access to the Imperial County Sheriff's Office to review the data collected. It is requested that these cameras be included in the security plan.

D. Install surveillance cameras at the project site to allow for 24/7, three-hundred-and-sixty-degree remote viewing capabilities and recording of activity on the premise

S-15 <u>IMPERIAL COUNTY EXCECUTIVE OFFICE:8</u>

A. Sales Tax Condition. The permittee is required to have a Construction Site Permit reflecting the project site address, allowing all eligible sales tax payments are allocated to the County of Imperial, Jurisdictional Code 13998. The permittee will provide the County of Imperial a copy of the CDTFA account number and sub-permit for its contractor and subcontractors (if any) related to the jobsite. The permittee shall provide in written verification to the County Executive Office that the necessary sales and use tax permits have been obtained, prior to the issuance of any grading permits.

B. Construction/Material Budget: The permittee will provide the County Executive Office a construction materials budget: an official construction materials budget or detailed

S-16 <u>IMPERIAL IRRIGATION DISTRICT:</u>

A. The project's Imperial County-approved grading/drainage and fencing plans along with a copy of the project's Storm Water Pollution Prevention Pian, are to be submitted to IID Water Department Engineering Services Section for review prior to final project design.

B. In order to obtain a water supply from IID for a non-agricultural project, the Project proponent Will be required to comply with all applicable IID policies and regulations and may be required to enter into a water supply agreement. Such policies and regulations require, among other things, that all potential environmental and water supply impacts of the Project, including potential Impacts to the Salton Sea as a result of reduced drainage flow, be adequately assessed, appropriate mitigation developed if Wf3rranted, including any necessary approval conditions adopted by the relevant land use and permitting agencies.

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8 Imperial County Executive Office comment letter dated: October 24, 2023

PERMITTEE:

Cal 98 Holdings.

By:__________________________________ _______________
(TO BE NAMED) Date

COUNTY OF IMPERIAL, a political subdivision of the STATE OF CALIFORNIA:

By:__________________________________ _______________
JAMES MINNICK, Director Date
Planning & Development Services Department

FOR COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF IMPERIAL} S.S.

On________________________ before me, ______________________________ a Notary Public in and for said County and State, personally appeared _________________, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature__________________________________

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.
Title or Type of Document____
Number of Pages__________Date of Document_________________________
Signer(s) Other Than Named Above__________________________________

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ATTACHMENT "F"

PC Package dated

July 10, 2024

PROJECT REPORT

TO: PLANNING COMMISSION — AGENDA DATE **July 10, 2024**

FROM: PLANNING AND DEVELOPMENT SERVICES — AGENDA TIME **9:00 AM/No.2**

PROJECT TYPE: Cal 98 Holdings (ZC #23-0007 / CUP #23-0027) SUPERVISOR DIST: #2

LOCATION: 15 E Hwy 98 (SR-98) Calexico, CA 92231 APN: 058-180-001-000

PARCEL SIZE: +/- 44 Acres

GENERAL PLAN (existing) Urban GENERAL PLAN (proposed) N/A

ZONE (existing A-2-U (General Agriculture/Urban) ZONE (proposed) N/A

GENERAL PLAN FINDINGS ☐ CONSISTENT ☐ INCONSISTENT ☒ MAY BE/FINDINGS

PLANNING COMMISSION DECISION: HEARING DATE: 07/10/2024

☐ APRROVED ☐ DENIED ☐ OTHER

PLANNING DIRECTORS DECISION: HEARING DATE: ______

☐ APPROVED ☐ DENIED ☐ OTHER

ENVIROMENTAL EVALUATION COMMITTEE DECISION: HEARING DATE: 03/14/2024

INITIAL STUDY: #23-0033

☐ NEGATIVE DECLARATION ☒ MITIGATED NEG. DECLARATION ☐ EIR

DEPARTMENTAL REPORTS / APPROVALS:

PUBLIC WORKS	☐ NONE	☒ ATTACHED
AG	☒ NONE	☒ ATTACHED
APCD	☐ NONE	☒ ATTACHED
E.H.S.	☐ NONE	☐ ATTACHED
FIRE / OES	☐ NONE	☒ ATTACHED
SHERIFF	☐ NONE	☒ ATTACHED
OTHER	Caltrans, IID	

REQUESTED ACTION:

STAFF RECOMMENDS THAT THE PLANNING COMMISSION HOLD A PUBLIC HEARING, HEAR ALL THE PROPONENTS AND OPPONENTS OF THE PROPOSED PROJECT, AND THEN TAKE THE FOLLOWING ACTIONS:

1. **RECOMMEND TO THE BOARD OF SUPERVISORS, TO ADOPT THE MITIGATED NEGATIVE DECLARATION AS RECOMMENDED BY THE ENVIRONMENT EVALUATION COMMITTEE (EEC) ON MARCH 14, 2024; AND**
2. **RECOMMEND TO THE BOARD OF SUPERVISORS, TO MAKE THE FINDINGS AS RECOMMENDED BY THE EEC ON MARCH 14, 2024, THAT THE PROJECT WILL NOT INDIVIDUALLY OR CUMULATIVELY HAVE AN ADVERSE EFFECT ON FISH AND WILDLIFE RESOURCES, AS DEFINED IN SECTION 711.2 OF THE CALIFORNIA FISH AND GAME CODE; AND,**
3. **RECOMMEND TO THE BOARD OF SUPERVISORS TO ADOPT THE ATTACHED ORDINANCE WITH FINDINGS FOR ZONE CHANGE #23-0007 AND APPROVE CONDITIONAL USE PERMIT #23-0027.**

STAFF REPORT
Planning Commission Meeting
July 10, 2024

Project Name: **Zone Change (ZC) #23-0007**
Conditional Use Permit (CUP) #23-0027

Applicant: **Cal 98 Holdings**
8861 Houghton Road
Bakersfield, CA 93331

Project Location:

The project site is located at 15 E. Hwy-98 (SR-98) Calexico, CA 92231, and is identified as Assessor Parcel Number 058-180-001-000 and is further described as a Portion of the West Half of the Northwest Quarter of Section 15, T17S, R14E, S.B.B.M., in an unincorporated area of the County of Imperial.

Project Summary:

The project proposes Zone Change #23-0007 from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) as well as Conditional Use Permit #23-0027 to construct and operate a trucking and warehousing operation that will consist of a warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. Access to the property will consist of onsite improvement on the west side of the property to create a north and south lane onto Dogwood Road and a left turn only lane on to SR-98 with no right turn on to eastbound SR-98 proposed. Additionally, a left turn lane for passenger vehicles is proposed on westbound SR-98 on to Kemp Road which is on the eastern side of the project. Kemp Road will also be required to be paved based on Imperial County specifications.

The proposed hours for the trucking and warehousing operation are 8 am – 9 pm with a proposed total of 100 trucks per day coming to and from the site and 20 onsite employees. The proposed route for the trucks is from the east port at the Gateway Specific Plan area, north along SR-7 to SR-98, and then west along SR-98 to Cole Road. The trucks will then travel along Cole Road where they will then turn south on to Dogwood Road until they reach the project location where they will enter straight into the property at the proposed Dogwood Road expansion.

The southern portion of the property which is currently vacant undisturbed land is not proposed to be developed or disturbed. There is a history of illegal dumping in that area, and the cleaning and maintaining of this undeveloped portion of the property will be a condition of the Conditional Use Permit.

Land Use Analysis:

Under the Land Use Ordinance of the Imperial County General Plan the project site is designated as "Urban Area". The parcel is classified as A-2-U (General Agriculture in Urban Area) under the Imperial County Land Use Ordinance and trucking and warehousing operation would not be allowed within this zone. An approved change of zone from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) is required in which the proposed trucking and warehousing operation would be allowed in the M-1-U zone with an approved Conditional Use Permit per Imperial County Land Use Ordinance Title 9 Division 5 Chapter 15 § 90515.02 "Uses Permitted Only With a Conditional Use Permit" Subsection ccc) "Trucking services and terminals; trucking firms".

SURROUNDING LAND USES, ZONING AND GENERAL PLAN DESIGNATIONS:

DIRECTION	CURRENT LAND USE	ZONING	GENERAL PLAN
Project Site	Agricultural Field	A-2-U	Urban Area
North	Agricultural Field	A-2-U	Urban Area
South	New River	A-2-U	Urban Area
East	Vacant	R-4-U	Urban Area
West	House	A-2-U/C-1-U	Urban Area

Environmental Review:

The proposed project was environmentally assessed and reviewed by the Environmental Evaluation Committee. The Committee consists of a seven (7)-member panel, which are the Director of Environmental Health Services, Imperial County Fire Chief, Agricultural

Commissioner, Air Pollution Control Officer, Director of the Department of Public Works, Imperial County Sheriff, and Director of Planning and Development Services. The EEC members have the principal responsibility for reviewing CEQA documents for the County of Imperial. The EEC reviewed the project on March 14, 2024, and recommended a Mitigated Negative Declaration.

The Mitigated Negative Declaration was publicly circulated from March 26, 2024 to April 30, 2024.

Staff Recommendation:

It is recommended that the Planning Commission conduct a public hearing, that you hear all the opponents and proponents of the proposed project. Staff would then recommend that the Planning Commission take the following actions:

1. Recommend to the Board of Supervisors, to adopt the Mitigated Negative Declaration as recommended by the Environment Evaluation Committee (EEC) on March 14, 2024; and
2. Recommend to the Board of Supervisors, to make the findings as recommended by the EEC on March 14, 2024, that the project will not individually or cumulatively have an adverse effect on fish and wildlife resources, as defined in Section 711.2 of the California Fish and Game Code; and,
3. Recommend to the Board of Supervisors to adopt the attached Ordinance with Findings for Zone Change #23-0007 and approve Conditional Use Permit #23-0027.

Prepared By: Derek Newland, Planner III

Reviewed By: Michael Abraham, AICP, ICPDS Assistant Director

PC ORIGINAL PKG

Approved By: Jim Minnick, Planning & Development Services Director

Attachments:

A. Vicinity Map
B. Site Plan
C. CEQA Resolution
D. Zone Change Resolution
E. Zone Change Ordinance
F. Conditional Use Permit Resolution
G. Conditional Use Permit #23-0027 Agreement
H. Comment Letters
I. Environmental Evaluation Committee package

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ATTACHMENT "A"
Vicinity Map

PROJECT LOCATION MAP

CAL 98 HOLDINGS
ZC #23-0007 / CUP #23-0027
IS #23-0033
APN 058-180-001

Project Parcels
Centerline

N

PC ORIGINAL PKG

ATTACHMENT "B"
Site Plan

PC ORIGINAL PKG

PARKING COUNT:
TRAILER PARKING: 832 SPACES
TRUCK PARKING: 20 SPACES
CAR PARKING: 42 SPACES
2 ADA SPACES

KEY PLAN

1 SITE PLAN
SCALE: 1" = 80'-0"

PEARL CONTRACTING

SITE PLAN
CHARGER LOGISTICS
CALEXICO, CA

A1.1

PC ORIGINAL PKG

ATTACHMENT "C"
CEQA Resolution

PC ORIGINAL PKG

RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION FOR THE COUNTY OF IMPERIAL, CALIFORNIA, RECOMMENDING TO THE IMPERIAL COUNTY BOARD OF SUPERVISORS TO ADOPT THE "MITIGATED NEGATIVE DECLARATION" (INITIAL STUDY #23-0033) FOR CONDITIONAL USE PERMIT #23-0027 (CAL 98 HOLDINGS).

WHEREAS, on March 1, 2024, a Public Notice was mailed to the surrounding property owners advising them of the Environmental Evaluation Committee hearing scheduled for March 14, 2024; and,

WHEREAS, a Mitigated Negative Declaration and CEQA Findings were prepared in accordance with the requirements of the California Environmental Quality Act, State Guidelines, and the County's "Rules and Regulations to Implement CEQA, as Amended"; and,

WHEREAS, on March 14, 2024, the Environmental Evaluation Committee heard the project and recommended the Planning Commission of the County of Imperial to recommend to the Board of Supervisors to adopt the Mitigated Negative Declaration for Zone Change #23-0007 and Conditional Use Permit #23-0027; and

WHEREAS, the Mitigated Negative Declaration was circulated for 35 days from 03/26/2024, to 04/30/2024; and,

WHEREAS, the Planning Commission of the County of Imperial has been designated with the responsibility of adoptions and certifications; and,

NOW, THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

The Planning Commission has reviewed the attached Mitigated Negative Declaration (MND) prior to approval of Zone Change #23-0007 and Conditional Use Permit #23-0027. The Planning Commission finds and determines that the Mitigated Negative Declaration is adequate and was prepared in accordance with the requirements of the Imperial County General Plan, Land Use Ordinance and the California Environmental Quality Act (CEQA), which analyses environmental effects, based upon the following findings and determinations:

1. That the recital set forth herein are true, correct and valid; and,

2. That the Planning Commission has reviewed the attached Mitigated Negative Declaration (MND) for Zone Change #23-0007 and Conditional Use Permit #23-0027 and considered the information contained in the Mitigated Negative

Declaration together with all comments received during the public review period and prior to approving the Conditional Use Permit; and,

3. That the Mitigated Negative Declaration reflects the Planning Commission independent judgment and analysis.

NOW, THEREFORE, the County of Imperial Planning Commission **DOES HEREBY RECOMMEND TO THE BOARD OF SUPERVISROS TO ADOPT** the Mitigated Negative Declaration for Zone Change #23-0007 and Conditional Use Permit #23-0027.

____
Rudy Schaffner, Commissioner
Imperial County Planning Commission

I hereby certified that the preceding Resolution was taken by the Planning Commission at a meeting conducted on **July 10, 2024** by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

____
Jim Minnick, Director of Planning & Development Services
Secretary to the Imperial County Planning Commission

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PC ORIGINAL PKG

ATTACHMENT "D"
Zone Change
Resolution

PC ORIGINAL PKG

RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, FOR THE RECOMMENDATION TO THE BOARD OF SUPERVISORS FOR AN APPROVAL OF A ZONE CHANGE TO CHANGE THE ZONING CLASSIFICATION FROM "A-2-U" (GENERAL AGRICULTURE WITH URBAN OVERLAY) TO "M-1-U" (LIGHT INDUSTRIAL WITH URBAN OVERLAY) AND THE ADOPTION OF THE ZONE CHANGE TO THE CODIFIED ORDIANCE.

WHEREAS, Project Applicant, Cal 98 Holdings, has filed an application to re-zone parcel 058-180-001-000 from "A-2-U" (General Agriculture within Urban Area) to "M-1-U" (Light Industrial within Urban Area) for the proposed construction and operation of a trucking and warehouse operation; and,

WHEREAS, the Planning Commission of the County of Imperial has been delegated with the responsibility of making a recommendation to the Board of Supervisors on a decision for changes to Zoning Map No.03 "Calexico Area"; and

WHEREAS, public notice of said application has been given, and the Planning Commission has considered evidence presented by the Imperial County Planning & Development Services Department and other interested parties at a public hearing held with respect to this item on July 10, 2024; and,

NOW THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission has considered the proposed Zone Change #23-0007, prior to making a recommendation to the Board of Supervisors on a decision for the proposed amendment to the Zoning Map. Planning Commission finds and determines that the Environmental Impact Report is adequate and prepared in accordance with the requirements of the California Environmental Quality Act (CEQA), which analyzes environmental effects, based upon the following findings and determinations.

SECTION 2. That in accordance with State Planning and Zoning law and the County of Imperial General Plan and Zoning Ordinances, the following findings for the approval of Zone Change #23-0007 have been made as follows:

1. The proposed Zone Change has been analyzed relative to its potential to be detrimental to the health, safety, comfort and welfare of the persons residing or working within the neighborhood of the proposed Zone Change. Staff concluded that the project does not propose land uses, densities, or development patterns that will jeopardize the health and safety of the persons residing or working within the neighborhood of the property. Health, safety, and welfare will not be degraded as a result of this project.

2. The Zone Change is consistent with the General Plan's underlying land use designation.

3. The proposed Zone Change subject to this recommendation is consistent with the uses allowed by Imperial County's Land Use Ordinance 90515.02.

4. The site physically is suitable for this type of development and zoning. The project site consists of generally low-lying level topography.

5. The change of zone will not conflict with any easements required by the public at large for access through or use of the property with the proposed zone change.

6. The change of zone is also consistent with the General Plan Land Use Element goals and objectives as shown on MND (SCH # 2024031103).

NOW, THEREFORE, based on the above findings, the Planning Commission of the County of Imperial **DOES HEREBY** recommend for the Board of Supervisors to approve the proposed Zone Change #23-0007 to rezone from the current zoning of "A-2-U" (General Agriculture within Urban Area) to "M-1-U" (Light Industrial within Urban Area) and the proposed change to the Imperial County Codified Zoning Ordinance.

____
Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certify that the preceding resolution was taken by the Planning Commission at a meeting conducted on **July 10, 2024** by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

____
Jim Minnick, Director of Planning & Development Services
Secretary to the Planning Commission
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PC ORIGINAL PKG

ATTACHMENT "E"
Zone Change
Ordinance

PC ORIGINAL PKG

Ordinance No. ____________

AN ORDINANCE AMENDING THE CODIFIED ORDINANCE OF THE COUNTY OF IMPERIAL RELATING TO ZONES

The Board of Supervisors of the County of Imperial, State of California, ordain as follows:

SECTION 1: Section 92503.05, is added to Chapter 3 of Division 25 of Title 9 of the codified Ordinance of the County of Imperial, State of California, to read as follows:

The map entitled "Calexico Area" Zoning Map No. 03 (Section 92503.00 of the Codified Ordinances) is hereby amended in the following particular only.

Section 92503.05, Amendment to Zoning Map No. 03 "Calexico Area".

The zone classification of those certain parcels of real property situated in the County of Imperial, State of California, more particularly described as:

A Portion of the West Half of the Northwest Quarter of Section 15, T17S, R14E, S.B.B.M., APN: 058-180-001-000

"A-2-U" (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area)

SECTION 2: This Ordinance shall take effect thirty (30) days after the date of its adoption and prior to the expiration of fifteen (15) days from the passage thereof, shall be published at least once in a newspaper of general circulation printed and published in the County of Imperial, State of California, together with the names of the Board of Supervisors voting for and against the same.

PASSED, ADOPTED AND APPROVED by the Board of Supervisors of the County of Imperial this ___ day of __________________, 2024

____
Clerk of the Board of Supervisors

____
Luis A. Plancarte
CHAIRMAN
Board of Supervisors

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PC ORIGINAL PKG

ATTACHMENT "F"

Planning Commission Resolution

RESOLUTION NO.

A RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF IMPERIAL, CALIFORNIA, RECOMMENDING APPROVAL TO THE BOARD OF SUPERVISORS FOR CONDITIONAL USE PERMIT #23-0027 FOR CAL 98 HOLDINGS.

WHEREAS, Cal 98 Holdings has submitted an application for Conditional Use Permit (CUP) #23-0027 to construct and operate a trucking and warehouse operation; and,

WHEREAS, a Mitigated Negative Declaration and Findings have been prepared in accordance with the requirements of the California Environmental Quality Act, the State Guidelines, and the County's "Rules and Regulations to Implement CEQA, as Amended"; and

WHEREAS, the Planning Commission of the County of Imperial has been delegated with the responsibility of approvals, certifications and making recommendations to the Imperial County Board of Supervisors for approvals of conditional use permits; and,

WHEREAS, public notice of said application has been given, and the Planning Commission has heard, received and considered all oral and written protests, objections and evidence presented by interested parties at a public hearing held with respect to this item on July 10, 2024, and,

WHEREAS, on March 14, 2024, the Environmental Evaluation Committee heard the proposed project and recommended the Planning Commission recommend to the Board of Supervisors to adopt the Mitigated Negative Declaration; and,

NOW, THEREFORE, the Planning Commission of the County of Imperial **DOES HEREBY RESOLVE** as follows:

SECTION 1. The Planning Commission has considered the proposed Conditional Use Permit #23-0027 prior to recommending approval and the County's consideration of the Project has been noticed in compliance with law.

SECTION 2. That the Project complies with the requirements of the Imperial County Code and is in accordance with State Planning and Zoning law therefore, the following findings are made pursuant to Imperial County Code § 90203.09 as follows:

A. **The proposed use is consistent with goals and policies of the adopted County General Plan. (Imperial County Code § 90203.09.A)**

The current General Plan land use designations of the project site and proposed parcels are "Urban Area" Therefore, the proposed uses could be found consistent with the General Plan.

B. **The proposed use is consistent with the purpose of the zone or sub-zone within which the use will be used. (Imperial County Code § 90203.09.B)**

Approval of proposed Zone Change #23-0007 changing the project parcel from A-2-U to M-1-U would allow the proposed trucking and warehouse operation CUP to be consistent with the zone as trucking operations are an allowed use with an approved Conditional Use Permit in the M-1-U zone.

C. **The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.00. (Imperial County Code § 90203.09.C)**

The proposed use will be consistent with approval of the proposed zone change as trucking operations are an allowed use with an approved Conditional Use Permit in the M-1-U (Light Industrial within Urban Area).

D. **The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulation of the County of Imperial and the State of California. (Imperial County Code § 90203.09.D)**

The Project complies with the minimum requirements of this Title by, among other things, obtaining a CUP, complying with the California Environmental Quality Act, and participating in the public review and hearing process. The Conditions of Approval will insure that the project complies with all applicable regulations of the County of Imperial and the State of California as well. Therefore, the proposed project meets the minimum requirements of the Land Use Ordinance, Section 90203.00.

E. **The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity. (Imperial County Code § 90203.09.E)**

The project was environmentally evaluated and received a Mitigated Negative Declaration from the Environmental Evaluation Committee on March 14, 2024. The project would not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity due to the conditions of approval, the Mitigation, Monitoring and Reporting Program, and the rules and regulations of Imperial County and the State of California.

F. The proposed use does not violate any other law or ordinance. (Imperial County Code § 90203.09.F)

The proposed project is conditioned to be consistent with Title 9, Codified Land Use Ordinance of the County of Imperial and CEQA. The proposed project will be subject to Conditions of Conditional Use Permit #23-0027 and current Federal, State, and Local regulations.

G. The proposed use is not granting a special privilege. (Imperial County Code § 90203.09.G)

The proposed trucking and warehouse operation is a permitted use subject to approval of the proposed Conditional Use Permit. No special privileges are being offered or will be granted.

SECTION 3. Approval of the Project is conditioned upon the terms and conditions set forth in the Agreement for Conditional Use Permit #23-0027 attached hereto and incorporated herein by this reference.

NOW, THEREFORE, based on the above findings, the Imperial County Planning Commission **DOES HEREBY RECOMMEND TO THE BOARD OF SUPERVISORS FOR APPROVAL** of Conditional Use Permit #23-0027 to the Board of Supervisors, subject to the attached Conditions of Approval.

Rudy Schaffner, Chairperson
Imperial County Planning Commission

I hereby certify that the Planning Commission at a meeting conducted on **July 10, 2024** by the following vote approved the preceding resolution:

AYES:
NOES:
ABSENT:
ABSTAIN:

ATTEST:

____

Jim Minnick, Director of Planning & Development Services
Secretary to the Planning Commission

S:\AllUsers\APN\058\180\001\ZC23-0007_CUP23-0027_IS23-0033\PC\CUP23-0027 PC Resolution.docx

ATTACHMENT "G"

Conditional Use Permit Agreement

PC ORIGINAL PKG

Recorded Requested by and
When Recorded Return To:

Imperial County Planning & Development
Services Department
801 Main Street
El Centro, California 92243

AGREEMENT FOR CONDITIONAL USE PERMIT #23-0027 FOR CAL 98 HOLDINGS COMMERCIAL TRUCKING AND WAREHOUSING FACILITY

Planning Commission Approved Conditions (XX/XX/XXXX)
Effective Date (XX/XX/XXXX)

Conditional Use Permit #23-0027 was approved by the Imperial County ☐ Planning Commission ☐ Board of Supervisors and has the Effective Date of MONTH DAY, YEAR. This Conditional Use Permit is by and between Cal 98 Holdings. - (hereinafter referred to as "Permittee"), and the COUNTY OF IMPERIAL, a political subdivision of the State of California, (hereinafter referred to as "COUNTY").

RECITALS

WHEREAS, Permittee is the owner, lessee or successor in interest in certain land in Imperial County located at 15 E Hwy 111, Calexico, CA 92231, a Portion of the West Half of the Northwest Quarter of Section 15, T17S, R14E, S.B.B.M., in an unincorporated area of the County of Imperial. The Assessor's Parcel Number is 058-180-001-000; and,

WHEREAS, Permittee has applied to the County for permission to operate a trucking and warehousing facility; and,

WHEREAS, the County, after a noticed public hearing, agreed to issue Conditional Use Permit #23-0027 to Permittee, and/or his or her successor in interest subject to the following conditions:

GENERAL CONDITIONS:

G-1 GENERAL LAWS:

The Permittee shall obtain, comply with and maintain all applicable County, State, and federal laws, rules, regulations, ordinances, and/or standards as they may pertain to this project whether specified herein or not.

G-2 EFFECTIVE DATE:

The approved Conditional Use Permit shall not become effective until ten (10) calendar days after the decision of the Planning Director or Commission. Further the Conditional Use Permit shall not be effective until applicable conditions have been met, and the Conditional Use Permit is recorded with the County Recorder, with payment of recording fees being paid by applicant. In the case of a decision by the Board of Supervisors there is no 10-day appeal.

G-3 RECORDATION:

CUP #23-0018 shall **not be effective** until it is recorded at the Imperial County Recorder's Office and if no appeal has been made after approval from the hearing body. Payment of the recordation fee shall be the responsibility of the Permittee. If this CUP is not recorded within one hundred eighty (180) days from the date of approval the CUP shall be deemed null and void, without notice having to be provided to Permittee. The permittee may submit a written request for a recordation extension for this CUP by filing such a request with the Planning Director at least sixty (60) days prior to the one hundred eighty 180-day expiration. The Director may approve one (1) extension for a period not to exceed one hundred eighty (180) days. An extension may not be granted if the request for an extension is filed after the expiration date. Failure to record this CUP within one (1) year including the granted extension period shall deem this CUP null and void.

G-4 COMMENCEMENT OF WORK:

If the project for which a CUP has been approved has not commenced, or permits for said project have not been issued, within one (1) year from effective date, the CUP shall be null and void. If an applicant cannot initiate or obtain permits for the approved use during the one (1) year, the applicant may request a one (1) year extension from the Department. The request for an extension shall be in writing and be submitted with explanation to the Planning & Development Services Department at least sixty days prior to the end of the extended one (1) year period. The Director shall have the authority to extend the initial start-up period, or commencement of work, of a CUP up to two (2) times for a maximum of two (2) years. Should the Permittee desire to continue with the project, a new application shall be submitted, and the entire process would have to begin anew.

G-5 TIME LIMIT:

Unless otherwise specified within the project's specific conditions **this CUP shall be limited to a maximum of five (5) years from the Effective Date of the CUP.** The CUP may be administratively extended for successive five (5) years by the Planning Director upon a finding by the Planning & Development Services Department that the project is in full and complete compliance with all conditions of the CUP and any applicable land use regulation(s) and extension fees of the County of Imperial. Unless specified otherwise herein no CUP shall be extended for more than two (2) consecutive periods. If an extension is necessary or requested beyond fifteen (15) years, Permittee shall file a written request with the Planning Director for a hearing before the Planning Commission. Such request shall include the appropriate extension fee. **An extension of this CUP shall not be granted if the project is in violation of any one or all of the conditions or if there is a history of non-compliance with the project conditions.**

G-6 ABANDONMENT:

If a CUP has been unused, abandoned, discontinued, or ceased for one (1) year, the CUP shall be null and void, and be of no effect. Notice to applicant/permittee under this division will not be required or provided by the Department.

G-7 PERMIT/LICENSE:

Permittee shall obtain and comply with any and all required permits, licenses, and/or approvals, for the construction and/or operation of this project. This shall include, but shall NOT be limited to, permits from the County Division of Environmental Health Services (EHS), Planning & Development Services Department, Office of Emergency Services (OES), Imperial County Air Pollution Control District (ICAPCD) and Public Works Department. The permittee shall likewise comply with all such permit requirements for the life of the project. **Additionally, the Permittee shall submit a copy of such additional permit(s) and/or license(s) to the Planning & Development Services Department within 60-days of receipt, including amendments or alternatives thereto.**

G-8 APPROVALS AND CONDITIONS SUBSEQUENT TO GRANTING PERMIT:

Permittee acceptance of this CUP shall be deemed to constitute agreement with the terms and conditions contained herein. Where a requirement is imposed in this CUP that Permittee conduct a monitoring program, and where the County has reserved the right to impose or modify conditions with which the Permittee must comply based on data obtained therefrom, or where the Permittee is required to prepare specific plans for County approval and disagreement arises, the Permittee, operator and/or agent, the Planning and Development Services Director or other affected party, to be determined by the Planning and Development Services Director, may request that a hearing be conducted before the Imperial County Planning Commission whereby they may state the requirements which will implement the applicable conditions as intended herein. Upon receipt of a request, the Planning Commission shall conduct a hearing and make a written determination. The Planning Commission may request support and advice from a technical advisory committee. Failure to take any action shall constitute endorsement of the staff's determination with respect to implementation.

G-9 CONDITION PRIORITY:

This project shall be constructed/operated as described in the CUP application, the environmental documents, the project description, and as specified in these conditions. Where a conflict occurs, the CUP conditions shall govern.

G-10 INDEMNIFICATION:

As part of this application, applicant and real party in interest, if different, agree to defend, indemnify, hold harmless, and release the County of Imperial ("County"), its agents, officers, attorneys, and employees (including consultants) from any claim, action, or proceeding brought against any of them, the purpose of which is to attack, set aside, void, or annul the approval of this application or adoption of the environmental document which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney fees, or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, whether or not there is concurrent negligence on the part of the County, its agents, officers, attorneys, or employees (including consultants).
If any claim, action, or proceeding is brought against the County, its agents, officers, attorneys, or employees (including consultants), to attack, set aside, void, or annul the approval of the application or adoption of the environmental document which accompanies it, then the following procedures shall apply:

1. The Planning Director shall promptly notify the County Board of Supervisors of any claim, action or proceeding brought by an applicant challenging the County's action. The County, its agents, attorneys and employees (including consultants) shall fully cooperate in the defense of that action.

2. The County shall have the final determination on how to best defend the case and will consult with applicant regularly regarding status and the plan for defense. The County will also consult and discuss with applicant the counsel to be used by County to defend it, either with in-house counsel, or by retaining outside counsel provided that the County shall have the final decision on the counsel retained to defend it. The applicant shall be fully responsible for all costs incurred. The applicant shell be entitled to provide his or her own counsel to defend the case and said independent counsel shall work with County Counsel to provide a joint defense.

G-11 INSURANCE:

The Permittee shall take out and maintain workers compensation insurance as required by the State of California. The Permittee shall also secure liability insurance and such other insurance as required by state and/or federal law. A Certificate of Insurance is to be provided to the Planning and Development Services Department by the insurance carrier and said insurance and certificate shall be kept current for the life of the project. Certificates of Insurance shall be sent directly to the Planning and Development Services Department by the insurance carrier and shall name the Department as a recipient of both renewal and cancellation notices.

G-12 RIGHT OF ENTRY:

The County reserves the right to enter the premises at any time, announced or unannounced, in order to make the appropriate inspection(s) and to determine if the condition(s) of this CUP are complied with. Access by authorized enforcement agency personnel shall not be denied.

G-13 SEVERABILITY:

Should any condition(s) of this CUP be determined by a Court or other agency with proper jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this CUP.

G-14 PROVISION TO RUN WITH LAND:

The provisions of this CUP are to run with the land/project and shall bind the current and future owner(s) successor(s) of interest; assignee(s) and/or transferee(s) of said CUP. **The permittee shall not without prior notification to the Planning & Development Services Department assign, sell, or transfer, or grant control of CUP or any right or privilege therein.** The Permittee shall provide a minimum of 60 days written notice prior to such proposed transfer becoming effective. The permitted use identified herein is limited for use upon this parcel described herein and may not be transferred to another parcel.

G-15 COMPLIANCE/REVOCATION:

Upon the determination by the Planning & Development Services Department that the project is or may not be in full compliance with any one or all of the conditions of this CUP, or upon the finding that the project is creating a nuisance as defined by law, the issue shall be brought immediately to the appropriate enforcement agency or to the Planning Commission for hearing to consider appropriate response including but not limited to the revocation of the CUP or to consider possible amendments to the CUP. The hearing shall be held upon due notice having been provided to the Permittee and to the public in accordance with established ordinance/policy.

G-16 NON-COMPLIANCE (ENFORCEMENT & TERMINATION):

Should the Permittee violate any condition herein, the County shall give written notice of such violation and actions required of Permittee to correct such violation. If the Permittee does not act to correct the identified violation within forty-five (45) days after written notice, County may revoke the CUP. If Permittee pursues correction of such violation with reasonable diligence, the County may extend the cure period. Upon such revocation, County may, at its sole discretion, cease processing, defending any lawsuit or paying for costs associated with the Project.

G-17 COSTS:

Permittee shall pay any and all amounts determined by the County to defray any and all cost(s) for the review of reports, field investigations, monitoring, and other activities directly related to the enforcement/monitoring for compliance of this CUP, County Ordinance or any other applicable law. Any billing against this project, now or in the future, by the Planning & Development Services Department or any County Department for costs incurred as a result of this CUP, shall be billed through the Planning & Development Services Department.

G-18 REPORT(S)

The Permittee shall file an annual report with the Planning and Development Services Department to show that Permittee is in full compliance with this CUP. The report shall be filed at least fifteen (15) days prior to the anniversary (recordation date) of this CUP. It shall be the responsibility of the Permittee to provide all reports and to include the information about other users. The County may request information at any time from the Permittee or other users if applicable; however, it shall be the responsibility of the Permittee to assure that the County receives such information in a timely manner.

G-19 RESPONSIBLE AGENT

The Permittee shall maintain on file with the Planning and Development Services Department the name and phone number of the responsible agent for the site. A back-up name shall also be provided, and a phone number for twenty-four (24) hour emergency contact shall also be on file. If there are other users, the same information (as applicable) required from the Permittee shall also be made available to the County from such other users.

G-20 WATER AND SEWER:

The Permittee shall provide water and sewer to Federal, State and County standards. Water and sewer systems shall be approved by the Environmental Health Services and the Planning & Development Services Department. Permittee shall hook up to a public water system or supplier if and when available.

G-21 DEFINITIONS:

In the event of a dispute, the meaning(s) or the intent of any word(s) phrase(s) and/or conditions or sections herein shall be determined by the Planning Commission of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors ten (10) days from the date of their decision.

G-22 SPECIFICITY:

The issuance of this CUP does not authorize the Permittee to construct or operate this project in violation of any state, federal, local law nor beyond the specified boundaries of the project as shown in the application/project description/ CUP, nor shall this CUP allow any accessory or ancillary use not specified herein. This CUP does not provide any prescriptive right or use to the Permittee for future addition and/or modification to this project.

G-23 HEALTH HAZARD:

If the County Health Officer determines that a significant health hazard exists to the public, the County Health Officer may require appropriate measures and the Permittee shall implement such measures to mitigate the health hazard. If the hazard to the public is determined to be imminent, such measures may be imposed immediately and may include temporary suspension of the subject operations. However, within forty-five (45) days of any such suspension of operations, the measures imposed by the County Health Officer must be submitted to the Planning Commission for review and approval. Nothing shall prohibit Permittee from requesting a special Planning Commission meeting provided Permittee bears all costs.

G-24 CHANGE OF OWNER/OPERATOR:

In the event the ownership of the site or the operation of the site transfers from the current Permittee to a new successor Permittee, the successor Permittee shall be bound by all terms and conditions of this CUP as if said successor was the original

Permittee. The current Permittee shall inform the County Planning & Development Services Department in writing at least sixty (60) days prior to any such transfer. Failure of a notice of change of ownership or change of operator shall be grounds for the immediate revocation of the CUP. In the event of a change, the new Owner/Operator shall file with the Department, via certified mail, a letter stating that they are fully aware of all conditions and acknowledge that they will adhere to all.

G-25 <u>PERMITS OF OTHER AGENCIES INCORPORATED:</u>

Permits granted by other governmental agencies in connection with the Project are incorporated herein by reference. The County reserves the right to apply conditions of those permits, as the County deems appropriate; provided, however, that enforcement of a permit granted by another governmental agency shall require concurrence by the respective agency. The permittee shall provide to the County, upon request, copies and amendments of all such permits.

G-26 <u>MINOR AMENDMENTS:</u>

The Planning Director may approve minor changes or administrative extensions, as requested in writing by the Permittee, provided it does not result in additional environmental impacts and/or are generally procedural or technical and/or which may be necessary to comply with other government permit compliance requirements.

(TOTAL "G" CONDITIONS are 26)

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PROJECT SPECIFIC CONDITIONS:

S-1 PROJECT DESCRIPTION:

The permit authorizes the Permittee to construct and operate a trucking and warehousing facility consisting of a 120,245 square foot warehouse, a maximum of 832 semi-trailer parking spaces, and 20 truck parking spaces on the disturbed agricultural field only as proposed on the project site plan, 33.5 acres +/-.

S-2 PAVING AND PARKING:

Parking is only allowed within the fence line and on paved surfaces of the developed portion of the parcel. No parking is allowed on Kemp Road, SR-98, or on the remaining undeveloped land of the parcel nor on any unpaved portion of the property. Any parking of vehicles or trailers of any type outside of the area described above will be in violation of this condition and the permit.

S-3 ACCESS TO SITE:

Access to the site shall be as described in the traffic study and project description and/or as approved through an encroachment permit.

S-4 HOURS OF OPERATION:

The facility will be allowed to open Monday through Sunday from 8:00 a.m. to 9:00 p.m. seven (7) days a week.

S-5 LIGHT & GLARE:

The Permittee is allowed to have security as well as operational lighting. Said lighting shall be shielded and directed to on-site areas only to minimize off-site impacts due to unacceptable levels of light or glare.

S-6 FENCING:

Maximum 7-foot masonry wall shall be constructed on the north, west and east sides of the developed area of the property with the south boundary of the developed area having a transparent fence to allow for monitoring of the southern undeveloped portion of the property for trespassing and illegal dumping.

S-7 LATEST CODES GOVERN:

All on-site structures shall be designed and built to comply with the latest edition of the applicable codes.

S-8 ACCESS AND ROAD IMPROVEMENTS:

The Permittee will install a westbound turn lane on SR-98 as described in the application as well as a north, south, and left turn lane on the property at the intersection of SR-98 and Dogwood Rd. as described in the project, traffic study and site plans with no right turn access. Kemp Rd. shall be paved to Imperial County Public Works Department standards.

Truck traffic coming from the east and north shall access the facility from Dogwood Road. No truck traffic shall access the facility from the westbound lane of SR-98.

S-9 CALTRANS:1

A. The Permittee will apply for an obtain an encroachment permit for the improvements at SR-98 and Kemp Road as well as the improvements at SR-98 and Dogwood Rd.

B. A hydraulics study, drainage and grading plan will be prepared and provided to Caltrans as part of the encroachment permit process.

C. An Intersection Control Evaluation (ICE) will be prepared and provided to Caltrans as part of the encroachment permit process.

S-10 PUBLIC WORKS:2

A. Developer (Permittee) shall furnish a Drainage and Grading Plan to provide for property grading and drainage control, which shall also include prevention of sedimentation of damage to offsite properties. Said plan shall be completed per the Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage, and Grading Plans within Imperial County. The Drainage and Grading Plan shall be submitted to the Imperial County Department of Public Works (ICDPW) for review and approval. The developer shall implement the approved plan. Employment of the appropriate Best Management Practices (BMP's) shall be included.

B. Per Section 12.10.020 - Street Improvement Requirements of Imperial County Ordinance: Street improvements shall be provided on Kemp Rd along the frontage of the project.

C. An encroachment permit shall be secured from ICDPW for any construction and/or construction related activities within County Right-of-Way. Activities to be

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1 Caltrans comment letter dated June 11, 2024

2 Imperial County Department of Public Works comment letter dated November 26, 2023

covered under an encroachment permit shall include the installation of, but not be limited to, stabilized construction entrances, driveways, road improvements, temporary traffic control devices, etc.

D. Prior to the issuance of grading and building permits, a stabilized construction entrance shall be installed under an encroachment permit from this ICDPW.

E. The Developer (Permittee) shall repair any damage caused to County Roads during construction and maintain such roads in safe condition as determined by the Imperial County Road Commissioner. Said road repairs shall be completed under an encroachment permit from ICDPW.

D. Developer (Permittee) will be responsible for any impact mitigation measures identified on the Traffic Study, including but not limited to, road improvements, intersection improvements, right/left turn lanes for site access, fair share costs, etc.

E. The Developer (Permittee) shall provide westbound left-turn and northbound right-turn improvements at the Dogwood and Cole Road Intersection.3

S-11 AIR POLLUTION CONTROL DISTRICT:4

A construction Dust Control Plan shall be submitted to the Imperial County Air Pollution Control District, as well as abide by all Air District rules and regulations with emphasis on Regulation VIII – Fugitive Dust Rules.

S-12 IMPERIAL COUNTY DIVISION OF ENVIRONMENTAL HEALTH (DEH):5

A. The Permittee shall apply for a public water system through DEH if required. If the applicant applies for a public water system permit, a technical report will need to be prepared, submitted, and approved by DEH and concurred on by the California State Water Resources Control Board, Division of Drinking Water.

B. The Permittee shall apply for an on-site wastewater treatment system.

C. The area of the property not being farmed, located on the southern portion of the property, has had some historical illegal dumping in and around this area. Applicant shall ensure any illegally dumped waste throughout the entire property is collected and properly disposed at a permitted disposal/recycling facility.

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3 Imperial County Department of Public Works comment email dated: March 12, 2024

4 Air Pollution Control District comment letters dated: February 29, 2024 and April 24, 2024

5 Imperial County Division of Environmental Health comment letter dated: December 07, 2024

S-13 IMPERIAL COUNTY FIRE DEPARTMENT:6

A. An approved water supply capable of supplying the required fire flow determined by appendix B in the California Fire Code and Imperial County Fire Department shall be installed and maintained. Private fire service mains and appurtenance shall be installed in accordance with NFPA 24.

B. Fire Department access roads shall be installed and maintained in accordance with the California Fire Code. Roadways within the project will be provided with all-weather surface and capable of supporting impose loads of fire apparatus. Secondary access will be required for the project. Roadway width will be determined upon further review of the site plan. Knox box (locks) will be required for the project. All locks and gates shall be installed in accordance with the California Fire Code.

C. Automatic fire sprinklers requirements will be determined by Imperial County Fire Department officials and the California Fire Code

D. Automatic fire detection and notification systems requirements will be determined by Imperial County Fire Department officials and the California Fire Code.

E. Storage shall be in accordance with Chapter 32 of the California Fire Code for high-pile combustible storage.

F. Hazardous Materials shall be in accordance with Chapter 50 of the California Fire Code and other applicable code sections.

G. Compliance with all required sections of the fire code.

H. require an approved pressurized water supply capable of meeting required fire flows to be installed and maintained in accordance with the California Fire Code.

S-14 IMPERIAL COUNTY SHERIFF'S OFFICE:7

A. A detailed security plan and diagram be submitted and approved by the county prior to any activity on the premises.

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6 Imperial County Fire Department comment letter dated: November 06, 2023

7 Imperial County Sheriff's Office comment letter dated: November 13, 2023

B. Install adequate lighting, fencing and safety measures to prevent or deter criminal activity.

C. Install license plate reading cameras at all ingress and regress locations at the project site and grant access to the Imperial County Sheriff's Office to review the data collected. It is requested that these cameras be included in the security plan.

D. Install surveillance cameras at the project site to allow for 24/7, three-hundred-and-sixty-degree remote viewing capabilities and recording of activity on the premise

S-15 <u>IMPERIAL COUNTY EXCECUTIVE OFFICE:8</u>

A. Sales Tax Condition. The permittee is required to have a Construction Site Permit reflecting the project site address, allowing all eligible sales tax payments are allocated to the County of Imperial, Jurisdictional Code 13998. The permittee will provide the County of Imperial a copy of the CDTFA account number and sub-permit for its contractor and subcontractors (if any) related to the jobsite. The permittee shall provide in written verification to the County Executive Office that the necessary sales and use tax permits have been obtained, prior to the issuance of any grading permits.

B. Construction/Material Budget: The permittee will provide the County Executive Office a construction materials budget: an official construction materials budget or detailed

S-16 <u>IMPERIAL IRRIGATION DISTRICT:</u>

A. The project's Imperial County-approved grading/drainage and fencing plans along with a copy of the project's Storm Water Pollution Prevention Pian, are to be submitted to IID Water Department Engineering Services Section for review prior to final project design.

B. In order to obtain a water supply from IID for a non-agricultural project, the Project proponent Will be required to comply with all applicable IID policies and regulations and may be required to enter into a water supply agreement. Such policies and regulations require, among other things, that all potential environmental and water supply impacts of the Project, including potential Impacts to the Salton Sea as a result of reduced drainage flow, be adequately assessed, appropriate mitigation developed if Wf3rranted, including any necessary approval conditions adopted by the relevant land use and permitting agencies.

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8 Imperial County Executive Office comment letter dated: October 24, 2023

C. The Permittee must have water delivered by a State-approved water provider as required by the State of California Safe Drinking Water Act. The proposed project must be in compliance in order to receive IID canal water.

D. Any construction or operation on IID property or within its existing and proposed right of way or easements including but not limited to surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities; will require an encroachment permit, or encroachment agreement (depending on the circumstances).

(TOTAL "S" CONDITIONS are 16)

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NOW THEREFORE, County hereby issues Conditional Use Permit #23-0027 and Permittee hereby accepts such permit upon the terms and conditions set forth herein.

IN WITNESS THEREOF, the parties hereto have executed this Agreement the day and year first written.

PERMITTEE:

Cal 98 Holdings.

By:____________________________________ ________________
(TO BE NAMED) Date

COUNTY OF IMPERIAL, a political subdivision of the STATE OF CALIFORNIA:

By:____________________________________ ________________
JAMES MINNICK, Director Date
Planning & Development Services Department

FOR PERMITTEE NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF ______________________} S.S.

On ______________before me, __________________, a Notary Public in and for said County and State, personally appeared_____________________________, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing is true and correct.

WITNESS my hand and official seal

Signature_____________________________

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or Type of Document__________________________________
Number of Pages________Date of Document____________________
Signer(s) Other Than Named Above____________________________
Dated______________________

FOR COUNTY NOTARIZATION

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF IMPERIAL} S.S.

On_________________________ before me, ______________________________ a Notary Public in and for said County and State, personally appeared ________________, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

Signature___________________________________

ATTENTION NOTARY: Although the information requested below is OPTIONAL, it could prevent fraudulent attachment of this certificate to unauthorized document.
Title or Type of Document____
Number of Pages__________Date of Document________________________
Signer(s) Other Than Named Above__________________________________

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ATTACHMENT "H"
Comment Letters

PC ORIGINAL PKG

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Via Email

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April 23, 2024

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ICPDSCommentLetters@co.imperial.ca.us

Re: Comment on Mitigated Negative Declaration for the Cal 98 Holdings Trucking Facility (Zone Change #23-0007, Conditional Use Permit #23-0027, Initial Study #23-0033)

Dear Mr. Newland:

This comment is submitted on behalf of Supporters Alliance For Environmental Responsibility ("SAFER") regarding the Initial Study and Mitigated Negative Declaration ("IS/MND") prepared for the Comment on Mitigated Negative Declaration for the Cal 98 Holdings Trucking Facility (Zone Change #23-0007, Conditional Use Permit #23-0027, Initial Study #23-0033), which proposes the development of warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces located at 15 E. Hwy 98 (SR-98) in the City of Calexico ("Project").

SAFER is concerned that the IS/MND is improper under the California Environmental Quality Act due to the IS/MND's failure to adequately assess the Project's potentially significant environmental impacts. SAFER requests that an environmental impact report be prepared for the Project rather than an MND to ensure that potentially significant impacts of this Project are fully disclosed, analyzed, and mitigated. SAFER reserves the right to supplement this comment throughout the administrative process. *Galante Vineyards v. Monterey Peninsula Water Management Dist*., 60 Cal. App. 4th 1109, 1121 (1997).

Sincerely,

Brian B Flynn

Brian Flynn
Lozeau Drury LLP

PC ORIGINAL PKG

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

April 26, 2024

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Zone Change #23-0007 /Conditional Use Permit #23-0027 /Initial Study #23-0033 Cal 98 Holdings (PROJECT)
MITIGATED NEGATIVE DECLARATION (MND)
SCH# 2024031103

Dear Mr. Newland:

The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt an MND from Imperial County Planning Development for the Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

Proponent: Cal 98 Holdings

Objective: The objective of the Project is to propose a Zone Change from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) as well as Conditional Use Permit #23-0027 to construct and operate a trucking and warehousing operation that will consist of a warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces on an approximately 44.6-acre site. Access to the property will consist of onsite improvement on the west side of the

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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property to create a north and south lane onto Dogwood Rd. and left turn only lane on to SR-98. Additionally, a left turn lane for passenger vehicles would be added on SR-98 on to Kemp Road which will also be paved on the eastern side of the project location. The proposed hours for the trucking and warehousing operation are 8 am to 9 pm with a proposed total of 100 trucks per day coming to and from the site and 20 onsite employees. The proposed route for the trucks is from the east port at the Gateway Specific Plan area, north along SR-7 to SR-98, and then west along SR-98 to Cole Road. The trucks will then travel along Cole Road where they will then turn south on to Dogwood Road until they reach project location where they will enter straight into the property at the proposed Dogwood Road expansion. The construction phases include Site Preparation, Grading, Building Construction, Paving and Architectural Coating.

Location: The Project is located south of the intersection of State Highway 98 (SR-98) and Dogwood Road, west of Calexico in Imperial County. The Project is located within Assessor's Parcel Number (APN) 058-180-001-000.

Timeframe: Project is proposed to begin construction in the first quarter of 2024 and end in the fourth quarter of 2024. The total construction duration will be approximately nine months.

COMMENTS AND RECOMMENDATIONS

CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (i.e., biological resources). CDFW offers the comments and recommendations below to assist Imperial County in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document. The MND has not adequately identified and disclosed the Project's impacts (i.e., direct, indirect, and cumulative) to biological resources and whether those impacts are less than significant.

I. Environmental Setting and Related Impact Shortcoming

COMMENT #1: Assessment of Biological Resources

IS/MND Document, Biological Resources Technical Report, Page #408, Section 2.1.1

Issue: The MND does not adequately identify the Project's significant, or potentially significant, impacts to biological resources.

Specific impact: The MND bases its analysis of impacts to biological resources on general biological assessments conducted by Barrett's Biological Enterprises on December 13, 2022, and December 20, 2022. CDFW is concerned about the potential for special-status species to occur on or near the Project site. No focused or protocol-level surveys were performed for the detection of special-status species. In addition, CDFW is concerned that the timing of the general field assessments in December 2022 was not sufficient to detect all special-status species, and that the field assessments are not current. CDFW generally considers field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. The California Natural Diversity Database (CNDDB) and Biogeographic Information and Observation System (BIOS) indicate that occurrences of ESA-listed, CESA-listed, or other special-status species have been reported near the Project area including but not limited to burrowing owl (*Athene cunicularia*), ringtail (*Bassariscus astutus*), American badger (*Taxidea taxus*), round-tailed ground squirrel (*Xerospermophilus tereticaudus*), Merriam's kangaroo rat (*Dipodomys merriami*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), western yellow bat (*Lasiurus xanthinus*), golden eagle (*Aquila chrysaetos),* tricolored blackbird (*Agelaius tricolor*), Gila woodpecker (*Melanerpes uropygialis*), loggerhead shrike (*Lanius ludovicianus*), long-eared owl (*Asio otus*), osprey (*Pandion haliaetus*), killdeer, (*Charadrius vociferus*), mountain plover (*Charadrius montanus*), horned lark (*Eremophila alpestris*), lesser nighthawk (*Chordeiles acutipennis*), cactus wren (*Campylorhynchus brunneicapillus*), yellow warbler (*Setophaga petechia*), prairie falcon (*Falco mexicanus*), ferruginous hawk (*Buteo regalis*), Colorado Desert fringe-toed lizard (*Uma notata*), flat-tailed horned lizard (*Phrynosoma mcallii*), glossy snake (*Arizona elegans*).

Recent surveys during the appropriate times of the year are needed to identify potential impacts to biological resources; inform appropriate avoidance, minimization, and mitigation measures; and determine whether impacts to biological resources have been mitigated to a level that is less than significant.

Evidence impact would be significant: Compliance with CEQA is predicated on a complete and accurate description of the environmental setting that may be affected by the proposed Project. CDFW is concerned that the assessment of the existing environmental setting with respect to biological resources has not been adequately analyzed in the MND. CDFW is concerned that without a complete and accurate description of the existing environmental setting, the MND likely provides an incomplete or inaccurate analysis of Project-related environmental impacts and whether those impacts have been mitigated to a level that is less than significant. Section 15125(c) of the CEQA Guidelines states that knowledge of the regional setting of a project is critical to the assessment of environmental impacts, that special emphasis should be placed on environmental resources that are rare or unique to the region, and that significant environmental impacts of the proposed Project are adequately investigated and discussed.

Recommended Potentially Feasible Mitigation Measure(s): To establish the existing environmental setting with respect to biological resources, CDFW recommends that a revised MND include the results of recent biological surveys as described in the following mitigation measure, as well as mitigation measures to reduce impacts to less than significant:

MM BIO-[A]: Assessment of Biological Resources

Prior to Project construction activities, a complete and recent inventory of rare, threatened, endangered, and other sensitive species located within the Project footprint and within offsite areas with the potential to be affected, including California Species of Special Concern (CSSC) and California Fully Protected Species (Fish and Game Code § 3511), will be completed. Species to be addressed should include all those which meet the CEQA definition (CEQA Guidelines § 15380). The inventory should address seasonal variations in use of the Project area and should not be limited to resident species. Focused species-specific surveys, completed by a qualified biologist and conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service, where necessary. Note that CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of the proposed Project may warrant periodic updated surveys for certain sensitive taxa, particularly if the Project is proposed to occur over a protracted time frame, or in phases, or if surveys are completed during periods of drought.

Pursuant to the CEQA Guidelines, section 15097(f), CDFW has prepared a draft mitigation monitoring and reporting program (MMRP) for CDFW-recommended MM BIO-[A] through MM BIO-[G].

II. Mitigation Measure or Alternative and Related Impact Shortcoming

COMMENT #2: Burrowing Owl

IS/MND Document, Page 17 & Biological Resources Technical Report, Page 414-417, Section 4.1.2.1 and 5.1.1

Issue: CDFW is concerned that the MND does not sufficiently identify Project impacts to burrowing owl (*Athene cunicularia*) or ensure that impacts are mitigated to a level less than significant.

Specific impact: The Biological Resources Technical Report (pg. 414) states that "There is potential that there would be direct and/or indirect impacts to this species if construction occurs during the active nesting period of February to end of August. Ground disturbance from heavy equipment, which may potentially impact the BUOW, if present, would be considered significant and could require mitigation. Impacts to this species would be considered significant, if present." CDFW notes that impacts to burrowing owls could also occur outside of the peak nesting season because burrowing owls may start breeding earlier (in January) and because young owls may still be dependent on the adults until later in the fall. In addition, because some burrowing owls are resident in burrows year-round, impacts to this species could also occur outside of the peak nesting season. The Biological Resources Technical Report identifies suitable habitat in canals and drainage ditches on-site and adjacent to the Project site. Additionally, CNDDB/BIOS report occurrences of burrowing owl less than 1 mile from the Project site.

CDFW notes that in California, preferred habitat for burrowing owl is generally typified by short, sparse vegetation with few shrubs (Haug et al. 1993), and that burrowing owls may occur in ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable and there are useable burrows and foraging habitat in proximity (Gervais et al. 2003). In addition, burrowing owls frequently move into disturbed areas prior to and during construction since they are adapted to highly modified habitats (Chipman et al. 2008; Coulombe 1971). Impacts to burrowing owl from the Project could include take of burrowing owls, their nests, or eggs or destroying nesting, foraging, or over-wintering habitat, thus impacting burrowing owl populations. Impacts can result from grading, earthmoving, burrow blockage, heavy equipment compaction and crushing of burrows, general Project disturbance that has the potential to harass owls at occupied burrows, and other activities.

Evidence impact would be significant: Burrowing owl is a California Species of Special Concern. Take of individual burrowing owls and their nests is defined by Fish and Game Code section 86, and prohibited by sections 3503, 3503.5, and 3513. Take is defined in Fish and Game Code section 86 as "hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, catch, capture or kill." Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.)

Recommended Potentially Feasible Mitigation Measure(s): CDFW appreciates the inclusion of MM BIO-1 through 5 on p. 17 of the MND for nesting birds and burrowing owls; however, the measures are insufficient in scope and timing to reduce impacts to a level less than significant. CDFW recommends replacing MM BIO-1-5 with a separate measure for burrowing owl in a revised MND with specific avoidance and minimization measures to ensure that impacts to burrowing owls do not occur. CDFW recommends that prior to commencing Project activities for all phases of Project construction, focused surveys for burrowing owl be conducted for the entirety of the Project site by a qualified biologist in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012 or most recent version). CDFW recommends Imperial County include the following Mitigation Measure in a revised MND:

MM BIO-[B]: Focused and Pre-Construction Surveys for Burrowing Owl

Suitable burrowing owl habitat has been confirmed on the site; therefore, focused burrowing owl surveys shall be conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version) prior to vegetation removal or ground-disturbing activities. If burrowing owls are detected during the focused surveys, the qualified biologist and Project proponent shall prepare a Burrowing Owl Plan that shall be submitted to CDFW for review and approval prior to commencing Project activities. The Burrowing Owl Plan shall describe proposed avoidance, monitoring, relocation, minimization, and/or mitigation actions. The Burrowing Owl Plan shall include the number and location of occupied burrow sites, acres of burrowing owl habitat that will be impacted, details of site monitoring, and details on proposed buffers and other avoidance measures if avoidance is proposed. If impacts to occupied burrowing owl habitat or burrow cannot be avoided, the Burrowing Owl Plan shall also describe minimization and compensatory mitigation actions that will be implemented. Proposed implementation of burrow exclusion and closure should only be considered as a last resort, after all other options have been evaluated as exclusion is not in itself an avoidance, minimization, or mitigation method and has the possibility to result in take. The Burrowing Owl Plan shall identify compensatory mitigation for the temporary or permanent loss of occupied burrow(s) and habitat consistent with the "Mitigation Impacts" section of the 2012 Staff Report and shall implement CDFW-approved mitigation prior to initiation of Project activities. If impacts to occupied burrows cannot be avoided, information shall be provided regarding adjacent or nearby suitable habitat available to owls. If no suitable habitat is available nearby, details regarding the creation and funding of artificial burrows (numbers, location, and type of burrows) and management activities for relocated owls shall also be included in the Burrowing Owl Plan. The Project proponent shall implement the Burrowing Owl Plan following CDFW and USFWS review and approval.

Preconstruction burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version). Preconstruction surveys should be performed by a qualified biologist following the recommendations and guidelines provided in the *Staff Report on Burrowing Owl Mitigation*. If the preconstruction surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted. The qualified biologist shall coordinate with CDFW and prepare a Burrowing Owl Plan that shall be submitted to CDFW and USFWS for review and approval prior to commencing Project activities.

COMMENT #3: Nesting Birds

IS/MND Document, Page 17 & Biological Resources Technical Report, Pages 414-417, Section 4.1.2.2 and 5.1.2

Issue: CDFW is concerned that the MND does not sufficiently identify Project impacts to nesting birds or ensure that impacts are mitigated to a level less than significant.

Specific Impact: On page 414 of the MND it states "Bird nesting could occur within the project. Ground nesting species, such as lesser nighthawk, and killdeer could use the area." Based on a review of the California Natural Diversity Database (CNDDB) and Biogeographic Information and Observation System (BIOS), the Project has the potential to impact avian species that nest and forage in the region including, but not limited to: golden eagle (*Aquila chrysaetos*), tricolored blackbird (*Agelaius tricolor*), Gila woodpecker (*Melanerpes uropygialis*), loggerhead shrike (*Lanius ludovicianus*), long-eared owl (*Asio otus*), osprey (*Pandion haliaetus*), killdeer, (*Charadrius vociferus*), mountain plover (*Charadrius montanus*), horned lark (*Eremophila alpestris*), lesser nighthawk (*Chordeiles acutipennis*), cactus wren (*Campylorhynchus brunneicapillus*), yellow warbler (*Setophaga petechia*), prairie falcon (*Falco mexicanus*), ferruginous hawk (*Buteo regalis*).

CDFW is concerned about the impacts to nesting birds including loss of nesting/foraging habitat and potential take from ground-disturbing activities and construction. Conducting work outside the peak nesting season is an important avoidance and minimization measure. CDFW also recommends the completion of nesting bird surveys *regardless* of the time of year to ensure that impacts to nesting birds are avoided. The timing of the nesting season varies greatly depending on several factors, such as bird species, weather conditions in any given year, and long-term climate changes (e.g., drought, warming, etc.). In response to warming, birds have been reported to breed earlier, thereby reducing temperatures that nests are exposed to during breeding and tracking shifts in availability of resources (Socolar et al., 2017). CDFW staff have observed that climate change conditions may result in nesting bird season occurring earlier and later in the year than historical nesting season dates. CDFW recommends that disturbance of occupied nests of migratory birds and raptors within the Project site and surrounding area be avoided any time birds are nesting on-site. CDFW therefore recommends the completion of nesting bird surveys *regardless of the time of year* to ensure compliance with all applicable laws pertaining to nesting and migratory birds.

Evidence impact would be significant: It is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

Recommended Potentially Feasible Mitigation Measure: CDFW appreciates inclusion of MM BIO-1 through 5 on p. 17 of the MND for nesting birds and burrowing owls; however, the measure is insufficient in scope and timing to reduce impacts to a level less than significant. CDFW recommends adding the following measure for nesting birds in a revised MND to ensure that impacts to nesting birds are reduced to less than significant:

MM BIO-[C]: Nesting Birds

Regardless of the time of year, nesting bird surveys shall be performed by a qualified avian biologist no more than 3 days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the pre-construction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Construction activities may not occur inside the established buffers, which shall remain on site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests

and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance.

Comment #4: CDFW Lake and Streambed Alteration (LSA) Program

IS/MND Document, Biological Resources Technical Report, Page #408, Section 2.1.2 & Page 414, Section 4.1.2

Issue: The MND does not include mitigation measures to avoid or reduce impacts to streams and their associated resources to a level less than significant.

Specific Impact: The Biological Resources Technical Report identifies canals and drainage ditches that may support wildlife, such as burrowing owls, on-site and adjacent to the Project site. In addition, CDFW review of aerial imagery confirms the location of ephemeral streams and desert wash habitat within the southern boundary of the Project site, which are tributary to the New River. Potential direct and indirect impacts to the streams and associated fish and wildlife resources, such as burrowing owl, resulting from Project construction are subject to notification under Fish and Game Code section 1602.

Evidence impact would be significant: Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may do one or more of the following: substantially divert or obstruct the natural flow of any river, stream, or lake; substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or deposit debris, waste or other materials that could pass into any river, stream or lake. Note that "any river, stream or lake" includes those that are episodic (i.e., those that are dry for periods of time) as well as those that are perennial (i.e., those that flow year-round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water. Upon receipt of a complete notification, CDFW determines if the proposed Project activities may substantially adversely affect existing fish and wildlife resources and whether a Lake and Streambed Alteration (LSA) Agreement is required. An LSA Agreement includes measures necessary to protect existing fish and wildlife resources. CDFW may suggest ways to modify the Project that would eliminate or reduce harmful impacts to fish and wildlife resources. CDFW's issuance of an LSA Agreement is a "project" subject to CEQA (see Pub. Resources Code § 21065). Early consultation with CDFW is recommended since modification of the proposed Project may be required to avoid or reduce impacts to fish and wildlife resources. To submit a Lake or Streambed Alteration notification, visit: https://wildlife.ca.gov/Conservation/Environmental-Review/LSA.

Recommended Potentially Feasible Mitigation Measure: Because of the potential for impacts to resources subject to Fish and Game Code section 1602, CDFW recommends Imperial County include the following additional mitigation measure in a revised MND:

MM BIO-[D]: CDFW's Lake and Stream Alteration (LSA) Program

Prior to Project-activities and issuance of any grading permit, the Project Sponsor shall obtain written correspondence from the California Department of Fish and Wildlife (CDFW) stating that notification under section 1602 of the Fish and Game Code is not required for the Project, *or* the Project Sponsor shall obtain a CDFW-executed Lake and Streambed Alteration Agreement, authorizing impacts to Fish and Game Code section 1602 resources associated with the Project.

Comment #5: Construction Noise

IS/MND Document, Page #530, Table 5.3-1

Issue: The MND does not include an assessment of impacts to biological resources resulting from construction noise or mitigation measures to avoid or reduce impacts to a level less than significant.

Specific Impact: On page 530 of the MND, the applicant states the expected vibration levels of construction equipment but includes no analysis of the impacts of construction noise on biological resources. Based on the nature of the proposed construction activities (i.e., Site Preparation, Grading, Building Construction, Paving and Architectural Coating), noise levels would be expected to exceed exposure levels that may adversely affect wildlife species at 55 to 60 dBA.

Evidence impact would be significant: Construction may result in substantial noise through road use, equipment, and other Project-related activities. This may adversely affect wildlife species in several ways as wildlife responses to noise can occur at exposure levels of only 55 to 60 dB (Barber et al. 2009). Anthropogenic noise can disrupt the communication of many wildlife species including frogs, birds, and bats (Sun and Narins 2005, Patricelli and Blickley 2006, Gillam and McCracken 2007, Slabbekoorn and Ripmeester 2008). Noise can also affect predator-prey relationships as many nocturnal animals such as bats and owls primarily use auditory cues (i.e., hearing) to hunt. Additionally, many prey species increase their vigilance behavior when exposed to noise because they need to rely more on visual detection of predators when auditory cues may be masked by noise (Rabin et al. 2006, Quinn et al. 2017). Noise has also been shown to reduce the density of nesting birds (Francis et al. 2009) and cause increased stress that results in decreased immune responses (Kight and Swaddle 2011).

Recommended Potentially Feasible Mitigation Measure: Because of the potential for construction noise to negatively impact wildlife, CDFW recommends Imperial County include the following additional mitigation measure in a revised MND:

MM BIO-[E]: Construction Noise

During all Project construction, Imperial County shall restrict use of equipment to hours least likely to disrupt wildlife (e.g., not at night or in early morning) and restrict use of generators except for temporary use in emergencies. Power to sites can be provided by solar PV (photovoltaic) systems, cogeneration systems (natural gas generator), small micro-hydroelectric systems, or small wind turbine systems. Imperial County shall ensure the use of noise suppression devices such as mufflers or enclosures for generators. Sounds generated from any means must be below the 55-60 dB range within 50-feet from the source.

Comment #5: Artificial Nighttime Lighting

No information is available in the IS/MND Document

Issue: The MND does not analyze impacts to biological resources from artificial nighttime lighting and includes no mitigation measures to avoid or reduce impacts to biological resources to a level less than significant.

Specific Impact: Construction is proposed from 8 am to 9 pm; however, the MND does not provide any details regarding the use of artificial nighttime lighting or the impacts to biological resources resulting from the use of artificial nighttime lighting during construction and operation of the Project, and no mitigation measures are proposed. Designs for lighting to be used during operation of the Project should be included in a revised MND, along with details of artificial nighttime lighting to be used during construction. The direct and indirect impacts of artificial nighttime lighting on biological resources including migratory birds that fly at night, bats, and other nocturnal and crepuscular wildlife should be analyzed, and appropriate avoidance and minimization measures to reduce impacts to less than significant should be included in a revised MND.

Evidence impact would be significant: Artificial nighttime lighting often results in light pollution, which has the potential to significantly and adversely affect fish and wildlife. Artificial lighting alters ecological processes including, but not limited to, the temporal niches of species; the repair and recovery of physiological function; the measurement of time through interference with the detection of circadian and lunar and seasonal cycles; the detection of resources and natural enemies; and navigation (Gatson et al. 2013). Many species use photoperiod cues for communication including bird song (Miller 2006), determining when to begin foraging (Stone et al.2009), behavioral thermoregulation (Beiswenger 1977), and migration (Longcore & Rich 2004). Phototaxis, a phenomenon that results in attraction and movement towards light, can disorient, entrap, and temporarily blind wildlife species that experience it (Longcore & Rich 2004).

Recommended Potentially Feasible Mitigation Measure: Because of the potential for artificial nighttime lighting to negatively impact wildlife, CDFW recommends a revised MND include a light impact assessment and an analysis of impacts to biological resources accompanied by specific avoidance and minimization measures to ensure that impacts to wildlife are avoided or reduced to less than significant. CDFW recommends adding the following mitigation measure to a revised MND:

MM BIO-[F]: Artificial Nighttime Lighting

During Project construction and operations over the lifetime of the Project, Imperial County shall eliminate all nonessential lighting throughout the Project area and avoid or limit the use of artificial light at night during the hours of dawn and dusk when many wildlife species are most active. Imperial County shall ensure that all lighting for the Project is fully shielded, cast downward and away from surrounding open-space areas, reduced in intensity to the greatest extent, and does not result in lighting trespass including glare into surrounding areas or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). Imperial County shall ensure use of LED lighting with a correlated color temperature of 3,000 Kelvins or less, proper disposal of hazardous waste, and recycling of lighting that contains toxic compounds with a qualified recycler.

Comment #6: Worker Education

IS/MND Document, Page #17, BIO 6

Issue: CDFW is concerned that mitigation measure BIO-6 in the MND does not provide sufficient details on training for construction foremen, workers, and onsite employees regarding biological resources to ensure that impacts are mitigated to a level less than significant.

Specific Impact: Education of construction workers, whether they are employees or contractors, is necessary to avoid and minimize impacts to the wildlife species and habitats that may be present on the Project site and in the surrounding area.

Evidence impact would be significant: Project activities, including construction and routine work for the life of the Project, have potential to affect local wildlife and habitats. Construction staff on-site need to be aware of the wildlife and habitats on the Project site and in the surrounding area. Understanding the interaction between human activity and surrounding biological resources can assist in reducing the number of negative impacts that have potential to occur throughout the Project's duration.

Recommended Potentially Feasible Mitigation Measure: CDFW recommends replacing BIO-6 with the following measure in a revised MND to ensure that impacts are reduced to a level less than significant:

MM BIO-[G]: Worker Education Program

Permittee shall conduct an education program for all persons employed or otherwise working on the Project prior to performing any work on-site. The education program shall consist of a presentation from a Designated Biologist that includes a discussion of the biology of the habitats and species identified in this letter and present at this site. The Designated Biologist shall also include as part of the education program information about the distribution and habitat needs of any protected species that may be present, legal protections for those species, penalties for violations, and Project-specific protective measures included in this Agreement. Interpretation shall be provided for non-English-speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. The Permittee shall prepare and distribute wallet-sized cards or a fact sheet that contains this information for workers to carry on-site. Upon completion of the education program, employees shall sign a form stating they attended the education program and understand all protection measures. These forms shall be filed at the worksite offices and be available to CDFW upon request. The education program shall be repeated annually for part of the Project extending more than one (1) year. Copies of the education program materials shall be maintained at the Project site for workers to reference as needed.

Permittee shall include an invasive species education program for all persons working on the Project prior to the performing any work on-site. The education program shall consist of a presentation from a Designated Biologist that includes a discussion of the invasive species currently present within the Project site as well as those that may pose a threat to or have the potential to invade the Project site. The discussion shall include a physical description of each species and information regarding their habitat preferences, local and statewide distribution, modes of dispersal, and impacts. The education program shall also include a discussion of Best Management Practices (BMPs) to be implemented at the Project site to avoid the introduction and spread of invasive species into and out of the Project site.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be filled out and submitted online at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

ENVIRONMENTAL DOCUMENT FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the environmental document filing fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the MND to assist Imperial County in identifying and mitigating Project impacts on biological resources. CDFW concludes that the MND does not adequately identify or mitigate the Project's significant, or potentially significant, impacts to biological resources. CDFW also concludes that the MND lacks sufficient information for a meaningful review of impacts to biological resources, including a complete assessment of biological resources. The CEQA Guidelines indicate that recirculation is required when a new significant effect is identified and additional mitigation measures are necessary (§ 15073.5). CDFW recommends that a revised MND, including a complete assessment of biological resources, be recirculated for public comment. CDFW also recommends that revised and additional mitigation measures and analysis as described in this letter be added to a revised MND.

Questions regarding this letter or further coordination should be directed to Julia Charpek, Environmental Scientist, at 909.354.0937 or Julia.Charpek@wildlife.ca.gov .

Sincerely,

DocuSigned by:
Kim Freeburn
84F92FFEEFD24C8

Kim Freeburn
Environmental Program Manager

Attachment 1: MMRP for CDFW-Proposed Mitigation Measures

ec:

Heather Brashear, Senior Environmental Scientist (Supervisor), CDFW
Heather.Brashear@Wildlife.ca.gov

Office of Planning and Research, State Clearinghouse, Sacramento
state.clearinghouse@opr.ca.gov

REFERENCES

Barber, J. R., K. R. Crooks, and K. M. Fristrup. 2009. The costs of chronic noise exposure for terrestrial organisms. Trends in Ecology and Evolution 25:180-189.

Beiswenger, R. E. 1977. Diet patterns of aggregative behavior in tadpoles of Bufo americanus, in relation to light and temperature. Ecology 58:98–108.

Chipman, E. D., N. E. McIntyre, R. E. Strauss, M. C. Wallace, J. D. Ray, and C. W. Boal. 2008. Effects of human land use on western burrowing owl foraging and activity budgets. Journal of Raptor Research 42(2): 87-98.

Coulombe, H. N. 1971. Behavior and population ecology of the Burrowing Owl, *Speotyto cunicularia*, in the Imperial Valley of California. Condor 73:162–176.

Francis, C. D., C. P. Ortega, and A. Cruz. 2009. Noise pollution changes avian communities and species interactions. Current Biology 19:1415–1419.

Gatson, K. J., Bennie, J., Davies, T., Hopkins, J. 2013. The ecological impacts of nighttime light pollution: a mechanistic appraisal. Biological Reviews, 88.4: 912-927.

Gervais, J. A., D. K. Rosenberg, R. G. Anthony. 2003. Space use and pesticide exposure risk of male burrowing owls in an agricultural landscape. Journal of Wildlife Management 67: 155-164.

Gillam, E. H., and G. F. McCracken. 2007. Variability in the echolocation of Tadarida brasiliensis: effects of geography and local acoustic environment. Animal Behaviour 74:277–286.

Haug, E. A., B. A. Millsap, and M. S. Martell. 1993. Burrowing owl (*Speotyto cunicularia*), in A. Poole and F. Gill, editors, The Birds of North America, The Academy of Natural Sciences, Philadelphia, Pennsylvania, and The American Ornithologists' Union, Washington, D.C., USA.

Kight, C. R., and J. P. Swaddle. 2011. How and why environmental noise impacts animals: An integrative, mechanistic review. Ecology Letters 14:1052–1061.

Longcore, T., and C. Rich. 2004. Ecological light pollution -Review. Frontiers in Ecology and the Environment 2:191–198.

Miller, M. W. 2006. Apparent effects of light pollution on singing behavior of American robins. The Condor 108:130–139.

Patricelli, G., and J. J. L. Blickley. 2006. Avian communication in urban noise: causes and consequences of vocal adjustment. Auk 123:639–649.

Quinn, J. L., M. J. Whittingham, S. J. Butler, W. Cresswell, J. L. Quinn, M. J. Whittingham, S. J. Butler, W. Cresswell, and W. Noise. 2017. Noise, predation risk compensation and vigilance in the chaffinch Fringilla coelebs. Journal of Avian Biology 37:601–608.

Rabin, L. A., R. G. Coss, and D. H. Owings. 2006. The effects of wind turbines on antipredator behavior in California ground squirrels (*Spermophilus beecheyi*). Biological Conservation 131:410–420.

Slabbekoorn, H., and E. A. P. Ripmeester. 2008. Birdsong and anthropogenic noise: Implications and applications for conservation. Molecular Ecology 17:72–83.

Socolar JB, Epanchin PN, Beissinger SR and Tingley MW (2017). Phenological shifts conserve thermal niches. Proceedings of the National Academy of Sciences 114(49): 12976-12981.

Stone, E. L., G. Jones, and S. Harris. 2009. Street lighting disturbs commuting bats. Current Biology 19:1123–1127.

Sun, J. W. C., and P. M. Narins. 2005. Anthropogenic sounds differentially affect amphibian call rate. Biological Conservation 121:419–427.

Attachment A: Mitigation Monitoring and Reporting Program (MMRP) for Biological Resources

Mitigation Measure (MM) Description	Implementation Schedule	Responsible Parties
MM BIO-[A]: Assessment of Biological Resources Prior to Project construction activities, a complete and recent inventory of rare, threatened, endangered, and other sensitive species located within the Project footprint and within offsite areas with the potential to be affected, including California Species of Special Concern (CSSC) and California Fully Protected Species (Fish and Game Code § 3511), will be completed. Species to be addressed should include all those which meet the CEQA definition (CEQA Guidelines § 15380). The inventory should address seasonal variations in use of the Project area and should not be limited to resident species. Focused species-specific surveys, completed by a qualified biologist and conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service, where necessary. Note that CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of the proposed Project may warrant periodic updated surveys for certain sensitive taxa, particularly if the Project is proposed to occur over a protracted time frame, or in phases, or if surveys are completed during periods of drought.	Prior to Project construction activities	Imperial County
MM BIO-[B]: Focused and Pre-Construction Surveys for Burrowing Owl Suitable burrowing owl habitat has been confirmed on the site; therefore, focused burrowing owl surveys shall be conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version) prior to vegetation removal or ground-disturbing activities. If burrowing owls are detected during the focused surveys, the qualified biologist and Project proponent shall prepare a Burrowing Owl Plan that shall be submitted to CDFW for review and approval prior to commencing Project activities. The Burrowing Owl Plan shall describe proposed avoidance, monitoring, relocation, minimization, and/or mitigation actions. The Burrowing Owl Plan shall include the number and location of occupied burrow sites, acres of burrowing owl habitat that will be impacted, details of site monitoring, and details on proposed buffers and other avoidance measures if avoidance is proposed. If impacts to occupied burrowing owl habitat or burrow cannot be avoided, the Burrowing Owl Plan shall also describe minimization and compensatory mitigation actions that will be implemented. Proposed implementation of burrow exclusion and closure should only be considered as a last resort, after all other options have been evaluated as exclusion is not in itself an avoidance, minimization, or mitigation method and has the possibility to result in take. The Burrowing Owl Plan shall identify compensatory mitigation for the temporary or permanent loss of occupied burrow(s) and habitat consistent with the "Mitigation	**Focused surveys:** Prior to the start of Project-related activities **Preconstruction surveys:** No less than 14 days prior to start of Project-related activities and within 24 hours prior to ground disturbance	Imperial County

Impacts" section of the 2012 Staff Report and shall implement CDFW-approved mitigation prior to initiation of Project activities. If impacts to occupied burrows cannot be avoided, information shall be provided regarding adjacent or nearby suitable habitat available to owls. If no suitable habitat is available nearby, details regarding the creation and funding of artificial burrows (numbers, location, and type of burrows) and management activities for relocated owls shall also be included in the Burrowing Owl Plan. The Project proponent shall implement the Burrowing Owl Plan following CDFW and USFWS review and approval. Preconstruction burrowing owl surveys shall be conducted no less than 14 days prior to the start of Project-related activities and within 24 hours prior to ground disturbance, in accordance with the *Staff Report on Burrowing Owl Mitigation* (2012 or most recent version). Preconstruction surveys should be performed by a qualified biologist following the recommendations and guidelines provided in the *Staff Report on Burrowing Owl Mitigation*. If the preconstruction surveys confirm occupied burrowing owl habitat, Project activities shall be immediately halted. The qualified biologist shall coordinate with CDFW and prepare a Burrowing Owl Plan that shall be submitted to CDFW and USFWS for review and approval prior to commencing Project activities.		
MM BIO-[C]: Nesting Birds Regardless of the time of year, nesting bird surveys shall be performed by a qualified avian biologist no more than 3 days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the pre-construction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Construction activities may not occur inside the established buffers, which shall remain on site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance.	No more than 3 days prior to vegetation clearing or ground-disturbing activities	Imperial County
MM BIO-[D]: CDFW's Lake and Stream Alteration (LSA) Program Prior to Project-activities and issuance of any grading permit, the Project Sponsor shall obtain written correspondence from the California Department of Fish and Wildlife (CDFW) stating that notification under section 1602 of the Fish and Game Code is not required for the Project, *or* the Project Sponsor shall obtain a CDFW-executed Lake and Streambed Alteration Agreement, authorizing impacts to Fish and Game Code section 1602 resources associated with the Project.	Prior to Project construction activities	Imperial County
MM BIO-[E]: Construction Noise During all Project construction, Imperial County shall restrict use of equipment to hours least likely to disrupt wildlife (e.g., not at night or in early morning) and restrict use of generators except for temporary use in emergencies. Power to sites can be provided by solar PV (photovoltaic) systems, cogeneration systems (natural gas generator), small micro-hydroelectric systems, or small wind turbine systems. Imperial County shall ensure the use of noise suppression devices such as mufflers or enclosures for generators. Sounds generated from any means	During Project activities	Imperial County

must be below the 55-60 dB range within 50-feet from the source.		
MM BIO-[F]: Artificial Nighttime Lighting During Project construction and operations over the lifetime of the Project, Imperial County shall eliminate all nonessential lighting throughout the Project area and avoid or limit the use of artificial light at night during the hours of dawn and dusk when many wildlife species are most active. Imperial County shall ensure that all lighting for the Project is fully shielded, cast downward and away from surrounding open-space areas, reduced in intensity to the greatest extent, and does not result in lighting trespass including glare into surrounding areas or upward into the night sky (see the International Dark-Sky Association standards at http://darksky.org/). Imperial County shall ensure use of LED lighting with a correlated color temperature of 3,000 Kelvins or less, proper disposal of hazardous waste, and recycling of lighting that contains toxic compounds with a qualified recycler.	During Project construction activities and operation	Imperial County
MM BIO-[G]: Worker Education Program Permittee shall conduct an education program for all persons employed or otherwise working on the Project prior to performing any work on-site. The education program shall consist of a presentation from a Designated Biologist that includes a discussion of the biology of the habitats and species identified in this Letter and present at this site. The Designated Biologist shall also include as part of the education program information about the distribution and habitat needs of any protected species that may be present, legal protections for those species, penalties for violations, and Project-specific protective measures included in this Agreement. Interpretation shall be provided for non-English-speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. The Permittee shall prepare and distribute wallet-sized cards or a fact sheet that contains this information for workers to carry on-site. Upon completion of the education program, employees shall sign a form stating they attended the education program and understand all protection measures. These forms shall be filed at the worksite offices and be available to CDFW upon request. The education program shall be repeated annually for part of the Project extending more than one (1) year. Copies of the education program materials shall be maintained at the Project site for workers to reference as needed. Permittee shall include an invasive species education program for all persons working on the Project prior to the performing any work on-site. The education program shall consist of a presentation from a Designated Biologist that includes a discussion of the invasive species currently present within the Project site as well as those that may pose a threat to or have the potential to invade the Project site. The discussion shall include a physical description of each species and information regarding their habitat preferences, local and statewide distribution, modes of dispersal, and impacts. The education program shall also include a discussion of Best Management Practices (BMPs) to be implemented at the Project site to avoid the introduction and spread of invasive species into and out of the Project site.	Prior to Project construction activities	Imperial County

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May 16, 2024

Julia Charpek, Environmental Scientist
State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Blvd, Suite C-220
Ontario, CA 91764

Re: CDFW letter of April 26, 2024, Zone Change #23-0007 /Conditional Use Permit #23-0027 /Initial Study #23-0033 Cal 98 Holdings (PROJECT) MITIGATED NEGATIVE DECLARATION (MND) SCH# 2024031103

Dear Ms. Charpek,

Thank you for providing CDFW comments and your biological expertise during the public agency environmental review efforts for this project and project related activities that have the potential to adversely affect fish and wildlife resources.

First, to address CDFW concerns regarding the adequacy of the biological assessment conducted by Barrett's Biological Enterprises. Three qualified, experienced biologists spent six hours evaluating the agricultural fields and vacant lot of the project and documented wildlife and botanical species. A 9 Quadrangle CNDDB search was performed prior to the survey. Biologists were familiar with the species listed in that document. This is an active agricultural field of alfalfa and has been farmed for decades. Experience in this area for over 20 years has shown that agricultural areas like these might be used for foraging but not for successful nesting, there were no significant trees in the area that would be available for raptor or passerine nesting. These issues were addressed in Appendix A and also in the body of the report. Please review the Appendix A and the information regarding Sensitive Species in 3.4 Sensitive Biological Resources, as this information addresses your concerns.

No Focused BUOW study was conducted as no BUOW were observed on site or in buffer zone. The report actually states: BUOW Potential for Occurrence Low on site but burrowing possible in

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water conveyance system (canals/drains). Those systems belong to the IID and BUOWs found on IIDROW are the responsibility of the IID (Quantified Settlement Agreement (QSA) requirement). Additionally, CNDDB/BIOS report occurrences of burrowing owl less than 1 mile from the Project site: well outside of the 500 foot buffer zone used for construction monitoring. It would be unusual for there NOT to be BUOW in the vicinity. DeSante et al. (2007) determined that 71% of the estimated BUOW population occupied the Imperial Valley south of the Salton Sea. It is assumed that they are within the agricultural region; four focused surveys are not informative and pedestrian surveys may have an adverse effect of disturbing a breeding pair. The habitat assessment survey established the baseline of presence/absence. As a project usually takes 2-3 years to be permitted, preconstruction surveys provide the most accurate assessment of BUOW presence at the time of construction. As a result of the December 2022 survey, a baseline has been established.

Other focused surveys were not conducted as none of the sensitive species were not found or expected to be found on site as explained in Appendix A.

Due to unforeseen events, the biological survey was performed outside of the one year preferred by CDFW. It is still a valid baseline quantification of the biological inventory. The preconstruction survey will provide a current assessment of the environmental setting. The mitigations in the report addressed actions to be taken if sensitive species are found.

CEQA states that lead agency may use an environmental assessment, or a similar analysis based on expert opinion supported by technical studies to document findings in the Initial Study. An initial study is neither intended nor required to include the level of detail included in an EIR. This was accomplished through the Biological Resources Assessment Technical Report.

After review of CDFW suggested Mitigation Measures, we believe the following revisions to be applicable:

MM BIO-[A]: Assessment of Biological Resources

Prior to Project construction activities, a complete and recent inventory of rare, threatened, endangered, and other sensitive species located within the Project footprint and within offsite areas with the potential to be affected, including California Species of Special Concern (CSSC)

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and California Fully Protected Species (Fish and Game Code § 3511), has been completed. Species were addressed that include all those which meet the CEQA definition (CEQA Guidelines § 15380). A qualified biologist will complete an initial take avoidance survey no more than 30 days or less than 14 days; and within 24 hours prior to ground disturbance activities and notify CDFW if any sensitive species are observed.

As this is an agricultural area that has been farmed for decades and is currently planted to a perennial crop, no change in the species surveyed for and found located within the Project footprint is expected to occur.

MM BIO-[B]: Focused and Pre-Construction Surveys for Burrowing Owl

BUOW Potential for Occurrence Low on site but burrowing possible in water conveyance system (canals/drains). Those systems belong to the IID and BUOWs found on IIDROW are the responsibility of the IID (Quantified Settlement Agreement (QSA) requirement. Suitable burrowing owl foraging habitat has been confirmed on the site; therefore, a qualified biologist will complete an initial take avoidance survey no more than 30 days or less than 14 days; and within 24 hours prior to ground disturbance activities using the recommended methods described in the Detection Surveys section above. Implementation of avoidance and minimization measures would be triggered by positive owl presence on the site where project activities will occur. The development of avoidance and minimization approaches would be informed by monitoring the burrowing owls prior to vegetation removal or ground-disturbing activities. If burrowing owls are detected during the focused take avoidance preconstruction surveys, the qualified biologist and Project proponent shall prepare a Burrowing Owl Plan that shall be submitted to CDFW for review and approval prior to commencing Project activities. The Burrowing Owl Plan shall describe proposed avoidance, monitoring, relocation, minimization, and/or mitigation actions. The Burrowing Owl Plan shall include the number and location of occupied burrow sites, acres of burrowing owl habitat that will be impacted, details of site monitoring, and details on proposed buffers and other avoidance measures if avoidance is proposed. If impacts to occupied burrowing owl habitat or burrow cannot be avoided, the Burrowing Owl Plan shall also describe minimization and compensatory mitigation actions that will be implemented. Proposed implementation of burrow exclusion and closure should only be considered as a last resort, after all other options have been evaluated as exclusion is not in itself an avoidance, minimization, or mitigation method and has the possibility to result in take. The

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Burrowing Owl Plan shall identify compensatory mitigation for the temporary or permanent loss of occupied burrow(s) and habitat consistent with the "Mitigation Impacts" section of the 2012 Staff Report and shall implement CDFW-approved mitigation prior to initiation of Project activities. If impacts to occupied burrows cannot be avoided, information shall be provided regarding adjacent or nearby suitable habitat available to owls. If no suitable habitat is available nearby, details regarding the creation and funding of artificial burrows (numbers, location, and type of burrows) and management activities for relocated owls shall also be included in the Burrowing Owl Plan. The Project proponent shall implement the Burrowing Owl Plan following CDFW review and approval.

MM BIO-[C]: Nesting Birds

Regardless of the time of year, nesting bird surveys shall be performed by a qualified avian biologist no more than 3 days prior to vegetation removal or ground-disturbing activities. Pre-construction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the pre-construction nesting bird surveys, a qualified biologist shall establish an appropriate nest buffer to be marked on the ground. Nest buffers are species specific and shall be at least 300 feet for passerines and 500 feet for raptors. A smaller or larger buffer may be determined by the qualified biologist familiar with the nesting phenology of the nesting species and based on nest and buffer monitoring results. Construction activities may not occur inside the established buffers, which shall remain on site until a qualified biologist determines the young have fledged or the nest is no longer active. Active nests and adequacy of the established buffer distance shall be monitored daily by the qualified biologist until the qualified biologist has determined the young have fledged or the Project has been completed. The qualified biologist has the authority to stop work if nesting pairs exhibit signs of disturbance after concurrence with CDFW.

MM BIO-[D]: CDFW's Lake and Stream Alteration (LSA) Program

This project is located entirely on agricultural land. The vacant lot to the south will not be utilized and will be left as a vacant lot. None of the following LSA activities will occur:

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- Divert or obstruct the natural flow of any river, stream, or lake;
- Change the bed, channel, or bank of any river, stream, or lake;
- Use material from any river, stream, or lake; or
- Deposit or dispose of material into any river, stream, or lake.

As an Imperial County Planning, Development Department requirement, a retention basin will be built that is required to contain the results of a 100-year flood. Therefore, no water will leave the project.

No IID water conveyance structures will be impacted.

MM BIO-[G]: Worker Education Program

Permittee shall conduct an education program for all persons employed or otherwise working on the Project prior to performing any work on-site. The education program shall consist of a presentation from a Designated Biologist or safety manager with access to the Designated Biologist that includes a brief discussion of the biology of the habitats and species identified in this letter expected and present at this site. The Designated Biologist or safety manager with access to the Designated Biologist shall also include as part of the education program a brief discussion information about the distribution and habitat needs of any protected species that may be present, legal protections for those species, penalties for violations, and Project-specific protective measures included in this Agreement. Interpretation shall be provided for non-English- speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. The Permittee shall prepare and distribute wallet-sized cards or a fact sheet that contains this information for workers to carry on-site. Upon completion of the education program, employees shall sign a form stating they attended the education program and understand all protection measures. These forms shall be filed at the worksite offices and be available to CDFW upon request. The education program shall be repeated annually for part of the Project extending more than one (1) year. Copies of the education program materials shall be maintained at the Project site for workers to reference as needed.

Permittee shall include a brief invasive species education program for all persons working on the Project prior to the performing any work on-site. The education program shall consist of a presentation from a Designated Biologist or safety manager with access to the Designated

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Biologist that includes a brief discussion of the invasive species currently present within the Project site as well as those that may pose a threat to or have the potential to invade the Project site. The brief discussion shall include a physical description of each species and information regarding their habitat preferences, local and statewide distribution, modes of dispersal, and impacts. The education program shall also include a brief discussion of Best Management Practices (BMPs) to be implemented at the Project site to avoid the introduction and spread of invasive species into and out of the Project site. Note: the WEAP presentation shall not exceed 15-20 minutes.

BBE concludes that CDFW did not sufficiently review the Biological Resources Assessment Technical Report which would have answered the comments listed in CDFW letter of April 26, 2024.

Please do not hesitate to contact BBE regarding this comment letter.

Sincerely,

Marie S. Barrett

Marie S. Barrett
Senior Biologist

Good Morning Planning Committee,

Thank you for this opportunity to discuss issues regarding the Projects impact on biological issues.

My name is Marie Barrett representing Barrett's Biological Enterprises. The principle Glenna Barrett is also here. We are both Imperial County natives. I have a BS from Cal Poly Pomona and a MS from University of Arizona. I was a pest control advisor in Imperial County for 15 years and have been active as a wildlife biologist since 1998, I have extensive experience both with the agriculture and wildlife communities in Imperial County.

The Smartwoods indicate that the level of concern should be upgraded to an EIR level. As CEQA states: the lead agency, in this case Imperial County Planning and Development Services may use an environmental assessment or a similar analysis based on expert opinion supported by technical studies to document findings in the Initial Study. An initial study is neither intended nor required to include the level of detail included in an EIR.

CEQA requires that "environmental setting" is defined as "the physical conditions which exist within the area which will be affected by a proposed project including land, air, flora, fauna.

The Smallwoods indicate that "probably" there would be over 120 species that could be observed based on *Noriko's one survey* (p. 17 of document). That number is based on one survey and using a statistical base from the Altamont Pass Wind Resource Area. This Altamont area has no relevance to the project site.

Project owner was not contacted by Smallwoods to access the site; the only public access would be Kemp Road. Apparently this site was only viewed from east site with binoculars which does not constitute a thorough survey. A spotting scope was not utilized; it is difficult to judge distance utilizing only binoculars to determine on or off site presence.

They actually observed 43 species. Smallwoods stated: we recorded all species of vertebrate wildlife we detected, including those whose members *flew over the site or were seen nearby, off the site.* The photos indicate birds flying but do not indicate if they are near the site; landed on the site or where they originated; therefore showing no connection to the project other than birds fly over obviously on their way elsewhere. The birds they claim they saw on site are not endangered/threatened/species of concern and except for the meadowlark appear to be off project site. Some of the photos indicate a gravelly surface which we did not observe onsite.

The Smallwoods would like to present the project site as a biologically diverse habitat that would support all types of wildlife. They did not indicate many species actually using the site – just “flying by”

It is not biologically diverse. It is surrounded by industrial zones with industry within the area.

The site itself is permitted Agriculture and not favorable to wildlife for the following reasons:

- Currently planted to alfalfa which is highly equipment intensive – Alfalfa is harvested every 4-6 weeks which involves cutting, raking, windrowing, baling and bale removal. Pesticides are applied, generally by ground periodically. Any nest in an alfalfa field is highly unlikely to succeed. Literature indicates that once a bird has a nest failure they are not likely to return to that area to renest.
- Prey opportunities (mice, insects) are not reliable due to constant disruption of the site.
- These agricultural areas can actually be detrimental to wildlife. A recent study indicates that birds found in agricultural lands more vulnerable to extreme heat and also states that intense commercial farming is known to harm birds. Fields completely clear of trees and other natural barriers lack shelter for wildlife and pesticides and other agricultural chemicals can hurt birds.

The Smallwoods also indicate that worker training is not necessary stating:

Importantly, “aware workers” would have no control over impacts

relating to habitat loss, wildlife movement, or vehicle collisions. Education is important; alerting workers to various species to watch for, what do when sighting wildlife and the importance of observing speed limits need to be communicated to workers.

Smallwoods are also concerned about wildlife/traffic collisions and included pictures from Highway 505 and “a CA road” somewhere but observed nothing – no carcasses nearby or elsewhere in the area indicating that there is not a significant issue with road collisions in this area.

Smallwoods discussed that the utility-scale solar projects west of the project site pose considerable collision hazard to these birds, whereas the movement corridor in which the project is situated continues to provide these birds safe passage, calling out pelicans. What pelicans and others need during their passage from Baja to Salton Sea is shade to recover from the heat. This site does not offer that. Personal experience: I have observed a pelican landing in a solar field resting in the shade of the solar panels; cooling off and recovering to continue the journey to the Salton Sea or other body of water.

This project is not “utility-scale” and therefore the information regarding species found, species expected and avoidance, minimization and mitigations recommendations presented in the technical report provided is sufficient for the Planning department to proceed with permitting the project.

Thank you for your attention.

ATTACHMENT "I"
Environmental Evaluation Committee Package

PROJECT REPORT

TO: ENVIRONMENTAL EVALUATION COMMITTEE **AGENDA DATE:** March 14, 2024

FROM: PLANNING & DEVELOPMENT SERVICES **AGENDA TIME** 1:30 PM / No. 1

Cal 98 Holdings
PROJECT TYPE: ZC #23-0007/CUP #23-0027/IS #23-0033 SUPERVISOR DIST #2

LOCATION: 15 State Route (SR) 98 APN: 058-180-001-000

Calexico, CA 92231 PARCEL SIZE: +/- 44.6 acres

GENERAL PLAN (existing) Urban Area (Calexico) GENERAL PLAN (proposed) N/A

ZONE (existing) A-2-U (General Agriculture-Urban) ZONE (proposed) M-1-U (Light Industrial-Urban)

GENERAL PLAN FINDINGS ☒ CONSISTENT ☐ INCONSISTENT ☐ MAY BE/FINDINGS

PLANNING COMMISSION DECISION: HEARING DATE: ____________

☐ APPROVED ☐ DENIED ☐ OTHER

PLANNING DIRECTORS DECISION: HEARING DATE: ____________

☐ APPROVED ☐ DENIED ☐ OTHER

ENVIROMENTAL EVALUATION COMMITTEE DECISION: HEARING DATE: 03/14/2024

INITIAL STUDY: #23-0033

☐ NEGATIVE DECLARATION ☐ MITIGATED NEG. DECLARATION ☐ EIR

DEPARTMENTAL REPORTS / APPROVALS:

PUBLIC WORKS	☒ NONE	☒ ATTACHED
AG	☒ NONE	☐ ATTACHED
APCD	☐ NONE	☒ ATTACHED
E.H.S.	☒ NONE	☐ ATTACHED
FIRE / OES	☐ NONE	☒ ATTACHED
SHERIFF	☐ NONE	☒ ATTACHED

OTHER IID, CalTrans

REQUESTED ACTION:

(See Attached)

Planning & Development Services
801 MAIN STREET, EL CENTRO, CA, 92243 442-265-1736
(Jim Minnick, Director)

EEC ORIGINAL PKG

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☐ NEGATIVE DECLARATION
☐ MITIGATED NEGATIVE DECLARATION

Initial Study & Environmental Analysis
For:

Zone Change #23-0007 / Conditional Use Permit #23-0027 / Initial Study #23-0033
Cal 98 Holdings

Prepared By:

COUNTY OF IMPERIAL
Planning & Development Services Department
801 Main Street
El Centro, CA 92243
(442) 265-1736
www.icpds.com

(March 2024)

TABLE OF CONTENTS

EEC ORIGINAL PKG

PC ORIGINAL PKG

SECTION 1
INTRODUCTION

A. PURPOSE

This document is a ☐ policy-level, ☒ project level Initial Study for evaluation of potential environmental impacts resulting with the proposed Zone Change #23-0007 / Conditional Use Permit #23-0027 / Initial Study #23-0033 (Refer to Exhibit "A" & "B").

B. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) REQUIREMENTS AND THE IMPERIAL COUNTY'S GUIDELINES FOR IMPLEMENTING CEQA

As defined by Section 15063 of the State California Environmental Quality Act (CEQA) Guidelines and Section 7 of the County's "CEQA Regulations Guidelines for the Implementation of CEQA, as amended", an **Initial Study** is prepared primarily to provide the Lead Agency with information to use as the basis for determining whether an Environmental Impact Report (EIR), Negative Declaration, or Mitigated Negative Declaration would be appropriate for providing the necessary environmental documentation and clearance for any proposed project.

☐ According to Section 15065, an **EIR** is deemed appropriate for a particular proposal if the following conditions occur:

- The proposal has the potential to substantially degrade the quality of the environment.
- The proposal has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The proposal has possible environmental effects that are individually limited but cumulatively considerable.
- The proposal could cause direct or indirect adverse effects on human beings.

☐ According to Section 15070(a), a **Negative Declaration** is deemed appropriate if the proposal would not result in any significant effect on the environment.

☐ According to Section 15070(b), a **Mitigated Negative Declaration** is deemed appropriate if it is determined that though a proposal could result in a significant effect, mitigation measures are available to reduce these significant effects to insignificant levels.

This Initial Study has determined that the proposed applications will not result in any potentially significant environmental impacts and therefore, a Negative Declaration is deemed as the appropriate document to provide necessary environmental evaluations and clearance as identified hereinafter.

This Initial Study and Negative Declaration are prepared in conformance with the California Environmental Quality Act of 1970, as amended (Public Resources Code, Section 21000 et. seq.); Section 15070 of the State & County of Imperial's Guidelines for Implementation of the California Environmental Quality Act of 1970, as amended (California Code of Regulations, Title 14, Chapter 3, Section 15000, et. seq.); applicable requirements of the County of Imperial; and the regulations, requirements, and procedures of any other responsible public agency or an agency with jurisdiction by law.

Pursuant to the County of Imperial Guidelines for Implementing CEQA, depending on the project scope, the County of Imperial Board of Supervisors, Planning Commission and/or Planning Director is designated the Lead

Agency, in accordance with Section 15050 of the CE-QA Guidelines. The Lead Agency is the public agency which has the principal responsibility for approving the necessary environmental clearances and analyses for any project in the County.

C. INTENDED USES OF INITIAL STUDY AND NEGATIVE DECLARATION

This Initial Study and Negative Declaration are informational documents which are intended to inform County of Imperial decision makers, other responsible or interested agencies, and the general public of potential environmental effects of the proposed applications. The environmental review process has been established to enable public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any potentially adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including economic and social goals.

The Initial Study and Negative Declaration, prepared for the project will be circulated for a period of 20 days (*30-days if submitted to the State Clearinghouse for a project of area-wide significance*) for public and agency review and comments. At the conclusion, if comments are received, the County Planning & Development Services Department will prepare a document entitled "Responses to Comments" which will be forwarded to any commenting entity and be made part of the record within 10-days of any project consideration.

D. CONTENTS OF INITIAL STUDY & NEGATIVE DECLARATION

This Initial Study is organized to facilitate a basic understanding of the existing setting and environmental implications of the proposed applications.

SECTION 1

I. INTRODUCTION presents an introduction to the entire report. This section discusses the environmental process, scope of environmental review, and incorporation by reference documents.

SECTION 2

II. ENVIRONMENTAL CHECKLIST FORM contains the County's Environmental Checklist Form. The checklist form presents results of the environmental evaluation for the proposed applications and those issue areas that would have either a potentially significant impact, potentially significant unless mitigation incorporated, less than significant impact or no impact.

PROJECT SUMMARY, LOCATION AND EVIRONMENTAL SETTINGS describes the proposed project entitlements and required applications. A description of discretionary approvals and permits required for project implementation is also included. It also identifies the location of the project and a general description of the surrounding environmental settings.

ENVIRONMENTAL ANALYSIS evaluates each response provided in the environmental checklist form. Each response checked in the checklist form is discussed and supported with sufficient data and analysis as necessary. As appropriate, each response discussion describes and identifies specific impacts anticipated with project implementation.

SECTION 3

III. MANDATORY FINDINGS presents Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

IV. PERSONS AND ORGANIZATIONS CONSULTED identifies those persons consulted and involved in preparation of this Initial Study and Negative Declaration.

V. REFERENCES lists bibliographical materials used in the preparation of this document.

VI. NEGATIVE DECLARATION – COUNTY OF IMPERIAL

VII. FINDINGS

SECTION 4

VIII. RESPONSE TO COMMENTS (IF ANY)

IX. MITIGATION MONITORING & REPORTING PROGRAM (MMRP) (IF ANY)

E. SCOPE OF ENVIRONMENTAL ANALYSIS

For evaluation of environmental impacts, each question from the Environmental Checklist Form is summarized and responses are provided according to the analysis undertaken as part of the Initial Study. Impacts and effects will be evaluated and quantified, when appropriate. To each question, there are four possible responses, including:

1. **No Impact:** A "No Impact" response is adequately supported if the impact simply does not apply to the proposed applications.
2. **Less Than Significant Impact:** The proposed applications will have the potential to impact the environment. These impacts, however, will be less than significant; no additional analysis is required.
3. **Potentially Significant Unless Mitigation Incorporated:** This applies where incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact".
4. **Potentially Significant Impact:** The proposed applications could have impacts that are considered significant. Additional analyses and possibly an EIR could be required to identify mitigation measures that could reduce these impacts to less than significant levels.

F. POLICY-LEVEL or PROJECT LEVEL ENVIRONMENTAL ANALYSIS

This Initial Study and Negative Declaration will be conducted under a ☐ policy-level, ☒ project level analysis. Regarding mitigation measures, it is not the intent of this document to "overlap" or restate conditions of approval that are commonly established for future known projects or the proposed applications. Additionally, those other standard requirements and regulations that any development must comply with, that are outside the County's jurisdiction, are also not considered mitigation measures and therefore, will not be identified in this document.

G. TIERED DOCUMENTS AND INCORPORATION BY REFERENCE

Information, findings, and conclusions contained in this document are based on incorporation by reference of tiered documentation, which are discussed in the following section.

1. Tiered Documents

As permitted in Section 15152(a) of the CEQA Guidelines, information and discussions from other documents can be included in this document. Tiering is defined as follows:

"Tiering refers to using the analysis of general matters contained in a broader EIR (such as the one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project."

Tiering also allows this document to comply with Section 15152(b) of the CEQA Guidelines, which discourages redundant analyses, as follows:

"Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including the general plans, zoning changes, and development projects. This approach can eliminate repetitive discussion of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review. Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy or program to an EIR or negative declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration."

Further, Section 15152(d) of the CEQA Guidelines states:

"Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:

(1) Were not examined as significant effects on the environment in the prior EIR; or

(2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means."

2. <u>Incorporation By Reference</u>

Incorporation by reference is a procedure for reducing the size of EIRs/MND and is most appropriate for including long, descriptive, or technical materials that provide general background information, but do not contribute directly to the specific analysis of the project itself. This procedure is particularly useful when an EIR or Negative Declaration relies on a broadly-drafted EIR for its evaluation of cumulative impacts of related projects (*Las Virgenes Homeowners Federation v. County of Los Angeles* [1986, 177 Ca.3d 300]). If an EIR or Negative Declaration relies on information from a supporting study that is available to the public, the EIR or Negative Declaration cannot be deemed unsupported by evidence or analysis (*San Francisco Ecology Center v. City and County of San Francisco* [1975, 48 Ca.3d 584, 595]). This document incorporates by reference appropriate information from the "Final Environmental Impact Report and Environmental Assessment for the "County of Imperial General Plan EIR" prepared by Brian F. Mooney Associates in 1993 and updates.

When an EIR or Negative Declaration incorporates a document by reference, the incorporation must comply with Section 15150 of the CEQA Guidelines as follows:

- The incorporated document must be available to the public or be a matter of public record (CEQA Guidelines Section 15150[a]). The General Plan EIR and updates are available, along with this document, at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (442) 265-1736.

- This document must be available for inspection by the public at an office of the lead agency (CEQA Guidelines Section 15150[b]). These documents are available at the County of Imperial Planning &

Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (442) 265-1736.

- These documents must summarize the portion of the document being incorporated by reference or briefly describe information that cannot be summarized. Furthermore, these documents must describe the relationship between the incorporated information and the analysis in the tiered documents (CEQA Guidelines Section 15150[c]). As discussed above, the tiered EIRs address the entire project site and provide background and inventory information and data which apply to the project site. Incorporated information and/or data will be cited in the appropriate sections.

- These documents must include the State identification number of the incorporated documents (CEQA Guidelines Section 15150[d]). The State Clearinghouse Number for the County of Imperial General Plan EIR is SCH #93011023.

- The material to be incorporated in this document will include general background information (CEQA Guidelines Section 15150[f]). This has been previously discussed in this document.

II. Environmental Checklist

1. **Project Title**: Zone Change #23-0007/Conditional Use Permit #23-0027/Initial Study #23-0033 Cal 98 Holdings
2. **Lead Agency**: Imperial County Planning & Development Services Department
3. **Contact person and phone number**: Derek Newland, Planner III, (442)265-1736, ext. 1756
4. **Address**: 801 Main Street, El Centro CA, 92243
5. **E-mail**: dereknewland@co.imperial.ca.us
6. **Project location**: 15 E. Hwy 98 (State Route 98), Calexico, CA 92231
7. **Project sponsor's name and address**:
8. **General Plan designation**: Urban Area
9. **Zoning**: A-2-U (General Agriculture within Urban Area)

10. **Description of project**: The project proposes Zone Change #23-0007 from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) as well as Conditional Use Permit #23-0027 to construct and operate a trucking and warehousing operation that will consist of a warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. Access to the property will consist of onsite improvement on the west side of the property to create a north and south lane onto Dogwood Rd. and left turn only lane on to SR-98. Additionally, a left turn lane for passenger vehicles would add on SR-98 on to Kemp Road which will also be paved on the eastern side of the project location. The proposed hours for the trucking and warehousing operation are 8 am – 9 pm with a proposed total of 100 trucks per day coming to and from the site and 20 onsite employees. The proposed route for the trucks is from the east port at the Gateway Specific Plan area, north along SR-7 to SR-98, and then west along SR-98 to Cole Road. The trucks will then travel along Cole Road where they will then turn south on to Dogwood Road until they reach project location where they will enter straight into the property at the proposed Dogwood Road expansion.

11. **Surrounding land uses and setting**: The surrounding lands consist of the New River to the south, with Agriculture lands to the north. Both east and west of the project along SR-98 consist of a combination of agricultural, residential, commercial and light industrial zoned properties. These surrounding properties contain houses, agricultural fields, self-storage and a vehicle dismantling yard all within .5 miles of the project site. In addition, the City of Calexico lies .4 miles east of the project site and further west along SR-98 +/- 1 mile away is a solar power facility.

12. **Other public agencies whose approval is required** (e.g., permits, financing approval, or participation agreement.): California Department of Transportation, Imperial County Air Pollution Control District, Imperial County Environmental Health Division.

13. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

The Campo Band of Mission Indians and Quechan Tribes were sent letters of opportunity to consult on October 19, 2023, pursuant to AB-52 along with a request for comments package and Cultural Survey performed by Tierra Environmental Services. No response was received by either tribe.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental

review process. (See Public Resources Code, Section 21080.3.2). Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code, Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code, Section 21082.3 (c) contains provisions specific to confidentiality.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

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

ENVIRONMENTAL EVALUATION COMMITTEE (EEC) DETERMINATION

After Review of the Initial Study, the Environmental Evaluation Committee has:

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

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

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

☐ Found that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

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

EEC VOTES	YES	NO	ABSENT
PUBLIC WORKS	☒	☐	☐
ENVIRONMENTAL HEALTH SVCS	☒	☐	☐
OFFICE EMERGENCY SERVICES	☒	☐	☐
APCD	☒	☐	☐
AG	☐	☐	☒
SHERIFF DEPARTMENT	☒	☐	☐
ICPDS	☒	☐	☐

Jim Minnick, Director of Planning/EEC Chairman

Date:

EEC ORIGINAL PKG

PC ORIGINAL PKG

A. **Project Location**: The project site is located at 15 SR-98, Calexico, CA 92231 and consists of one (1) parcel identified as Assessor Parcel Number 058-180-001-000, and is further legally described as a Portion of the West Half of the Northwest Quarter of Section 15, T17S, R14E, S.B.B.M.

B. **Project Summary**: The project proposes Zone Change #23-0007 from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) as well as Conditional Use Permit #23-0027 to construct and operate a trucking and warehousing operation that will consist of a warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. Access to the property will consist of onsite improvement on the west side of the property to create a north and south lane onto Dogwood Rd. and left turn only lane on to Hwy 98. Additionally, a left turn lane for passenger vehicles would add on SR-98 on to Kemp Road which will also be paved on the eastern side of the project location. The proposed hours for the trucking and warehousing operation are 8 am – 9 pm with a proposed total of 100 trucks per day coming to and from the site and 20 onsite employees. The proposed route for the trucks is from the east port at the Gateway Specific Plan area, north along SR-7 to SR-98, and then west along SR-98 to Cole Road. The trucks will then travel along Cole Road where they will then turn south on to Dogwood Road until they reach project location where they will enter straight into the property at the proposed Dogwood Road expansion.

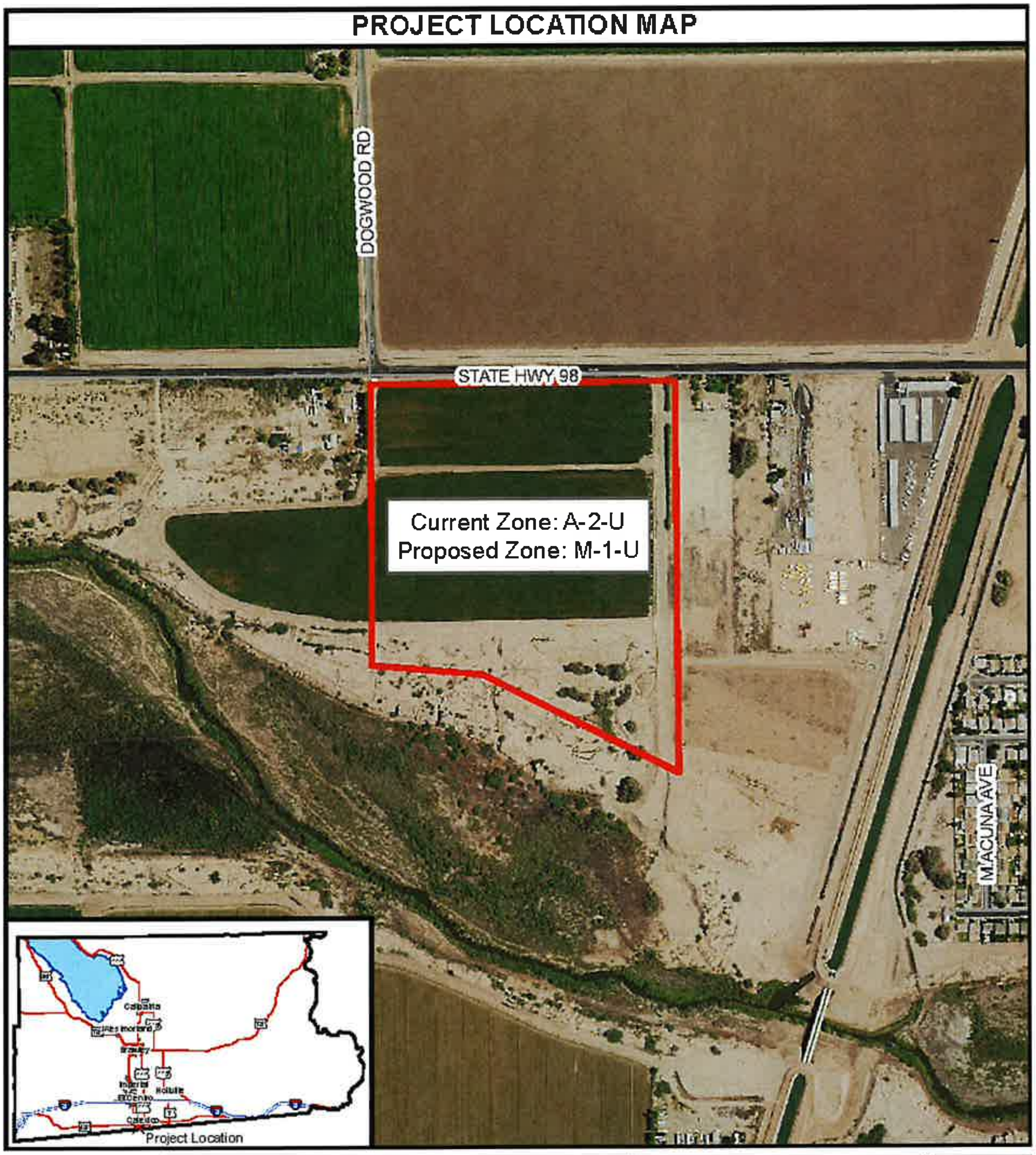
C. **Environmental Setting**: The surrounding lands consist of the New River to the south, with Agriculture lands to the north. Both east and west of the project along SR-98 consist of a combination of agricultural, residential, commercial and light industrial zoned properties. These surrounding properties contain houses, agricultural fields, self-storage and a vehicle dismantling yard all within .5 miles of the project site. In addition, the City of Calexico lies .4 miles east of the project site and further west along SR-98 +/- 1 mile away is a solar power facility.

D. **Analysis**: The project proposes Zone Change #23-0007 from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) as well as Conditional Use Permit #23-0027 to construct and operate a trucking and warehousing operation that will consist of a warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. The project parcel is currently zoned A-2-U (General Agriculture within Urban Area) which does not allow for the proposed trucking and warehousing facility. Therefore, a zone change to M-1-U (Light Industrial Within Urban Area) is required as the proposed use would be allowed in this zone with an approved Conditional Use Permit.

E. **General Plan Consistency**: The parcel is located in an area designated as an Urban Area which is within the City of Calexico's Sphere of Influence and allows for uses and zones that would be associated with an urban environment. Therefore, upon approval the proposed zone change to M-1-U (Light Industrial Within Urban Area) could be found consistent with the General Plan and would not require a General Plan Amendment.

Exhibit "A"

Vicinity Map



CAL 98 HOLDINGS
ZC #23-0007 / CUP #23-0027
IS #23-0033
APN 058-180-001

Project Parcels
Centerline

N

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Exhibit "B"
Site Plan

EVALUATION OF ENVIRONMENTAL IMPACTS:

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

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

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

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

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

   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

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

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

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

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

I. *AESTHETICS*

Except as provided in Public Resources Code Section 21099, would the project:

	PSI	LTSMI	LTSI	NI
a) Have a substantial adverse effect on a scenic vista or scenic highway?	☐	☐	☐	☒

a) The proposed project is located at the intersection of Dogwood Road and State Route 98. Neither listed as a scenic highway or future scenic highway in the Circulation and Scenic Highway Element of the Imperial County General Plan[1], nor designated as such per the Caltrans California State Scenic Highway System Map[2]. No Impacts are expected.

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

b) As previously stated in subsection a), the proposed project is not located near a Scenic vista or Scenic Highway and would not substantially damage scenic resources. Therefore, no impacts are expected.

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

c) The proposed trucking and warehousing facility would convert actively farmed agricultural land and requires a zone change from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area). The surrounding lands consist of the New River to the south, with Agriculture lands to the north. Both east and west of the project along SR-98 consist of a combination of agricultural, residential, commercial and light industrial zoned properties. These surrounding properties contain houses, agricultural fields, self-storage and a vehicle dismantling yard all within .5 miles of the project site. In addition, the City of Calexico lies .4 miles east of the project site and further west along SR-98 +/- 1 mile away is a solar power plant. Due to the project location and variety land uses on either side of the project it is not expected that the project would substantially degrade the existing visual character or quality of public views. Additionally, the project will be required to install a perimeter masonry wall with land scaping along the north, west and east sides of the project per the County's Title 9 Land Use Ordinance Division 3: Site & Design Standards[3]. Therefore, any impacts would be expected to be less than significant.

	PSI	LTSMI	LTSI	NI
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

d) The project would not create new source of substantial light or glare would adversely affect day or nighttime views in the area as the project will be required to shield all exterior light sources and direct them away from adjacent properties and away from or shielded from public roads per Title 9 Division 3. Any impacts are expected to be less than significant.

II. *AGRICULTURE AND FOREST RESOURCES*

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. --Would the project:

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

[1] Imperial County General Plan: Circulation and Scenic Highway Element.
[2] Caltrans State Scenic Highway System Map
[3] Imperial County Title 9 Land Use Ordinance Division 3: Site & Design Standards

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

a) The proposed project would convert +/- 40 acres of active farmland designated as Farmland of Statewide Importance according to the Farmland Mapping and Monitoring Program map[4]. However, the project is located within the Calexico Urban Area of the Imperial County General Plan for the City of Calexico, which is land that has already been assessed for potential future development and as a result would not be considered conversion of farmland. Therefore, any impacts area expected to be less than significant.

		PSI	LTSMI	LTSI	NI
b)	Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☒	☐

b) The proposed project would conflict with existing zoning however project is proposing a zone change from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) along with a Conditional Use Permit as required for the proposed trucking and warehousing within the proposed M-1-U zone. In addition, there are no active Williamson Act Contracts within Imperial County. Approval of the proposed zone change, and CUP would make the project consistent with the General Plan and therefore any impacts are expected to be less than significant.

		PSI	LTSMI	LTSI	NI
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒

c) The proposed trucking and warehousing facility is not located in areas zoned for forest, timberland, or timberland production and therefore, would not conflict with any zoning associated for those uses. No impacts are expected.

		PSI	LTSMI	LTSI	NI
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

d) The proposed trucking and warehousing facility is not being proposed in any forest land and therefore would not result in the loss of forest land or conversion of forest land to non-forest use. No impacts are expected.

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

e) As stated above, while the project is proposed to be developed on an active agricultural field the project is located within the Calexico Urban Area of the Imperial County General Plan for potential future development and with an approved zone change would not be considered conversion of farmland. Any impacts are expected to be less than significant.

III. *AIR QUALITY*

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to the following determinations. Would the Project:

		PSI	LTSMI	LTSI	NI
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

a) The proposed project is not expected to conflict with or obstruct implementation of the applicable air quality plan. A construction Dust Control Plan and a Construction Notification Form will be required by the Air Pollution Control District before construction can begin. Any impacted would be considered less than significant.

		PSI	LTSMI	LTSI	NI
b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐

b) The propose trucking and warehousing facility is not expected to 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. Any impacts would be considered less than significant.

		PSI	LTSMI	LTSI	NI
c)	Expose sensitive receptors to substantial pollutants concentrations?	☐	☐	☒	☐

c) The proposed trucking and warehousing facility is located .4 miles from the City of Calexico as well as having a few residential structures nearby. It is not anticipated that the project would expose sensitive receptors to substantial pollutants concentrations. Any impacts would be considered less than significant.

[4] California Farmland Mapping & Monitoring Program: Imperial County Important Farmland Map 2018

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☒	☐

d) The proposed trucking and warehousing facility is not expected to result in other emissions such as those leading to odors adversely affecting a substantial number of people. Any impacts would be considered less than significant.

IV. *BIOLOGICAL RESOURCES* *Would the project:*

	PSI	LTSMI	LTSI	NI
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

a) A **biological study[5] was conducted on the project site and it was determined that while not observed, there is potential for burrowing owls as well as other ground nesting species such as lesser nighthawk and/or killdeer to be located on site with the potential for nesting sites. To mitigate potential risk to any potential borrowing/nesting sites the following mitigation measures will be implemented:**

BIO 1 – Preconstruction Surveys within 14 days and 24 hours of start of groundbreaking activities by a qualified biologist.

BIO 2 - If occupied burrows are found on site, the burrows shall be passively relocated by a qualified biologist outside of nesting season and an appropriate number of artificial burrows shall be installed. If possible, these burrows shall be installed as close as possible to the passively relocated burrows.

BIO 3 - If not in the active construction areas, the occupied burrows can be sheltered in place with appropriate materials.

BIO 4 - If occupied burrows are sheltered, a biological monitor shall monitor areas of active construction This biologist will ensure that the project complies with these mitigation measures and will have the authority to halt activities if they are not in compliance. The biologist will inspect the construction areas periodically for the presence of BUOWs.

BIO 5 - If work is stopped for longer than 14 days, the area will be resurveyed prior to restart of construction.

BIO 6 – AVOIDANCE: Construction foremen and workers and onsite employees be given worker training by a qualified biologist regarding burrowing owl that would include the following:

- **Description of BUOW**
- **Biology**
- **Regulations (CDFW/USFWS)**
- **Wallet card with picture/guidelines for protecting owl and wildlife**
- **Notification procedures if owl (dead, alive, injured) is found on or near site**

A sign-in should be obtained and the training materials and sign-in sheet should be submitted to appropriate agency.

It is expected that implementation of these mitigation measures would bring the project impacts to less than significant.

	PSI	LTSMI	LTSI	NI
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒

b) Per the above referenced biological study, the proposed project is not located on riparian habitat. Therefore, no impacts are expected.

	PSI	LTSMI	LTSI	NI
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling,	☐	☐	☐	☒

[5] Cal 98 Charger Logistics Biological Resources Assessment Technical Report

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

hydrological interruption, or other means?

c) Per the above referenced biological study the proposed project is not located on stated or federally protected wetlands and therefore no impacts are expected.

	PSI	LTSMI	LTSI	NI
d) Interfere substantially with the movement of any 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?	☐	☐	☐	☒

d) Per the previously stated biological study the proposed project will not interfere with the currently restricted 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. Therefore, no impacts are expected.

	PSI	LTSMI	LTSI	NI
e) Conflict with any local policies or ordinance protecting biological resource, such as a tree preservation policy or ordinance?	☐	☐	☒	☐

e) Approval of the proposed zone change and accompanying Conditional Use Permit would bring the proposed project into compliance with Imperial County Title 9 Land Use Ordinance as the project. Any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

f) The proposed project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Any impacts are expected to be less than significant.

V. *CULTURAL RESOURCES* *Would the project:*

	PSI	LTSMI	LTSI	NI
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒

a) A cultural study[6] was conducted on the project site with no resource being identified and no further archaeological work being recommended. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical resource and no impacts are expected.

	PSI	LTSMI	LTSI	NI
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒

b) As stated above, a cultural study was performed on site with no resources being identified and no further archaeological work being recommended. Therefore, the proposed project would not cause a substantial adverse change in the significance of an archaeological resource and no impacts are expected.

	PSI	LTSMI	LTSI	NI
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

c) As has been stated a cultural study was performed on the proposed project site. The site is an actively farmed agricultural field with no sign of remains being found. Additionally, no further archaeological work on the site was recommended and no impacts are expected.

VI. *ENERGY* *Would the project:*

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

a) Construction of the proposed project would consist of grading and paving of the project footprint as well as the paving of Kemp Road to the east and creation of a 3 lane north and south extension on to dogwood road with a left turn lane on the SR-98. In addition, a +\- 120,000 square feet warehouse will be constructed and adhered to the current California Building Code. Energy resources would be consumed during the construction of the project in the form of fuel and electricity for

[6] Cultural Resources Survey Report for the Cal 98 Holdings Trucking Facility, Tierra Environmental Services, July 08, 2023

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PC ORIGINAL PKG

machinery and tools. After construction the only onsite energy consumption would be electricity for external lighting and the powering of the warehouse. Fuel consumption would be from vehicles both personal and commercial coming to and from the site. It is not expected that this project would result in significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

b) The proposed trucking and warehousing facility would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The project will be required to adhere to all state and local rules and regulations through the acquisition of the appropriate permits for the construction and operation of the proposed facility. Any impacts would be considered less than significant.

VII. *GEOLOGY AND SOILS Would the project:*

	PSI	LTSMI	LTSI	NI
a) Directly or indirectly cause potential substantial adverse effects, including risk of loss, injury, or death involving:	☐	☐	☒	☐

a) The proposed project would not directly or indirectly cause potential substantial adverse effects, including risk of loss, injury or death, as the proposed trucking and warehousing facility does not appear to conflict with the geology and soil of the property or adjacent properties in the area. In addition, all work onsite must go through various permitting such as grading and building permits which would comply with all state and local regulations and building codes. Any impacts are expected to be less than significant.

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

1) The proposed trucking and warehousing facility will include a 120,245 square feet warehouse and the structure will be required to meet all requirements within the current 2022 California Building Code. The nearest fault lines from the project site are both roughly +/- 9 miles east and west of the project site and any shaking would be similar to the surrounding properties including the City of Calexico which is situated +/- .4 miles east of the project. Any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
2) Strong Seismic ground shaking?	☐	☐	☒	☐

2) Imperial County is subject to potential seismic ground shaking due to the numerous faults in the area. The project site could experience strong seismic ground shaking but no more than the surrounding properties. In addition, the proposed 120,245 square feet warehouse would be subject to all 2022 California Building Codes and any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
3) Seismic-related ground failure, including liquefaction and seiche/tsunami?	☐	☐	☐	☒

3) The proposed trucking and warehousing operation is not in a tsunami inundation zone nor a liquefaction zone. Therefore, no impacts are expected.

	PSI	LTSMI	LTSI	NI
4) Landslides?	☐	☐	☒	☐

4) According to Imperial County General Plan's Seismic and Public Safety Element[7] "Landslide Activity" map, the project is not located in a landslide zone. However, the southern portion of the property abuts the New River which is at a lower elevation to the project site. Under extreme circumstances there may be a potential for the cliff face to fail but the project development is proposed to be developed away from this area on the currently disturbed ag field. In addition, the warehouse will be built on the north end of the +/- 44-acre parcel well away from this area. Therefore, any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

[7] Imperial County General Plan: Seismic and Public Safety Element

	Potentially Significant Impact **(PSI)**	Less Than Significant with Mitigation Incorporated **(LTSMI)**	Less Than Significant Impact **(LTSI)**	No Impact **(NI)**

b) As stated above, the proposed project is north of the New River with an exposed cliff face on the southern portion of the property. The project is not proposed to be developed near this cliff side and therefore any erosion of the cliff side would be natural and not a result of the project. In addition, per the Imperial County General Plan's Seismic and Public Safety Element "Erosion Activity" map, the project site is listed as "low" for erosion activity. Any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

c) The proposed trucking and warehousing facility will consist of the majority of the +/- 40-acre project site on the +/- 44 acre parcel being graded and paved for the purpose of trailer parking. In addition, the proposed project is not located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Therefore, any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
d) Be located on expansive soil, as defined in the latest Uniform Building Code, creating substantial direct or indirect risk to life or property?	☐	☐	☒	☐

d) The proposed trucking and warehousing facility is proposed to be constructed on what is currently an actively farmed agricultural field which will be graded and paved and the warehouse will comply with all California Building Codes. The project will not be located on expansive soil and therefore will not create a substantial direct or indirect risk to life or property. Therefore, any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐

e) The proposed trucking and warehousing facility is proposed to be built on what is currently an active agricultural field and is not expected to be incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems. A percolation test would be conducted on site before any such system was permitted or alternatives assessed. Any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

f) The proposed trucking and warehousing facility is intending to grade and pave a currently active agricultural field and would not directly or indirectly destroy a unique paleontological resource or site or unique feature. No impacts are expected.

VIII. ***GREENHOUSE GAS EMISSION Would the project:***

	PSI	LTSMI	LTSI	NI
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

a) The proposed trucking and warehousing facility is not expected to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Any impacts would be considered less than significant.

	PSI	LTSMI	LTSI	NI
b) Conflict with an applicable plan or policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

b) The proposed trucking and warehousing facility not expected to conflict with an applicable plan or policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases; therefore, less than significant impacts are expected.

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

IX. ***HAZARDS AND HAZARDOUS MATERIALS*** ***Would the project:***

	PSI	LTSMI	LTSI	NI
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

a) The proposed trucking and warehousing facility does not propose to transport nor store hazardous materials on site and therefore would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

b) As stated above the proposed trucking and warehousing operation does not propose to transport nor store hazardous materials on site and therefore would not create a significant hazard to the pubic or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Any impacts would be considered less than significant.

	PSI	LTSMI	LTSI	NI
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐

c) The proposed project does not propose to transport nor store hazardous materials and the nearest schools are in the City of Calexico just under 1 mile from the project location. These schools are Blanche Charles Elementary School which is +/- 3,800 feet east of the project and William Moreno Junior High School which is +/- 4,300 feet east of the project locations. Therefore, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Any impacts would be considered less than significant.

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

d) Per the California Department of Toxic Substances Control[8], the proposed project is not located on a list of hazardous materials sites and therefore no impacts are expected.

	PSI	LTSMI	LTSI	NI
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐

e) The proposed project is located within the C zone of the Imperial County Airport Land Use Compatibility Plan for the City of Calexico Airport. The proposed project was brought before the Airport Land Use Commission on November 15, 2023, where it was found consistent with the 1996 Airport Land Use Compatibility Plan. Therefore, the project is not expected to result in a safety hazard or excessive noise for people residing or working in the project area. Any impacts would be considered less than significant.

	PSI	LTSMI	LTSI	NI
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

f) The proposed trucking and warehousing facility would not impair implementation of or physically interfere with an adopted emergency reasons plan or emergency evacuation plan. Furthermore, the project would comply with any applicable rules and regulations as well as related requirements within the Imperial County Fire Department Letter dated November 06, 2023[9]. Any impacts would be considered less than significant.

	PSI	LTSMI	LTSI	NI
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

[8] California Department of Toxic Substances Control: EnviroStor
[9] Imperial County Fire Department Letter dated November 06, 2023

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

g) The proposed project is not located in a fire hazard zone per the Cal Fire "Fire Hazard Severity Zones (FHSZ) viewer[10] and therefore the project is not expected to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. Any impacts would be considered less than significant.

X. *HYDROLOGY AND WATER QUALITY* ***Would the project:***

	PSI	LTSMI	LTSI	NI
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

a) The proposed trucking and warehousing facility propose to grade and pave a currently farmed agricultural field as well as the construction of a +/- 120,245 square feet warehouse and water drainage and waste discharge will be addressed as part of the permitting process of these actions. Therefore, it is not expected that the proposed project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Any impacts would be considered less than significant.

	PSI	LTSMI	LTSI	NI
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐

b) Approval of the proposed project would result in the grading and paving of the existing actively farmed agricultural field. Agricultural fields in the county typically have subsurface drain tiles which move irrigation water into the Imperial Irrigation District's drain system. The paving of the site would eliminate water penetration from irrigation water on the property, however, as irrigation water is already drained from the site through drainage tiles, the majority of the water is already being prevented from substantially effecting groundwater. Therefore, it is not expected that the project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. Any impacts would be considered less than significant.

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

c) The proposed trucking and warehouse facility proposes paving of +/- 36.57 acres of the +/- 44 acres parcel and will require a grading permit which will address drainage onsite. In addition, an encroachment on to SR-98 will be required which will require a hydrology study as part of the permitting study which will also address drainage from the site. Therefore, it is not expected that the project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces and any impacts would be anticipated to be less than significant.

	PSI	LTSMI	LTSI	NI
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐

(i) The proposed trucking and warehousing facility will not result in substantial erosion or siltation on- or off-site. Therefore, any impacts would be considered less than significant.

	PSI	LTSMI	LTSI	NI
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐

(ii) It is not expected that the proposed trucking and warehousing facility would substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. Therefore, any impacts would be expected to be less than significant.

	PSI	LTSMI	LTSI	NI
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or;	☐	☐	☒	☐

(iii) The project is not expected to create or contribute runoff water which would exceed the capacity of existing or

[10] Cal Fire: Fire Hazard Severity Zones (FHSZ) Viewer

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
(iv) impede or redirect flood flows?	☐	☐	☒	☐

(iv) The project is not located within an area prone to flooding and therefore any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐

d) The proposed trucking and warehouse facility is not located in a flood hazard, tsunami, or seiche zone and it is not expected risk release of pollutants due to project inundation. There is no storage of fuel, motor oil or any other hazardous pollutants on site proposed. Any impacts from a potential inundation of the site would be expected to be less than significant.

	PSI	LTSMI	LTSI	NI
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

e) The proposed trucking and warehouse facility would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Any impacts would be expected to be less than significant.

XI. *LAND USE AND PLANNING* *Would the project:*

	PSI	LTSMI	LTSI	NI
a) Physically divide an established community?	☐	☐	☐	☒

a) The proposed trucking and warehousing facility will not physically divide an established community. Therefore, no impacts are expected.

	PSI	LTSMI	LTSI	NI
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

b) The proposed trucking and warehousing facility would not be an allowed use on the A-2-U (General Agriculture within Urban Area) zone per Imperial County's Land Use Ordinance Title 9 Division 5[11]. As such, the project requires the approval of the proposed Zone Change #23-0007 to M-1-U (Light Industrial within Urban Area) as well as the approval of the proposed Conditional Use Permit #23-0027. Approval of the Zone Change and Conditional Use permit would bring the project into compliance with Imperial County's Land Use Ordinance. Therefore, any impacts would be considered less than significant.

XII. *MINERAL RESOURCES* *Would the project:*

	PSI	LTSMI	LTSI	NI
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

a) The proposed trucking and warehousing facility is not anticipated to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state as the project does not propose the removal of mineral resources and is not located within the boundaries or vicinity of an active mine. No impacts are expected.

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

b) The proposed project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. No impacts are expected.

XIII. *NOISE* *Would the project result in:*

[11] Imperial County Title 9 Land Use Ordinance, Division 5

	Potentially Significant Impact **(PSI)**	Less Than Significant with Mitigation Incorporated **(LTSMI)**	Less Than Significant Impact **(LTSI)**	No Impact **(NI)**
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

a) A noise study was produced by UltraSystems and it was determined that while there will be higher noise levels during construction, they would not exceed Imperial County's Noise Ordinance nor would the project once operational and no mitigation measures are recommended. In addition, as part of the design standards required for the proposed M-1-U Zone, masonry walls will be required and conditioned along the property lines of adjacent parcels which allow for residential uses as well as being required along SR-98. It is expected that these masonry walls would contribute to reducing any onsite noise from the proposed trucking and warehouse facility once operational. Any impacts would be considered less than significant.

	PSI	LTSMI	LTSI	NI
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

b) During the construction of the project some low levels of ground-borne vibration and noise may occur but not to any significant or excessive degree. Therefore, any impacts would be considered less than significant.

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

c) The project is located within the "C" Zone of the Imperial County Airport Land Use Compatibility Plan for the City of Calexico Airport and received a compatible determination by the Airport Land Use Commission on November 15, 2023. No impacts are expected.

XIV. *POPULATION AND HOUSING* *Would the project:*

	PSI	LTSMI	LTSI	NI
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and business) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

a) The proposed trucking and warehousing facility would not induce substantial unplanned population growth either directly or indirectly. The project proposes 20 onsite employees with all others being drivers or visitors to the site. No impacts are expected.

	PSI	LTSMI	LTSI	NI
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

b) The proposed trucking and warehousing facility is proposed to be on a currently vacant parcel that is an active agricultural field. Therefore, the project would not displace substantial numbers of existing people or housing necessitating the construction of replacement housing elsewhere and no impacts are expected.

XV. *PUBLIC SERVICES*

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

a) The proposed trucking and warehouse facility is not anticipated to result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. Any impacts would be considered less than significant.

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
1) Fire Protection?	☐	☐	☒	☐

1) It is expected that compliance with conditions set out in the Imperial County Fire Departments comment letter dated November 06, 2023[12] would prevent the project from resulting in substantial adverse impacts to Fire Department services or facilities. Any impacts would be expected to be less than significant.

	PSI	LTSMI	LTSI	NI
2) Police Protection?	☐	☐	☒	☐

2) The proposed trucking and warehouse facility is not anticipated to result in substantial adverse impacts to law enforcement services or facilities. Any impacts would be expected to be less than significant.

	PSI	LTSMI	LTSI	NI
3) Schools?	☐	☐	☐	☒

3) The proposed trucking and warehouse facility is not anticipated to result in substantial adverse impacts to school services or facilities. No impacts are expected.

	PSI	LTSMI	LTSI	NI
4) Parks?	☐	☐	☐	☒

4) The proposed trucking and warehouse facility is not anticipated to result in substantial adverse impacts to park services or facilities. No impacts are expected.

	PSI	LTSMI	LTSI	NI
5) Other Public Facilities?	☐	☐	☒	☐

5) The proposed trucking and warehouse facility is not anticipated to result in substantial adverse impacts to any other Public Facilities. Any impacts would be considered less than significant.

XVI. *RECREATION*

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

a) The proposed trucking and warehousing facility do not propose to increase population by either necessitating new housing or creating a large influx people to the area that would increase the use of any existing neighborhood and regional parks or other recreational facility such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment?	☐	☐	☐	☒

b) The proposed trucking and warehousing facility do not propose any new recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment. No impacts are expected.

XVII. *TRANSPORTATION* ***Would the project:***

	PSI	LTSMI	LTSI	NI
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐

a) The proposed trucking and warehousing facility do not appear to conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Any impacts would be considered less than significant

	PSI	LTSMI	LTSI	NI
b) Would the project conflict or be inconsistent with the CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐

b) The proposed trucking and warehousing facility do not appear to conflict or be inconsistent with the CEQA Guidelines section 15064.3, subdivision (b). Any impacts would be considered less than significant.

	PSI	LTSMI	LTSI	NI
c) Substantially increases hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐

[12] Imperial County Fire Departments comment letter dated November 06, 2023

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)

c) The proposed trucking and warehousing facility will be extending Dogwood Road onto the property at the intersection of SR-98 and Dogwood Road. This will include a 4th stoplight at the current 3-way stop intersection with north and south lanes as well as a left turn lane onto west bound SR-98. A left turn lane will be put in on westbound SR-98 on to Kemp Road on the eastern side of the project location for passenger vehicle access only. As part of the permitting process with Caltrans for these actions, an Intersection Control Evaluation report will be required and conditioned as part of the project. Per Imperial County Public Works Letter dated 03/12/2024[13], the project shall provide westbound left-turn and northbound right-turn improvements at the Dogwood and Cole Road Intersection. In addition, the project will undergo a design review as part of the building permit process to address the design of the project site at these intersections. It is anticipated that these actions will make any impacts less than significant.

TRAN 1 - The project shall provide westbound left-turn and northbound right-turn improvements at the Dogwood and Cole Road Intersection.

	PSI	LTSMI	LTSI	NI
d) Result in inadequate emergency access?	☐	☐	☐	☒

d) As described in XVII c), there will be improvements to the intersections on the east and west of the project site. These improvements will comply with both Caltrans and Imperial County Fire requirements for emergency access. Therefore, no impacts are expected.

XVIII. *TRIBAL CULTURAL RESOURCES*

	PSI	LTSMI	LTSI	NI
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place or object with cultural value to a California Native American tribe, and that is:	☐	☐	☒	☐

a) A letter of opportunity to consult was sent to the Campo Band of Mission Indians and the Quechan Indian Tribe on October 19, 2023, along with the letter, a request for comments with an attached Cultural Study performed by Tierra Environmental Services was also sent. No response has been received from either tribe. The Cultural Study found no evidence of new cultural resources and no further archaeological work was recommended. Any impacts would be expected to be less than significant.

	PSI	LTSMI	LTSI	NI
(i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as define in Public Resources Code Section 5020.1(k), or	☐	☐	☐	☒

(i) The proposed trucking and warehouse project site is not listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k). No impacts are expected.

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

(ii) As stated in section XVIII a), letters of opportunity to consult were sent out to the Campo Band Mission Indians and Quechan Indian Tribe in accordance with AB52 and a cultural study was provided with no response received by either tribe. No evidence of new cultural resources were identified in the study and no further action is archaeological work was recommended by the study. Any impacts would be considered less than significant.

XIX. *UTILITIES AND SERVICE SYSTEMS* ***Would the project:***

[13] Imperial County Public Works Letter dated 03/12/2024

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐

a) The proposed trucking and warehousing facility will not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects. Per the Imperial County Division of Environmental Health dated December 07, 2022[14] the project will be required to install a septic system and local onsite water treatment plant as water to the site will come from the Imperial Irrigation District water system and will require treatment for use. Any impacts would be expected to be less than significant.

	PSI	LTSMI	LTSI	NI
b) Have sufficient water supplies available to serve the project from existing and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐

b) The proposed trucking and warehousing facility will require water for fire suppression, landscaping, bathroom and possible kitchen facilities. The project proposes to obtain water from the Imperial Irrigation District as well as comply with the Division of Public Health's letter mentioned above. It is expected that the it will have sufficient water supplies as the water requirements would be less than the water usage already onsite from the actively farmed agricultural field and therefore any impacts are expected to be less than significant.

	PSI	LTSMI	LTSI	NI
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒

c) The proposed trucking and warehousing facility will require an onsite septic system which will require a percolation test as part of the required permitting through the Environmental Health Division. Therefore, no impacts to a wastewater treatment provider are expected.

	PSI	LTSMI	LTSI	NI
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐

d) The proposed trucking and warehousing facility propose 20 onsite employees with truck drivers and possible visitors varying in number at any given time and no packaging or repackaging of freight onsite is proposed. Waste removal will require a contracted service from a local waste provider. It is not expected that the project will generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Therefore, any impacts would be considered less than significant.

	PSI	LTSMI	LTSI	NI
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

e) The project will be required to comply with all federal, state and local management and reduction statutes and regulations related to solid waste. Any impacts would be considered less than significant.

XX. *WILDFIRE*

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

	PSI	LTSMI	LTSI	NI
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

a) The proposed trucking and warehouse facility is not anticipated to impair an adopted emergency response plan or emergency evacuation plan. Any impacts would be considered less than significant.

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

b) The proposed trucking and warehouse facility is not in a location prone to wildfires and therefore is not expected to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Any impacts

14 Imperial County Division of Environmental Health dated December 07, 2022

	Potentially Significant Impact (PSI)	Less Than Significant with Mitigation Incorporated (LTSMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
would be considered less than significant.				
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒

c) The proposed trucking and warehouse facility will be required to have an onsite water source (pressurized water supply) for fire protection however the installation or maintenance of the source would not exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. No impacts are expected.

	PSI	LTSMI	LTSI	NI
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

d) The proposed trucking and warehouse facility is not in an area at risk for flooding or landslides and therefore no impacts are anticipated.

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; Sundstrom v. County of Mendocino,(1988) 202 Cal.App.3d 296; Leonoff v. Monterey Board of Supervisors, (1990) 222 Cal.App.3d 1337; Eureka Citizens for Responsible Govt. v. City of Eureka (2007) 147 Cal.App.4th 357; Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th at 1109; San Franciscans Upholding the Downtown Plan v. City and County of San Francisco (2002) 102 Cal.App.4th 656.

Revised 2009- CEQA
Revised 2011- ICPDS
Revised 2016 – ICPDS
Revised 2017 – ICPDS
Revised 2019 – ICPDS

	Potentially Significant Impact **(PSI)**	Less Than Significant with Mitigation Incorporated **(LTSMI)**	Less Than Significant Impact **(LTSI)**	No Impact **(NI)**

SECTION 3
III. MANDATORY FINDINGS OF SIGNIFICANCE

The following are Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

	PSI	LTSMI	LTSI	NI
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, eliminate tribal cultural resources or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☒	☐	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

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IV. PERSONS AND ORGANIZATIONS CONSULTED

This section identifies those persons who prepared or contributed to preparation of this document. This section is prepared in accordance with Section 15129 of the CEQA Guidelines.

A. COUNTY OF IMPERIAL

- Jim Minnick, Director of Planning & Development Services
- Michael Abraham, AICP, Assistant Director of Planning & Development Services
- Diana Robinson, Planning Division Manager
- Derek Newland, Project Planner
- Imperial County Air Pollution Control District
- Department of Public Works
- Fire Department
- Ag Commissioner
- Environmental Health Services
- Sheriff's Office

B. OTHER AGENCIES/ORGANIZATIONS

- Imperial Irrigation District
- California Department of Transportation

(Written or oral comments received on the checklist prior to circulation)

EEC ORIGINAL PKG

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V. REFERENCES

1. Imperial County General Plan: Circulation and Scenic Highway Element
   https://www.icpds.com/assets/planning/circulation-scenic-highway-element-2008.pdf
2. California State Scenic Highway System Map
   https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa
3. Imperial County Title 9 Land Use Ordinance Division 3: Site & Design Standards
   https://www.icpds.com/assets/planning/ordinances/title-9-div-3-2014.pdf
4. California Farmland Mapping & Monitoring Program: Imperial County Important Farmland Map 2018
   https://maps.conservation.ca.gov/DLRP/CIFF/
5. Cal 98 Charger Logistics Biological Resources Assessment Technical Report, Barrett's Biological Enterprises December, 2022
6. Cultural Resources Survey Report for the Cal 98 Holdings Trucking Facility, Tierra Environmental Services, July 03, 2023
7. Imperial County General Plan: Seismic and Public Safety Element
   https://www.icpds.com/assets/planning/seismic-and-public-safety.pdf
8. California Department of Toxic Substances Control: EnviroStor
   https://www.envirostor.dtsc.ca.gov/public/
9. Imperial County Fire Department Letter dated November 06, 2023
10. Cal Fire: Fire Hazard Severity Zones (FHSZ) Viewer
    https://egis.fire.ca.gov/FHSZ/
11. Imperial County Title 9 Land Use Ordinance, Division 5
    https://www.icpds.com/assets/IS21-0039-TITLE-9-Div-5.pdf
12. Imperial County Fire Departments comment letter dated November 06, 2023

VI. NEGATIVE DECLARATION – County of Imperial

The following Negative Declaration is being circulated for public review in accordance with the California Environmental Quality Act Section 21091 and 21092 of the Public Resources Code.

Project Name: Cal 98 chargers Logistics

Project Applicant: Cal 98 Holdings
Representative: Tom Dubose

Project Location: 15 SR-98, Calexico, CA 92231

Description of Project: The project proposes Zone Change #23-0007 from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) as well as Conditional Use Permit #23-0027 to construct and operate a trucking and warehousing operation that will consist of a warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. Access to the property will consist of onsite improvement on the west side of the property to create a north and south lane onto Dogwood Rd. and left turn only lane on to Hwy 98. Additionally, a left turn lane for passenger vehicles would add on SR-98 on to Kemp Road which will also be paved on the eastern side of the project location. The proposed hours for the trucking and warehousing operation are 8 am – 9 pm with a proposed total of 100 trucks per day coming to and from the site and 20 onsite employees. The proposed route for the trucks is from the east port at the Gateway Specific Plan area, north along SR-7 to SR-98, and then west along SR-98 to Cole Road. The trucks will then travel along Cole Road where they will then turn south on to Dogwood Road until they reach project location where they will enter straight into the property at the proposed Dogwood Road expansion.

VII. FINDINGS

This is to advise that the County of Imperial, acting as the lead agency, has conducted an Initial Study to determine if the project may have a significant effect on the environment and is proposing this Negative Declaration based upon the following findings:

☐ The Initial Study shows that there is no substantial evidence that the project may have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.

☒ The Initial Study identifies potentially significant effects but:

(1) Proposals made or agreed to by the applicant before this proposed Mitigated Negative Declaration was released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur.

(2) There is no substantial evidence before the agency that the project may have a significant effect on the environment.

(3) Mitigation measures are required to ensure all potentially significant impacts are reduced to levels of insignificance.

A MITIGATED NEGATIVE DECLARATION will be prepared.

If adopted, the Negative Declaration means that an Environmental Impact Report will not be required. Reasons to support this finding are included in the attached Initial Study. The project file and all related documents are available for review at the County of Imperial, Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 (442) 265-1736.

NOTICE

The public is invited to comment on the proposed Negative Declaration during the review period.

3-14-2024

Date of Determination

Jim Minnick, Director of Planning & Development Services

The Applicant hereby acknowledges and accepts the results of the Environmental Evaluation Committee (EEC) and hereby agrees to implement all Mitigation Measures, if applicable, as outlined in the MMRP.

Applicant Signature

3/14/24

Date

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SECTION 4

VIII. RESPONSE TO COMMENTS

(ATTACH DOCUMENTS, IF ANY, HERE)

IX. MITIGATION MONITORING & REPORTING PROGRAM (MMRP)

(ATTACH DOCUMENTS, IF ANY, HERE)

COMMENTS

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COUNTY OF IMPERIAL
PUBLIC HEALTH DEPARTMENT

JANETTE ANGULO, M.P.A.
Director

STEPHEN MUNDAY, M.D., M.P.H., M.S.
Health Officer

December 7, 2022

Derek Newland
ICPDS
801 Main Street
El Centro, CA 92243

Subject: Division of Environmental Health Comments for Proposed Cal 98 Holdings Conditional Use Permit #22-0024/Zone Change #22-0005/Initial Study #22-0043

Mr. Newland,

The Imperial County Division of Environmental Health (DEH) is in receipt of the Request for Comments submittal package for CUP #22-0024/ZC #22-0005/IS #22-0043, submitted by Cal 98 Holdings. The applicant is proposing to develop farmland into a trucking facility. The project is located at 15 W. Highway 98, west of Calexico, on APN #058-180-001.

Based on our review of the submittal package, below are our agency comments:

1. Due to the proximity to the City of Calexico, the applicant shall request potable water service from the city. If the city is not willing or able to provide potable water service, the applicant will need to apply for a public water system through our agency. If the applicant applies for a public water system permit, a technical report will need to be prepared, submitted, and approved by DEH and concurred on by the California State Water Resources Control Board, Division of Drinking Water.
2. Like the comment above, the applicant shall request sewer service from the city. If the city is not willing or able to provide sewer service, the applicant will need to apply for an on-site wastewater treatment system. Please have the applicant contact our office for further information, before finalizing their site plan.
3. The area of the property not being farmed, located on the southern portion of the property, has had some historical illegal dumping in and around this area. Applicant shall ensure any illegally dumped waste throughout the entire property is collected and properly disposed at a permitted disposal/recycling facility.

Our office reserves the right to provide further comments as this project proceeds through the permit process. If you or the applicant have any questions about these comments, please do not hesitate to contact our office.

Regards,

Jorge A. Perez
EHS Manager
Division of Environmental Health

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PC ORIGINAL PKG

Aimee Trujillo

From: Francisco Olmedo
Sent: Tuesday, March 12, 2024 10:55 AM
To: Michael Abraham; Derek Newland
Cc: Diana Robinson; John Gay; David Dale; Carlos Yee
Subject: 03 14 24 EEC Meeting - Traffic Comments
Attachments: CUP 23-0027 Traffic Study.pdf; Traffic Volumes - Dogwood Rd & Cole Rd.pdf

Good morning Michael,

I have a few traffic comments related to Assessment #243-0033 – Cal 98 Holdings (ZC 23-007, CUP 23-0027), which will be covered during this week's EEC Meeting.

The proposed project is a trucking facility located at the southeast corner of SR-98 and Dogwood Road (T-Intersection). As per the traffic study prepared by LLG, dated 8/29/2023, the project proposes road widening improvements at SR-98 and Dogwood Road to allow for turn lanes as traffic mitigation. The project also proposes road improvements for the extension of Dogwood Road south of the crossing, mainly used for site access, and Kemp Road, east of the site. However, the traffic study ignores traffic impacts at Dogwood Road and Cole Road. The traffic study is attached to this email.

As per Figures 3-2 and 7-5 of the traffic study, existing and project traffic volumes will total 29 vehicles per hour (vph) in the mornings for westbound left turns (from Cole Road to Dogwood Road) and 36 vph in the evenings for northbound right turns (from Dogwood Road to Cole Road). These left-turn and right-turn volumes meet the ITE Traffic Engineering Handbook Warrants for left-turns (more than 10 vph) and right-turns (more than 25 vph). See traffic volumes diagram attached. Also, the Dogwood Road and Cole Road Intersection is a two-way-stop-controlled crossing with northbound/southbound traffic on Dogwood Road being uncontrolled. This crossing has a history of collisions, and northbound truck traffic slowing down to make a right turn on Cole Road will increase the chances for rear-end collisions. A right turn lane for northbound traffic would remove semi-trucks from the northbound through lane and the potential of rear-end collisions due slow truck traffic.

Based on these comments, the project shall provide for westbound left-turn and northbound right-turn improvements at Dogwood Road and Cole Road Intersection. A memorandum could be prepared by the Traffic Engineer to revise Section 11 – Conclusions of the traffic study and mention these improvements. Also, Section XVIII – Transportation of the EEC Package shall be revised to include these turn-lane improvements.

Please let me know if you have any questions.

Thank you,

Francisco Olmedo, P.E.
Principal Engineer

Imperial County Department of Public Works
155 S. 11th Street
El Centro, California 92243
Office: (442) 265-1818
Fax: (442) 265-1858
Email: FranciscoOlmedo@co.imperial.ca.us

Favor de leer

Nov=20; 2023

Aviso Importante

para Todo Residente Del AREA Oeste De CALEXICO

" NUESTRAS PROPIEDADES SE VERAN AFECTADAS

" Motivo"

County Administration Center esta EN proceso de Aprovar, el proyecto De Mas De 36 ACRES, (Designados) PARA UNA TRUCKING WAREHOUSE FACILTY" esto sera A solo media milla Atras de Nuestras propiedades. solo Faltan (2) Juntas EN El Board Room 940 Main st EN el Centro. esto sera Antes Para que este proyecto sea Aprovado, De terminar este Año 2023.

Como AFETARA Nuestras propiedades y mas ?

- El trafico se vera Aglomerado
- El Ruido, carreteras mas dañadas
- Smock, y Muy probable devaluacion De Nuestra propi
 etc, Etc.

EN LA CARtA Adjunta ENcontrara El # De teL Del condado para mas informacion 442-265-1736 EXt 1756

ES Importante Asistir, A LAS (2) JUNTAS Finales o y Levantar Firmas de todo Nuestro vecindario, para (No Aprovar este proyecto DESACUERDO

Gracias por su Apoyo

Martha. M-

779 M Acuña
442-200-8068

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(Desacuerdo con este Projecto)

PROPERty OWNERS

Rafael A. Acosta 782 Platero Ave Calexico

Rosario Campos 778 Platero Ave "

Regina Acosta 782 Platero Ave "

Margarit Burt 787 Platero Ave "

[illegible] 779 Platero Ave "

Manuel Sasori 783 Platero Ave "

Maria del carmen [illegible] 786 platero ave-

Maria Arce 1024 W Sherman St. "

Jose L. Ramirez 787 Matallana Ct.

Martha Hernandez- Calle Grant-

Propietarios No Estamos De Acuerdo Con Este Proyecto

Trucking warehouse Facility

permit # 23-00 27 / initial study- #23-0033

EEC ORIGINAL PKG

PC ORIGINAL PKG

Marzo - 2024

Ana Bertha Juarez Guzman

Florencio Guzman -

hablar x thelephone

Maria Elena Cervantes

Carlos Cervantes

Patricia Dueñas
Dueñas

Senor Sanchez

Juan Sanchez

Laura Sanchez -

Cesar Sanchez

Carlos Marin

Martha G Marin

Fernando - RAMIREZ

NOEMY GOMEZ

Hector RAMIREZ - calle GRANT

Lupita RAMIREZ calle GRANT

Ruthy RAMIREZ calle GRANT.

Calle M. Acuña Calexico

PROPERTY OWNERS

RESIDENTES Calle M. Acuña

NO Estamos DE Acuerdo -

Este Proyecto con Trucking warehouse Facility -
Permit #23-0027 initial study - #23-0033

Request to Speak Before the Imperial County Environmental Evaluation Committee

Please Print Legibly

NAME: Martha G Marin

AGENCY/ORGANIZATION:

ADDRESS: 779 M Acuña Calexico

ITEM #/ SUBJECT: warehouse Facility **PHONE #:** 442-200-8068

COMMENTS: Disagreement in this project

S:\FORMS LISTS\Commissions\Request to Speak.docx

PLEASE RETURN TO ENVIRONMENTAL EVALUATION COMMITTEE CLERK

EEC ORIGINAL PKG

PC ORIGINAL PKG

IMPERIAL COUNTY SHERIFF'S OFFICE
FRED MIRAMONTES
SHERIFF-CORONER-MARSHAL

Chief Deputy Ryan Kelley
328 Applestill Road
El Centro, Ca. 92243
(442) 265-2003
rkelley@icso.org

November 13, 2023

Imperial County Planning & Development Services
801 Main Street
El Centro, Ca. 92243
(442) 265-1736

Planning & Development Services,

The Imperial County Sheriff's Office is the Chief Law Enforcement agency in Imperial County. The Sheriff's Office provides general law enforcement, detention and court services for the residents, business owners and visitors of Imperial County.

The proposed project site is located within the Imperial County Sheriff's Office jurisdiction. The project is located at 15 East Highway 98 in Calexico, California.

The applicant is proposing 91.881 square feet of warehousing, 16,460 square feet of service space and 11,904 square feet of office space. The applicant is additionally proposing to provide 832 trailer parking spaces, 20 truck parking spaces and 42 car parking spaces.

The Imperial County Sheriff's Office provides services to similar facilities. Calls for service can vary from burglaries, vandalisms, thefts and trespassing. Calls can result in arrests of offenders for felony property crimes. Some investigations require extensive follow up from our criminal investigations division and our scientific investigations unit. The Imperial County Sheriff's Office is committed to facilities operating in our area of responsibility and will deploy every resource available to assist in the apprehension and prosecution of those responsible for these crimes.

The Imperial County Sheriff's Office requests that the below conditions be incorporated onto the Cal 98 Holdings Conditional Use Permit #23-0027. This request is in consideration of the potential hazards to the Imperial County Sheriff's Office employees associated with responding to calls for service originating at this facility:

1. The Imperial County Sheriff's Office request that a detailed security plan and diagram be included and approved by the county prior to any activity on the premises.

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2. Install adequate lighting, fencing and safety measures to prevent or deter criminal activity.
3. Install license plate reading cameras at all ingress and regress locations at the project site and grant access to the Imperial County Sheriff's Office to review the data collected. It is requested that these cameras be included in the security plan.
4. Install surveillance cameras at the project site to allow for 24/7, three hundred and sixty degree remote viewing capabilities and recording of activity on the premises. It is requested that the surveillance cameras be included in the security plan.

The Imperial County Sheriff's Office is available to discuss our concerns with the advancement of CUP #23-0027. If you have any questions, please contact the Imperial County Sheriff's Office at (442)265-2002.

Sincerely,

Chief Deputy Ryan Kelley

150 SOUTH NINTH STREET
EL CENTRO, CA 92243-2850

TELEPHONE: (442) 265-1800
FAX: (442) 265-1799

AIR POLLUTION CONTROL DISTRICT

February 29, 2024

Tom Dubose
Dubose Design Group Inc
1065 State St.
El Centro, CA 92243

SUBJECT: Revised California Emissions Estimator Model Analysis for Cal 98 Holdings Trucking

Dear Mr. Dubose,

Following consultations with the Air District the applicant submitted a revised CalEEMod analysis to address comments first stated in a comment letter dated December 1, 2022. After review of the revised CalEEMod and in consideration of offsite mitigations under Rule 310, the Air District finds the revised CalEEMod is consistent with the consultations and sufficiently addresses the comments and concerns of the Air District. In consideration of these findings and reviewing the comment letter suggesting two options to move the project forward, the applicant has adequately complied with the option to revise the CalEEMod analysis and the Air District considers the applicant will not be submitting an operational dust control plan for the project. Given the size of the project, a construction Dust Control Plan must be submitted for review and approval by the Air District and a Construction Notification Form must be submitted at least 10 days prior to earthmoving beginning for the project. Forms for both of these documents can be accessed at https://apcd.imperialcounty.org/planning/#construction.

The Air District will also share this communication with the Planning and Development services office.

Please feel free to contact our office at (442) 265-1800 if you have any questions or concerns.

Respectfully,

Ismael Garcia
Environmental Coordinator II

Reviewed by,
Monica N. Soucier
APC Division Manager

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COUNTY EXECUTIVE OFFICE

Miguel Figueroa
County Executive Officer
miguelfigueroa@co.imperial.ca.us
www.co.imperial.ca.us

County Administration Center
940 Main Street, Suite 208
El Centro, CA 92243
Tel: 442-265-1001
Fax: 442-265-1010

October 24, 2023

TO: Derek Newland, Planning and Development Services Department

FROM: Rosa Lopez-Solis, Executive Office

SUBJECT: Request for Comments – Cal 98 Holdings – CUP 23-0033/APN 058-180-001

The County of Imperial Executive Office is responding to a Request for Comments DACSA Trucking LLC Project. The Executive Office would like to inform the developer of conditions and responsibilities should the applicant seek a Conditional Use Permit (CUP). The conditions commence prior to the approval of an initial grading permit and subsequently continue throughout the permitting process. This includes, but not limited to:

- Sales Tax Condition. The permittee is required to have a Construction Site Permit reflecting the project site address, allowing all eligible sales tax payments are allocated to the County of Imperial, Jurisdictional Code 13998. The permittee will provide the County of Imperial a copy of the CDTFA account number and sub-permit for its contractor and subcontractors (if any) related to the jobsite. Permittee shall provide in written verification to the County Executive Office that the necessary sales and use tax permits have been obtained, prior to the issuance of any grading permits.
- Construction/Material Budget: The permittee will provide the County Executive Office a construction materials budget: an official construction materials budget or detailed budget outlining the construction and materials cost for the processing facility on permittee letterhead.

Should there be any concerns and/or questions, do not hesitate to contact me.

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November 1, 2023

Mr. Derek Newland
Planner II
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

RECEIVED
By Imperial County Planning & Development Services at 11:34 am, Nov 01, 2023

SUBJECT: Change of Zone for a Trucking Facility Project (ZC23-0007, CUP23-0027/IS23-0033)

Dear Mr. Newland:

On October 20, 2023, the Imperial Irrigation District received from the Imperial County Planning & Development Services Department, a request for agency comments on a zone change application for Cal98 Holdings trucking facility project (Zone Change No. 23-0007, Conditional Use Permit No. 23-0027, Initial Study No. 23-0033). The applicant proposes a change of zone to allow for a trucking facility that includes 91,881 sq. ft. of warehousing; 16,460 sq. ft. of service space; 11, 904 sq. ft. of office space and parking spaces for 832 trailers, 20 trucks and 42 cars. The project site is located at 15 E Hwy. 98 in Calexico, CA (APN 058-180-001).

The IID has reviewed the project information and found that the comments provided in the November 18, 2022 district letter (see attached) continue to apply.

Should you have any questions, please do not hesitate to contact me at 760-482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas
Compliance Administrator II

Jamie Asbury – General Manager
Mike Pacheco – Manager, Water Dept.
Matthew H Smelser – Manager, Energy Dept.
Geoffrey Holbrook – General Counsel
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Laura Cervantes. – Supervisor, Real Estate
Jessica Humes – Environmental Project Mgr. Sr., Water Dept.

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November 18, 2022

Mr. Derek Newland
Planner II
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: Cal 98 Holdings Tricking Facility; ZC22-0005, CUP22-0024, IS22-0043

Dear Mr. Newland:

On November 15, 2022, the Imperial Irrigation District received from the Imperial County Planning & Development Services Dept., a request for agency comments on Zone Change No. 22-0005, Conditional Use Permit No. 22-0024, Initial Study No. 22-0043. The applicant, Cal 98 Holdings, proposes a change of zone to establish a trucking facility that includes a 91,881 sq. ft. warehouse, a 16,460 sq. ft. service area, 11,904 sq. ft. of office space and a 832-trailer parking area. The property, currently used for agriculture, is located at 15 West Hwy. 98, Calexico, CA (APN 058-180-001).

The IID has reviewed the application and has the following comments:

1. IID water facilities that may be impacted include Birch Lateral 3 Delivery 35A.

2. To insure there are no impacts to IID water facilities, the project's Imperial County-approved grading/drainage and fencing plans along with a copy of the project's Storm Water Pollution Prevention Plan, are to be submitted to IID Water Department Engineering Services Section for review prior to final project design. IID WDES Section can be contacted at (760) 339-9265 for additional information.

3. In order to obtain a water supply from IID for a non-agricultural project, the Project proponent will be required to comply with all applicable IID policies and regulations and may be required to enter into a water supply agreement. Such policies and regulations require, among other things, that all potential environmental and water supply impacts of the Project, including potential impacts to the Salton Sea as a result of reduced drainage flow, be adequately assessed, appropriate mitigation developed if warranted, including any necessary approval conditions adopted by the relevant land use and permitting agencies.

4. IID has implemented a water supply apportionment program pursuant to IID's revised Equitable Distribution Plan, which the Project is subject to including any amending or superseding policy for the same or similar purposes, during all or any part of the term of said water supply agreement, IID shall have the right to apportion the Project's water as an industrial water user. More information on how to obtain a water supply agreement, is available at https://www.iid.com/water/municipal-industrial-and-commercial-customers or contact Justina Gamboa-Arce, water resources planner, at (760) 339-9085 or jgamboaarce@iid.com.

5. To receive water from IID's raw water system the applicant must have water delivered by a State-approved water provider as required by the State of California Safe Drinking Water Act. The proposed project must be in compliance in order to receive IID canal water.

6. Any construction or operation on IID property or within its existing and proposed right of way or easements including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities; will require an encroachment permit, or encroachment agreement (depending on the circumstances). A copy of the IID encroachment permit application and instructions for its completion are available at the website https://www.iid.com/about-iid/department-directory/real-estate. The district Real Estate Section should be contacted at (760) 339-9239 for additional information regarding encroachment.

7. In addition to IID's recorded easements, IID claims, at a minimum, a prescriptive right of way to the toe of slope of all existing canals and drains. Where space is limited and depending upon the specifics of adjacent modifications, the IID may claim additional secondary easements/prescriptive rights of ways to ensure operation and maintenance of IID's facilities can be maintained and are not impacted and if impacted mitigated. Thus, IID should be consulted prior to the installation of any facilities adjacent to IID's facilities. Certain conditions may be placed on adjacent facilities to mitigate or avoid impacts to IID's facilities.

8. Any new, relocated, modified or reconstructed IID facilities required for and by the project (which can include but is not limited to electrical utility substations, electrical transmission and distribution lines, water deliveries, canals, drains, etc.) need to be included as part of the project's California Environmental Quality Act and/or National Environmental Policy Act documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or modification of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully analyzed. Any and all mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent.

Should you have any questions, please do not hesitate to contact me at 760-482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas
Compliance Administrator II

Enrique B. Martinez – General Manager
Mike Pacheco – Manager, Water Dept.
Jamie Asbury – Manager, Energy Dept.
Constance Bergmark – Deputy Mgr. Energy Dept.
Geoffrey Holbrook – General Counsel
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Laura Cervantes. – Supervisor, Real Estate
Jessica Humes – Environmental Project Mgr. Sr., Water Dept.

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COUNTY OF IMPERIAL

DEPARTMENT OF PUBLIC WORKS

155 S. 11th Street
El Centro, CA
92243

Tel: (442) 265-1818
Fax: (442) 265-1858

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Public Works works for the Public

ICDPW

November 6, 2023

Imperial County Planning & Development Services
Mr. Jim Minnick, Director
801 Main Street
El Centro, CA 92243

Attention: Derek Newland, Planner II

SUBJECT: CUP 23-0027 Cal 98 Holdings
Located at 15 E highway 98, Calexico, CA 92231
APN 058-180-001

Dear Mr. Minnick:

This letter is in response to your submittal received by this Department on October 20, 2023 for the above-mentioned project. The applicant is proposing a change of zone from A-2-U to M-1-U for a trucking facility that consists of a warehouse building and trailer, truck and car parking.

Department staff has reviewed the package information and the following comments shall be Conditions of Approval:

1. Developer shall furnish a Drainage and Grading Plan to provide for property grading and drainage control, which shall also include prevention of sedimentation of damage to off-site properties. Said plan shall be completed per the Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage, and Grading Plans within Imperial County. The Drainage and Grading Plan shall be submitted to this department for review and approval. The developer shall implement the approved plan. Employment of the appropriate Best Management Practices (BMP's) shall be included.
2. Per Section 12.10.020 - Street Improvement Requirements of Imperial County Ordinance: Street improvements shall be provided on Kemp Rd along the frontage of the project.
3. An encroachment permit shall be secured from this department for any construction and/or construction related activities within County Right-of-Way. Activities to be covered under an encroachment permit shall include the installation of, but not be limited to, stabilized construction entrances, driveways, road improvements, temporary traffic control devices, etc.
4. Prior to the issuance grading and building permits, a stabilized construction entrance shall be installed under an encroachment permit from this department.
5. The Developer shall be repair any damage caused to County Roads during construction and maintain such roads in safe conditions as determined by the Imperial County Road Commissioner. Said road repairs shall be completed under an encroachment permit from this department.
6. Developer shall furnish a Traffic Study per the County of Imperial Department of Public Works Traffic Study and Report Policy. The Traffic Study shall analyze project impacts

to County roads, including but not limited to, level of service, intersection delays, traffic delays at site access point (need for turn lanes), etc. The Traffic Study shall be submitted to this department review and approval. The Traffic Study shall include existing traffic counts (obtained within a year of the preparation of the study) along roads between origin and destination routes. Any mitigation measures identified on the Traffic Study shall be approved by this department and become part of these Conditions of Approval.

7. Developer will be responsible for any impact mitigation measures identified on the Traffic Study, including but not limited to, road improvements, intersection improvements, right/left turn lanes for site access, fair share costs, etc.

INFORMATIVE:

The following items are for informational purposes only. The Applicant is responsible to determine if the enclosed items affect the subject project.

- The following items are for informational purposes only. The Developer is responsible to determine if the enclosed items affect the subject project.
- All solid and hazardous waste shall be disposed of in approved solid waste disposal sites in accordance with existing County, State and Federal regulations (Per Imperial County Code of Ordinances, Chapter 8.72).
- The project may require a National Pollutant Discharge Elimination System (NPDES) permit and Notice of Intent (NOI) from the Regional Water Quality Control Board (RWQCB) prior county approval of onsite grading plan (40 CFR 122.28).
- A Transportation Permit may be required from road agency(s) having jurisdiction over the haul route(s) for any hauls of heavy equipment and large vehicles which impose greater than legal loads and/or dimensions on riding surfaces, including bridges. (Per Imperial County Code of Ordinances, Chapter 12.10.020 B).
- As this project proceeds through the planning and the approval process, additional comments and/or requirements may apply as more information is received.

Should you have any questions, please do not hesitate to contact this office. Thank you for the opportunity to review and comment on this project.

Respectfully,

David Dale, P.E., P.L.S.
Assistant Director of Public Works
County Surveyor

ADMINISTRATION / TRAINING
1078 Dogwood Road
Heber, CA 92249

Administration
Phone: (442) 265-6000
Fax: (760) 482-2427

Training
Phone: (442) 265-6011

OPERATIONS/PREVENTION
2514 La Brucherie Road
Imperial, CA 92251

Operations
Phone: (442) 265-3000
Fax: (760) 355-1482

Prevention
Phone: (442) 265-3020

RECEIVED
By Imperial County Plannning & Development Services at 4:25 pm, Nov 07, 2023

November 6, 2023

RE: Cal 98 Holdings, Zone Change #23-0007, Conditional Use Permit #23-0027, Initial Study #23-0033

Address: 15 E Hwy 98, Calexico, CA 92231, APN: 058-180-001

The Imperial County Fire Department would like to thank you for the opportunity to review and comment on the, Zone Change #22-0007, Conditional Use Permit #23-0027, and Initial Study #23-0033, for Cal 98 Holdings located at 15 E. Hwy 98 in Calexico CA 92231.

Imperial County Fire Department has the following comments and/or requirements.

- An approved water supply capable of supplying the required fire flow determined by appendix B in the California Fire Code and Imperial County Fire Department shall be installed and maintained. Private fire service mains and appurtenance shall be installed in accordance with NFPA 24.
- Fire Department access roads shall be installed and maintained in accordance with the California Fire Code. Roadways within the project will be provided with all-weather surface and capable of supporting impose loads of fire apparatus. Secondary access will be required for the project. Roadway width will be determined upon further review of the site plan. Knox box (locks) will be required for the project. All locks and gates shall be installed in accordance with the California Fire Code.
- Automatic fire sprinklers requirements will be determined by Imperial County Fire Department officials and the California Fire Code
- Automatic fire detection and notification systems requirements will be determined by Imperial County Fire Department officials and the California Fire Code.
- Storage shall be in accordance with Chapter 32 of the California Fire Code for high-pile combustible storage.
- Hazardous Materials shall be in accordance with Chapter 50 of the California Fire Code and other applicable code sections.
- Compliance with all required sections of the fire code.

The zone change will require an approved pressurized water supply capable of meeting required fire flows to be installed and maintained in accordance with the California Fire Code. M-1 zone is used for light industrial and will require greater water demand due to the potential hazards and fire loads associated with industrial operations.

ADMINISTRATION / TRAINING
1078 Dogwood Road
Heber, CA 92249

Administration
Phone: (442) 265-6000
Fax: (760) 482-2427

Training
Phone: (442) 265-6011

OPERATIONS/PREVENTION
2514 La Brucherie Road
Imperial, CA 92251

Operations
Phone: (442) 265-3000
Fax: (760) 355-1482

Prevention
Phone: (442) 265-3020

Imperial County Fire Department shall review the project for impacts that may create a negative effect on Imperial County Fire Department and/or the County of Imperial in concerns with life safety, property conservation, and/or environmental concerns. These items shall be addressed between Imperial County Fire Department Official, County of Imperial Officials and project applicant/developers.

Imperial County Fire Department reserves the right to comment and request additional requirements pertaining to this project regarding fire and life safety measures, California Building and Fire Code, and National Fire Protection Association standards at a later time as we see necessary.

If you have any questions, please contact the Imperial County Fire Prevention Bureau at 442-265-3020 or 442-265-3021.

Sincerely
Andrew Loper
Lieutenant/Fire Prevention Specialist
Imperial County Fire Department
Fire Prevention Bureau

David Lantzer
Fire Chief
Imperial County Fire Department

Robert Malek
Deputy Chief/Deputy Fire Marshal
Imperial County Fire Department
Fire Prevention Bureau

California Department of Transportation

DISTRICT 11
4050 TAYLOR STREET, MS-240
SAN DIEGO, CA 92110
(619) 709-5152 | FAX (619) 688-4299 TTY 711
www.dot.ca.gov

November 17, 2023

11-IMP-98
PM 30.9
Charger Logistics Cal 98 Holdings (Zone Change #23-0007)
Traffic Study August 2023

Mr. Derek Newland
Imperial County
Planning and Development Services
801 Main Street
El Centro, CA 92243

Dear Mr. Newland:

Thank you for including the California Department of Transportation (Caltrans) in the review process for the proposed Charger Logistics Cal 98 Holdings project located near State Route 98 (SR-98). The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Safety is one of Caltrans' strategic goals. Caltrans strives to make the year 2050 the first year without a single death or serious injury on California's roads. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work.

Caltrans has the following comments:

Traffic Analysis
According to the August 2023 Traffic Study, all truck access to the proposed development will be through a newly constructed southward extension of Dogwood Road, and all employees traffic will be able to use the improved driveways at Kemp Road and Dogwood Road.

Please provide a construction cost estimate for the work within Caltrans R/W.

The revised transportation impact analysis (TIA) dated August 29, 2023, needs to be updated to reflect the correct posted speed limit on SR-98 along the immediate segment of the development property.

The TIA Section 3.1 states, "The speed limit is posted at 55 mph approximately 1,110 feet east of Kemp Road on the north side of the roadway (for westbound traffic). The speed limit is posted at 40 mph approximately 1,800 feet east of Kemp Road on the south side of the roadway (for eastbound traffic)." This is incorrect.

The 40 mph posted speed ends on the east side of the All-American Canal, approximately 2,000 feet east from Kemp Road intersection. This segment of SR-98 is 65 mph per the latest posted signage.

Please consider the following correction: "The speed limit is posted at 65 mph approximately 870 feet east of Kemp Road on the north side of the roadway (for westbound traffic). The speed limit is posted at 40 mph approximately 2,100 feet east of Kemp Road on the south side of the roadway (for eastbound traffic)."

Section 4.2 of the TIA needs to include an existing + project traffic scenario. The document is also missing a horizon year analysis. Please clarify.

Please include a table like the one used in Section 8, Table 8-1, to compare existing operations to existing + project operations.

Section 7.3 "Trip Assignment," states that truck traffic will be prohibited from entering the proposed development site via Dogwood Road extension through westbound SR-98. All incoming truck traffic from Mexico will be forced to use Cole Boulevard and Dogwood Road to access the proposed driveway at Dogwood Road.

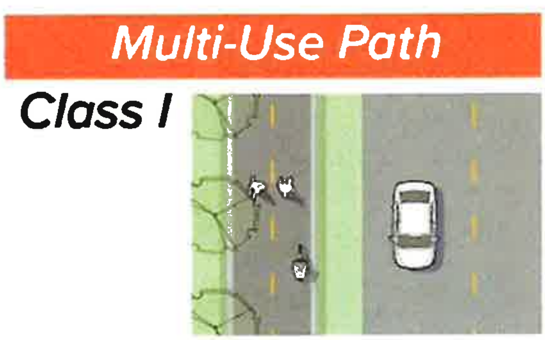
Please clarify if the outbound trucks leaving the site, will be using eastbound SR-98.

If the project intends to prohibit heavy-truck/ semi-truck access from SR-98, coordination with Caltrans' Signage/Striping Branch, Traffic Safety Operations, and Traffic Analysis will be required to evaluate such modification, which would include a need for a revised traffic study.

The TIA Section 9.0 "Site Access," states that all truck access to the proposed development will be through a newly constructed southward extension of Dogwood Road, and all employees traffic will be able to use the proposed driveways at Kemp Road and Dogwood Road.

- The proposed Intersection Improvements at SR-98 and Dogwood Road intersection, along with change in lane configurations on SR-98 to add left-turn pockets, will require an Intersection Control Evaluation Analysis per Caltrans Traffic Operations Policy Directive (TOPD) 13-02.
- The proposed SR-98 westbound left-turn pocket at Kemp Road (speed posted at 55 mph)," will also require widening of SR-98 and an Intersection Control Evaluation Analysis per Caltrans (TOPD) 13-02. In addition, please change current speed to 65 mph as stated previously.

Section 9.0 and 3.1 of the traffic study, states that a Class I Multi-use Path is being proposed along SR-98 from Dogwood Road to Eady Avenue. Please coordinate with Caltrans Active Transportation Branch, the City and the County of Imperial as this proposed development may impact the Class 1 Multi Use- Path.



The proposed improvements at Kemp Road and SR-98 Intersection, and Dogwood Road/ SR-98, will require an ICE report. This document will need to evaluate the appropriate intersection control and lane configuration.

- Please refer to the latest Caltrans Highway Design Manual (HDM) Chapter 400 for appropriate design standards for Intersections at grade.

- Please clarify if the existing dirt road portion of Dogwood Road south of SR-98 will be paved. Caltrans recommends that this dirt road section be paved to minimize or eliminate tracking onto SR-98.
- All proposed left and right turn pockets will require a queue analysis to confirm a 95th percentile storage queue.

Please see attached documents with red lines for reference and details.
- *Cal98Logistics_Revised_TIA_Traffic_Study20230829*
- *TEA_Review_ZC_23-0007_IS_23-0033_Request_for_Comments*

Hydrology and Drainage Studies
Caltrans generally does not allow development projects to impact hydraulics within the State's Right-of-Way (R/W). Any modification to the existing Caltrans drainage and/or increase in runoff to State facilities will not be allowed.

Please provide a drainage study to evaluate impacts to state facilities as they relate to the proposed roadway improvements at SR-98.

Complete Streets and Mobility Network
Caltrans views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation network. Caltrans supports improved transit accommodation through the provision of Park and Ride facilities, improved bicycle and pedestrian access and safety improvements, signal prioritization for transit, bus on shoulders, ramp improvements, or other enhancements that promotes a complete and integrated transportation network.

The City of Calexico has a Class I Bike Path planned along Birch Street/ SR-98 in the project area. Please refer to the 2018 Calexico Bicycle Master Plan Update.

Please continue to coordinate with Caltrans and the City of Calexico for locations that may affect both Caltrans, Calexico and Imperial County.

Right-of-Way
Per Business and Profession Code 8771, perpetuation of survey monuments by a licensed land surveyor is required, if they are being destroyed by any construction.

Any work performed within Caltrans' ROW will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' ROW prior to construction. As part of the encroachment permit process, the applicant must provide approved final environmental documents for this project, corresponding technical studies, and necessary regulatory and resource agency permits, Specifically, CEQA determination or exemption.

If you have any questions or concerns, please contact Roger Sanchez, LDR Coordinator, at (619) 987-1043 or by e-mail sent to roger.sanchez-rangel@dot.ca.gov.

Sincerely,

Rogelio Sanchez

Rogelio Sanchez
Acting Branch Chief
Local Development Review

Enclosures: Cal98Logistics_Revised_TIA_Traffic_Study20230829
TEA_Review_ZC_23-0007_IS_23-0033_Request_for_Comments

APPLICATION

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CHANGE OF ZONE

I.C. PLANNING & DEVELOPMENT SERVICES DEPT.
801 Main Street, El Centro, CA 92243 (442) 265-1736

- APPLICANT MUST COMPLETE ALL NUMBERED (black & blue) SPACES – Please type or print -

1. PROPERTY OWNER'S NAME Cal 98 Holdings		EMAIL ADDRESS Lovepreet.Kaur@chargerlogistics.com	
2. MAILING ADDRESS (Street / P O Box, City, State) 8861 Houghton Road, Bakersfield, CA		ZIP CODE 93331	PHONE NUMBER 647-614-8643
3. ENGINEER'S NAME Mauricio Lam	CA. LICENSE NO. 55432	EMAIL ADDRESS mauriciolam@lcec-inc.com	
4. MAILING ADDRESS (Street / P O Box, City, State) 1065 State Street, El Centro, CA		ZIP CODE 92243	PHONE NUMBER 760-353-8110

5. ASSESSOR'S PARCEL NO. 058-180-001-000	ZONING (existing) A2	ZONING (proposed) M-1
6. PROPERTY (site) ADDRESS Highway 98, Calexico, CA		SIZE OF PROPERTY (in acres or square foot) 44.6 +/- acres

7. GENERAL LOCATION (i.e. city, town, cross street)
Southeast intersection of Dogwood Road and State Highway 98, Calexico, CA

8. LEGAL DESCRIPTION Portion of the west half of the northwest quarter of section 15, township 17 south, range 14 east, S.B.M. in an incorporated area of the county of Imperial, CA.

8. DESCRIBE CURRENT USE ON / OF PROPERTY (list and describe in detail)
This project proposes 91,881 square feet of warehousing, 16,460 SF of service space, and 11,904 SF of office space. Additionally, proposes to provide 832 trailer parking spaces, 20 trucks parking spaces, and 42 car parking spaces.

9. PLEASE STATE REASON FOR PROPOSED USE (be specific)
Warehouse facility for logistics and trucks that will bring those in termporarily stored nd re dsitributed

10. DESCRIBE SURROUNDING PROPERTY USES
Area surrounded by agricultural parcels.

I / WE THE LEGAL OWNER (S) OF THE ABOVE PROPERTY CERTIFY THAT THE INFORMATION SHOWN OR STATED HEREIN IS TRUE AND CORRECT.

Annette Lam
Print Name

8.30.23
Date

Signature

REQUIRED SUPPORT DOCUMENTS

A. SITE PLAN
B. PRELIMINARY TITLE REPORT (6 months or newer)
C. FEE
D. OTHER

APPLICATION RECEIVED BY: ______ DATE ______
APPLICATION DEEMED COMPLETE BY: ______ DATE ______
APPLICATION REJECTED BY: ______ DATE ______
TENTATIVE HEARING BY: ______ DATE ______
FINAL ACTION: ☐ APPROVED ☐ DENIED DATE ______

REVIEW / APPROVAL BY OTHER DEPT'S required.
☐ P.W.
☐ E. H. S.
☐ A. P. C. D.
☐ O. E. S.
☐ ______
☐ ______

ZC #

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CONDITIONAL USE PERMIT

I.C. PLANNING & DEVELOPMENT SERVICES DEPT.
801 Main Street, El Centro, CA 92243 (760) 482-4236

- APPLICANT MUST COMPLETE ALL NUMBERED (black) SPACES – Please type or print -

1. PROPERTY OWNER'S NAME Cal 98 Holdings	EMAIL ADDRESS Lovepreet.Kaur@chargerlogistics.com	
2. MAILING ADDRESS (Street / P O Box, City, State) 8861 Houghton Road, Bakersfield, CA	ZIP CODE 93331	PHONE NUMBER 647-614-8643
3. APPLICANT'S NAME Dubose Design Group	EMAIL ADDRESS tom@dubosedesigngroup.com	
4. MAILING ADDRESS (Street / P O Box, City, State) 1065 State Street, El Centro, CA	ZIP CODE 92243	PHONE NUMBER 760-353-8110
4. ENGINEER'S NAME Mauricio Lam CA. LICENSE NO. 55432	EMAIL ADDRESS mauriciolam@lcec-inc.com	
5. MAILING ADDRESS (Street / P O Box, City, State) 1065 State Street, El Centro, CA	ZIP CODE 92243	PHONE NUMBER 760-353-8110

6. ASSESSOR'S PARCEL NO. 058-180-001-000	SIZE OF PROPERTY (in acres or square foot) 44.6 +/- acres	ZONING (existing) A2

7. PROPERTY (site) ADDRESS
Highway 98, Calexico, CA

8. GENERAL LOCATION (i.e. city, town, cross street)
Southeast intersection of Dogwood Road and State Highway 98, Calexico, CA

9. LEGAL DESCRIPTION Portion of the west half of the northwest quarter of section 15, township 17 south, range 14 east, S.B.M. in an incorporated area of the county of Imperial, CA.

PLEASE PROVIDE CLEAR & CONCISE INFORMATION (ATTACH SEPARATE SHEET IF NEEDED)

10. DESCRIBE PROPOSED USE OF PROPERTY (list and describe in detail) This project proposes 91,881 square feet of warehousing, 16,460 SF of service space, and 11,904 SF of office space. Additionally, proposes to provide 832 trailer parking spaces, 20 trucks parking spaces, and 42 car parking spaces.

11. DESCRIBE CURRENT USE OF PROPERTY Agriculture (A2) - Alfalfa

12. DESCRIBE PROPOSED SEWER SYSTEM Onsite septic system or county approved package plant

13. DESCRIBE PROPOSED WATER SYSTEM Canal Birch Lateral 3 with Gate BR3_35A with ICEHS Approved Water Treatment System

14. DESCRIBE PROPOSED FIRE PROTECTION SYSTEM Onsite water storage per ICFD Standards

15. IS PROPOSED USE A BUSINESS? ☒ Yes ☐ No — IF YES, HOW MANY EMPLOYEES WILL BE AT THIS SITE? 50 approx

I / WE THE LEGAL OWNER (S) OF THE ABOVE PROPERTY CERTIFY THAT THE INFORMATION SHOWN OR STATED HEREIN IS TRUE AND CORRECT.

Annette Leon — 8/30/2023
Print Name — Date

[signature]
Signature — 8/30/2023
Date

Print Name

Signature

REQUIRED SUPPORT DOCUMENTS

A. SITE PLAN
B. FEE
C. OTHER
D. OTHER

APPLICATION RECEIVED BY:		DATE	
APPLICATION DEEMED COMPLETE BY:		DATE	
APPLICATION REJECTED BY:		DATE	
TENTATIVE HEARING BY:		DATE	
FINAL ACTION: ☐ APPROVED ☐ DENIED		DATE	

REVIEW / APPROVAL BY OTHER DEPT'S required.
☐ P. W.
☐ E. H. S.
☐ A. P. C. D.
☐ O. E. S.
☐
☐

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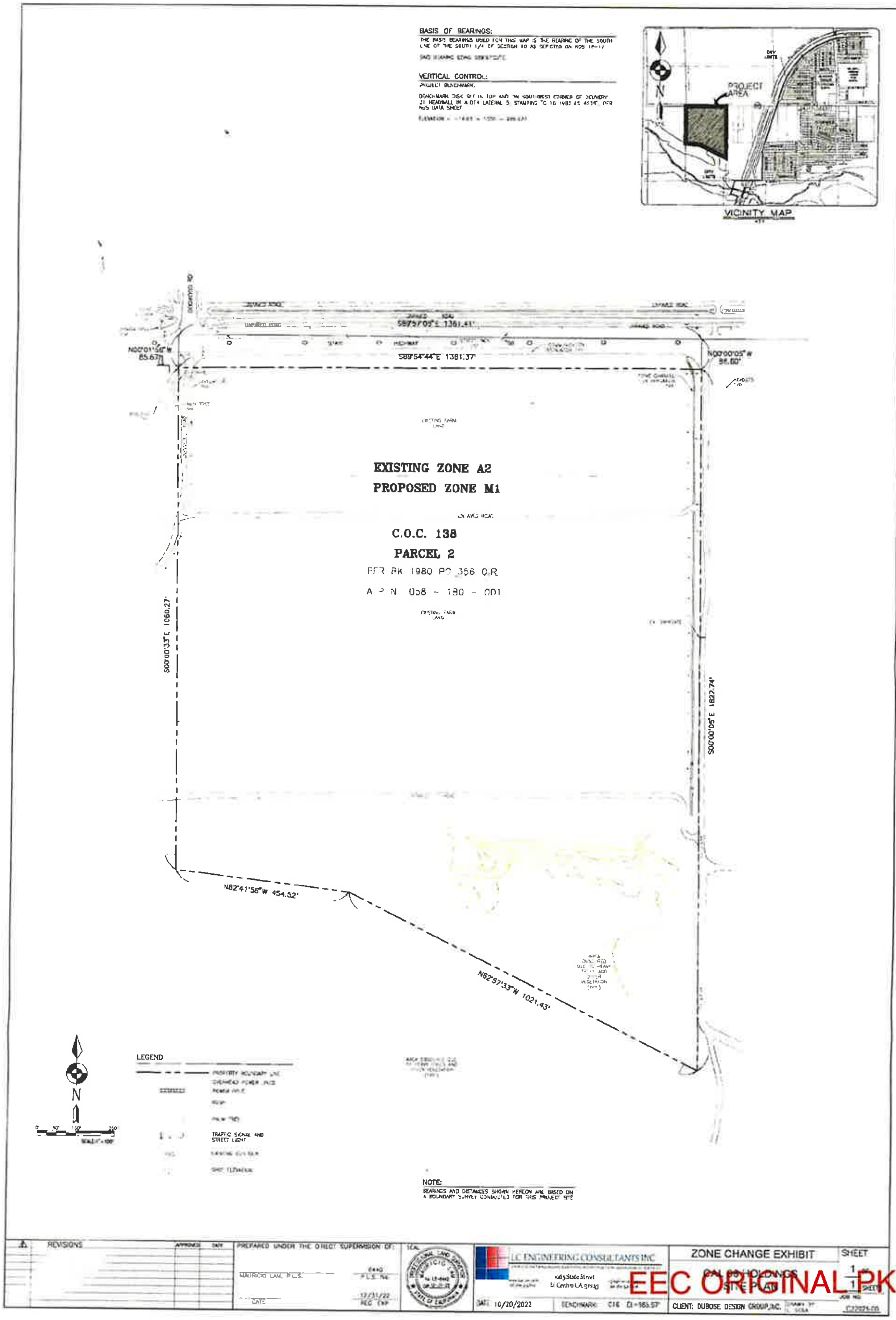

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Cal 98 Charger Logistics

Project Description

Prepared for: County of Imperial

By Dubose Design Group – September 2023

Cal 98 Charger Logistics Project Description

DuBose Design Group, Inc., the applicant, proposes to build a project that includes 91,881 square feet (SF) of warehousing, 16,460 square feet of service space and 11,904 square feet of office space. Additionally, the project proposes to provide 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. The current use of the property is Agricultural (A2) (Alfalfa) with 44.6 +/- acres, APN 058-180-001-000 and is located on the southwest corner of the SR-98 and Kemp Road intersection in the County of Imperial. Access to the site will be provided via two driveways. One drive way will be located on the southern extension of Dogwood Road approximately 1000 feet south of the new four way intersection of Highway 98 and Dogwood Road, and one driveway will be located on the east side of the project site at Kemp Road. The project proposes to provide warehousing, order fulfillment, logistics and transportation services. Trucks will travel to and from Mexico, San Diego, and Imperial County.

It will begin construction in the first quarter of 2024 and end in the fourth quarter of 2024. The total construction duration will be almost nine months. The construction phases include Site Preparation, Grading, Building Construction, Paving and Architectural Coating.

Air Quality and Greenhouse Gas Emissions Study

The County of Imperial has determined that an air quality and greenhouse gas (GHG) emission study is needed as part of California Environmental Quality Act (CEQA) documentation for an Initial Study/Mitigated Negative Declaration. This air quality analysis was conducted within the context of CEQA (California Public Resources Code §§ 21000 et seq.). The methodology follows the CEQA Air Quality Handbook1 prepared by the Imperial County Air Pollution Control District (ICAPCD) for quantification of emissions and evaluation of potential impacts on air resources.

A health risk assessment is also completed and is included in the application package.

Noise Study

Because the site is in a "noise impact zone" as defined by the Noise Element of the Imperial County General Plan, the County requires that an acoustical analysis be performed.

The report satisfies the acoustical analysis requirement. It includes a discussion of the fundamentals of sound; an examination of federal, state, and local noise guidelines and policies; a review of existing conditions; an evaluation of potential noise impacts associated with the project; and the mitigation for all identified significant or potentially significant impacts.

Transportation Impact Analysis

Existing Street Network Following is a brief description of the street segments within the project area. **Route 98 (SR-98/Birch Street)** is classified as a Highway/Secondary Roadway. SR-98 is an east-west highway running through Calexico, parallel to the international border. It is generally constructed as a two-lane undivided roadway outside the Calexico city limit. It is currently constructed as a two-lane undivided roadway between Dogwood Road and Cesar Chavez Boulevard and between East Rivera and SR-7. Between Cesar Chavez Boulevard and East Riviera, SR-98 is built as a four-lane divided roadway with intermittent turn lanes. Sidewalks are only provided between W. Williams Avenue and Imperial Avenue. Class II bike lanes are only provided on both sides of the roadway between W. Williams Avenue and Cesar Chavez Boulevard. Curbside parking is not provided. The posted speed limit is 40 mph west of SR-111 and 30-65 mph east of SR-111.

State Route 111 (SR-111/Imperial Avenue) is classified as an Expressway/Highway/Primary Arterial in the City of Calexico General Plan Circulation Element. SR-111 is a north-south highway connecting the three largest cities in Imperial County and runs from I-10 in Riverside County to the international border. SR-111 is classified as a 6-lane expressway north of Cole Boulevard, a 4-lane highway south of Cole Boulevard, and a primary arterial south of SR-98. SR-111 is currently constructed as a 4-lane divided roadway north of SR-98 and a 4-lane undivided roadway with a twoway left turn lane south of SR-98. Contiguous sidewalks are provided on both sides of the roadway south of SR-98. Curbside parking and bike lanes are not provided. The posted speed limit is 65 mph north of SR-98 and 35 mph south of SR-98.

State Route 7 (SR-7) is classified as a State Highway/Expressway in the Imperial County General Plan Circulation Element. SR-7 is a north-south highway, beginning at the international border and ending at I-8. It is currently constructed as a four-lane divided roadway and the speed limit is 65 mph within the project vicinity.

W. Cole Boulevard is classified as a Primary/Major Arterial in the City of Calexico General Plan Circulation Element. It is currently constructed as a two-lane undivided roadway between Dogwood Road and Town center Way and between Bowker Road and SR-98. Between Town center Way and SR-111, and between Rockwood Avenue and Bowker Road, W. Cole Boulevard is built as a fourlane undivided roadway. It is also currently built as a six-lane divided roadway between SR-111 and Rockwood Avenue. Curbside parking and bike lanes are not provided. Sidewalks are provided intermittently on both sides of the roadway between Town center Way and Bowker Road. The posted speed limit is 35 mph.

Dogwood Road (SR-31) is classified as a Primary Arterial in the City of Calexico General Plan Circulation Element. It is currently constructed as a two-lane undivided roadway within the project vicinity. Curbside parking is prohibited, and bike lanes are not provided. There are no sidewalks provided along the roadway. There is no posted speed limit within the project vicinity.

Kemp Road is an unclassified roadway. It is currently constructed as a two-lane undivided unpaved roadway. Kemp Road borders the east side of the project site. Curbside parking is prohibited, and bike lanes are not provided. There are no sidewalks provided along the roadway. There is no posted speed limit.

REGIONAL LOCATION MAP

Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

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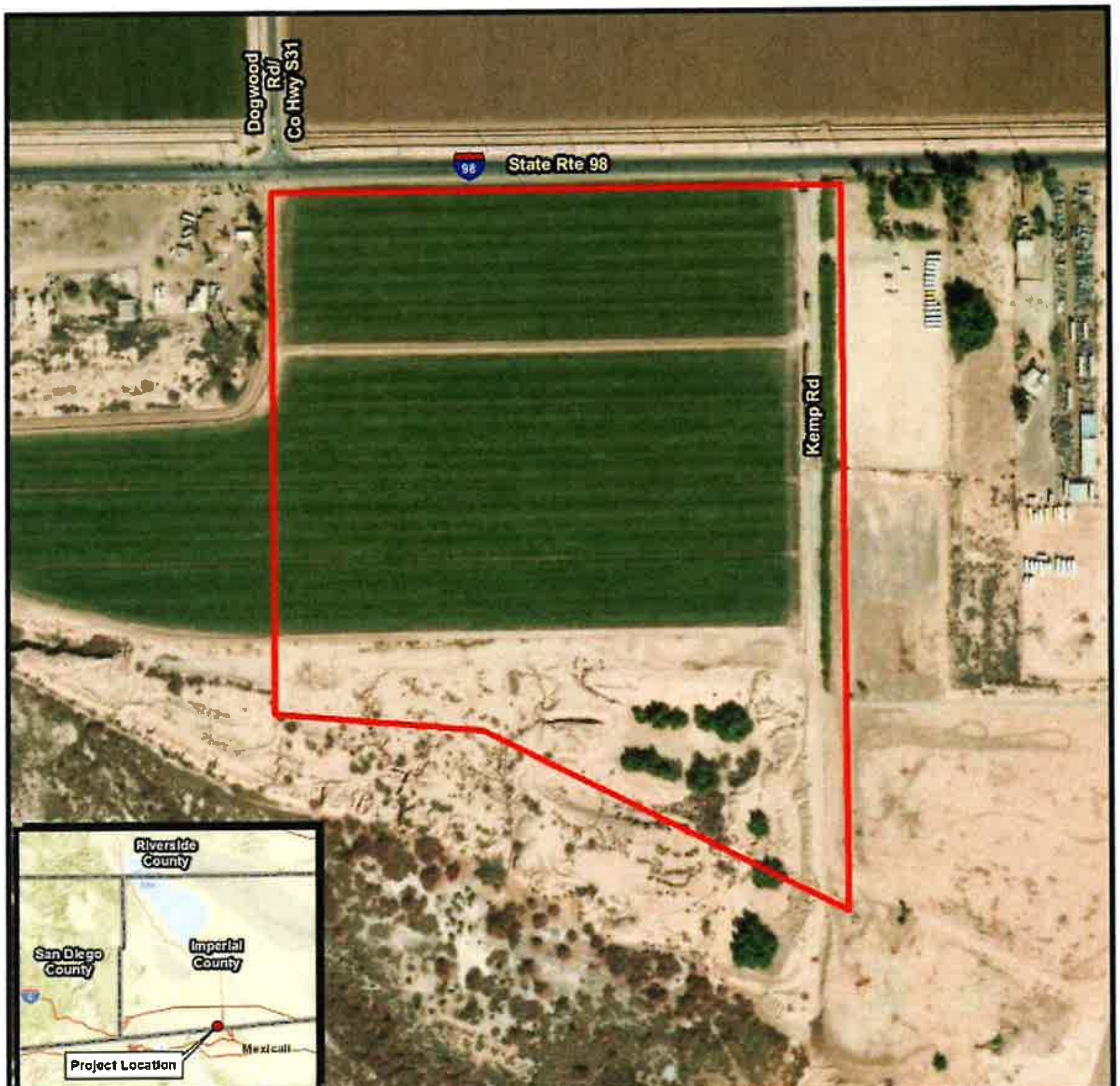
PROJECT LOCATION MAP



Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

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PC ORIGINAL PKG

STUDIES

LINSCOTT
LAW &
GREENSPAN
engineers

TRANSPORTATION IMPACT ANALYSIS

CHARGER LOGISTICS CAL-98 HOLDINGS PROJECT

County of Imperial, California
January 2024

LLG Ref. 3-22-3596

Prepared by:
Zahira Chayeb
Transportation Engineer II

Under the Supervision of:
John A. Boarman, P.E.
Principal

Linscott, Law & Greenspan, Engineers
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TABLE OF CONTENTS

SECTION PAGE

APPENDICES

APPENDIX

L. *Caltrans Transportation Analysis Framework,* 1st Edition (September 2020) excerpt

LIST OF FIGURES

LIST OF TABLES

Transportation Impact Analysis

Charger Logistics Cal-98 Holdings Project

County of Imperial, California
January 2024

1.0 Introduction

The following traffic impact analysis has been prepared to determine the potential impacts to the local circulation system due to the construction of the proposed Charger Logistics Cal-98 Holdings project in the County of Imperial, California. This report includes the following sections:

- Project Description
- Existing Conditions
- Analysis Approach and Methodology
- Substantial Effect Criteria
- Analysis of Existing Conditions
- Trip Generation / Distribution / Assignment
- Existing + Project Analysis
- Near-Term (Existing + Cumulative) Analysis
- Horizon Year 2050 Analysis
- Site Access Discussion
- Vehicle Miles Travelled (VMT) Discussion
- Conclusions and Recommendations

An Intersection Control Evaluation (ICE) will be prepared under a separate cover, per Caltrans standards, addressing the appropriate Caltrans controlled intersections.

2.0 PROJECT DESCRIPTION

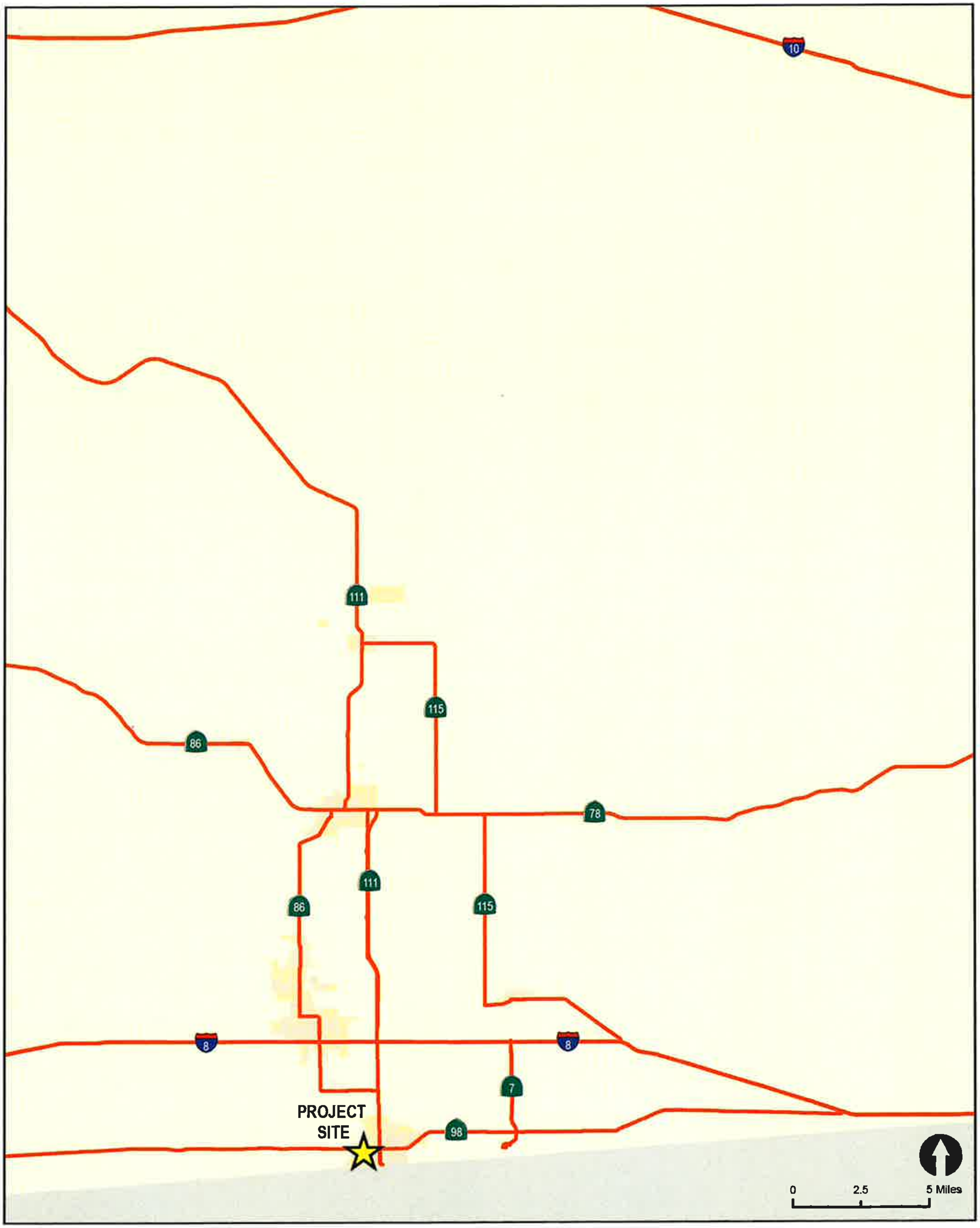
The project is located on the southwest corner of the SR-98 and Kemp Road intersection in the County of Imperial.

The project proposes 91,881 square feet (SF) of warehousing, 16,460 SF of service space, and 11,904 SF of office space. Additionally, the project proposes to provide 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces.

Access to the site will be provided via two driveways. One driveway will be located on the west side of the project site south of SR-98 via the southward extension of Dogwood Road, and one driveway will be located on the east side of the project site at Kemp Road.

The project proposes to provide warehousing, order fulfillment, logistics and transportation services. Trucks will travel to/from Mexico, San Diego, and Imperial County.

Figure 2–1 depicts the project vicinity with ***Figure 2–2*** depicts a more details project area map and ***Figure 2–3*** shows the project's site plan.



LINSCOTT LAW & GREENSPAN engineers

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Figure 2-1

Project Vicinity Map

Charger Logistics Project

EEC ORIGINAL PKG

PC ORIGINAL PKG

LINSCOTT LAW & GREENSPAN engineers

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Figure 2-2

Project Area Map

CHARGER LOGISTICS PROJECT

EEC ORIGINAL PKG

PC ORIGINAL PKG

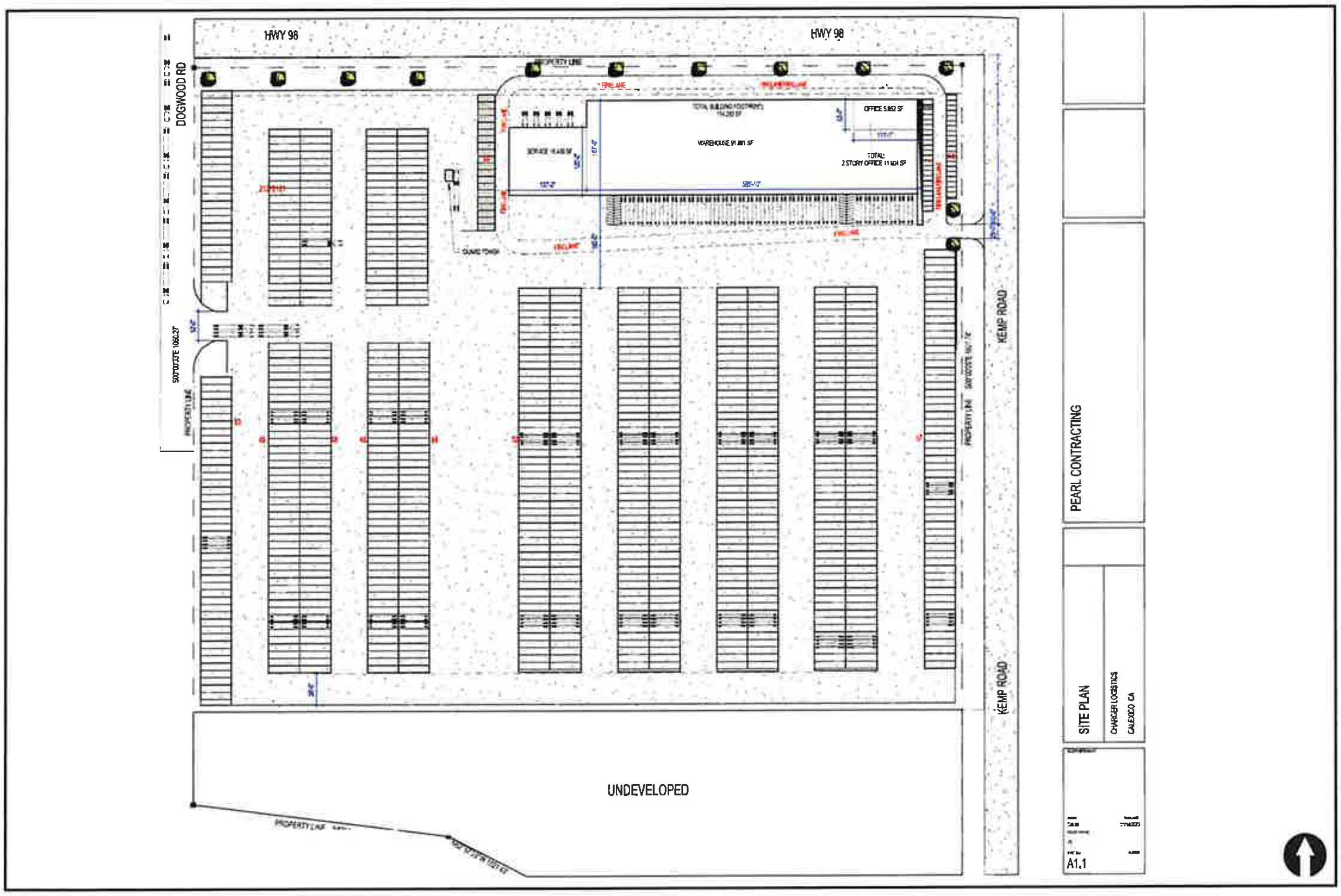

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Figure 2-3
Site Plan
CHARGER LOGISTICS PROJECT

EEC ORIGINAL PKG

PC ORIGINAL PKG

3.0 EXISTING CONDITIONS

3.1 Existing Street Network

Following is a brief description of the street segments within the project area. ***Figure 3–1*** illustrates the existing conditions, including the lane geometry, for the key intersections in the study area.

State Route 98 (SR-98/Birch Street) is classified as a Highway/Secondary Roadway. SR-98 is an east-west highway running through Calexico, parallel to the international border. It is generally constructed as a two-lane undivided roadway outside the Calexico city limit. It is currently constructed as a two-lane undivided roadway between Dogwood Road and Cesar Chavez Boulevard and between East Rivera and SR-7. Between Cesar Chavez Boulevard and East Riviera, SR-98 is built as a four-lane divided roadway with intermittent turn lanes. Sidewalks are only provided between W. Williams Avenue and Imperial Avenue. Class II bike lanes are only provided on both sides of the roadway between W. Williams Avenue and Cesar Chavez Boulevard. Curbside parking is not provided. The speed limit is posted at 65 mph approximately 860 feet east of Kemp Road on the north side of the roadway (for westbound traffic). The speed limit is posted at 40 mph approximately 2,100 feet east of Kemp Road on the south side of the roadway (for eastbound traffic).

Per the *Imperial County Regional Active Transportation Plan*, a Class I Multi-Use Path is proposed along SR-98 from Dogwood Road to Eady Avenue.

State Route 111 (SR-111/Imperial Avenue) is classified as an Expressway/Highway/Primary Arterial in the *City of Calexico General Plan Circulation Element*. SR-111 is a north-south highway connecting the three largest cities in Imperial County and runs from I-10 in Riverside County to the international border. SR-111 is classified as a 6-lane expressway north of Cole Boulevard, a 4-lane highway south of Cole Boulevard, and a primary arterial south of SR-98. SR-111 is currently constructed as a 4-lane divided roadway north of SR-98 and a 4-lane undivided roadway with a two-way left turn lane south of SR-98. Contiguous sidewalks are provided on both sides of the roadway south of SR-98. Curbside parking and bike lanes are not provided. The posted speed limit is 65 mph north of SR-98 and 35 mph south of SR-98.

Per the *Imperial County Regional Active Transportation Plan*, a Class II Bike Lane is proposed along SR-111 along its entire stretch.

State Route 7 (SR-7) is classified as a State Highway/Expressway in the *Imperial County General Plan Circulation Element*. SR-7 is a north-south highway, beginning at the international border and ending at I-8. It is currently constructed as a four-lane divided roadway and the speed limit is 65 mph within the project vicinity.

W. Cole Boulevard is classified as a Primary/Major Arterial in the *City of Calexico General Plan Circulation Element*. It is currently constructed as a two-lane undivided roadway between Dogwood Road and Towncenter Way and between Bowker Road and SR-98. Between Towncenter Way and SR-111, and between Rockwood Avenue and Bowker Road, W. Cole Boulevard is built as a four-lane undivided roadway. It is also currently built as a six-lane divided roadway between SR-111 and Rockwood Avenue. Curbside parking and bike lanes are not provided. Sidewalks are provided intermittently on both sides of the roadway between Towncenter Way and Bowker Road. The posted speed limit is 35 mph.

Per the *Imperial County Regional Active Transportation Plan*, a Class II Bike Lane is proposed along Cole Boulevard along its entire stretch.

Dogwood Road (SR-31) is classified as a Primary Arterial in the *City of Calexico General Plan Circulation Element*. It is currently constructed as a two-lane undivided roadway within the project vicinity. Curbside parking is prohibited, and bike lanes are not provided. There are no sidewalks provided along the roadway. There is no posted speed limit within the project vicinity.

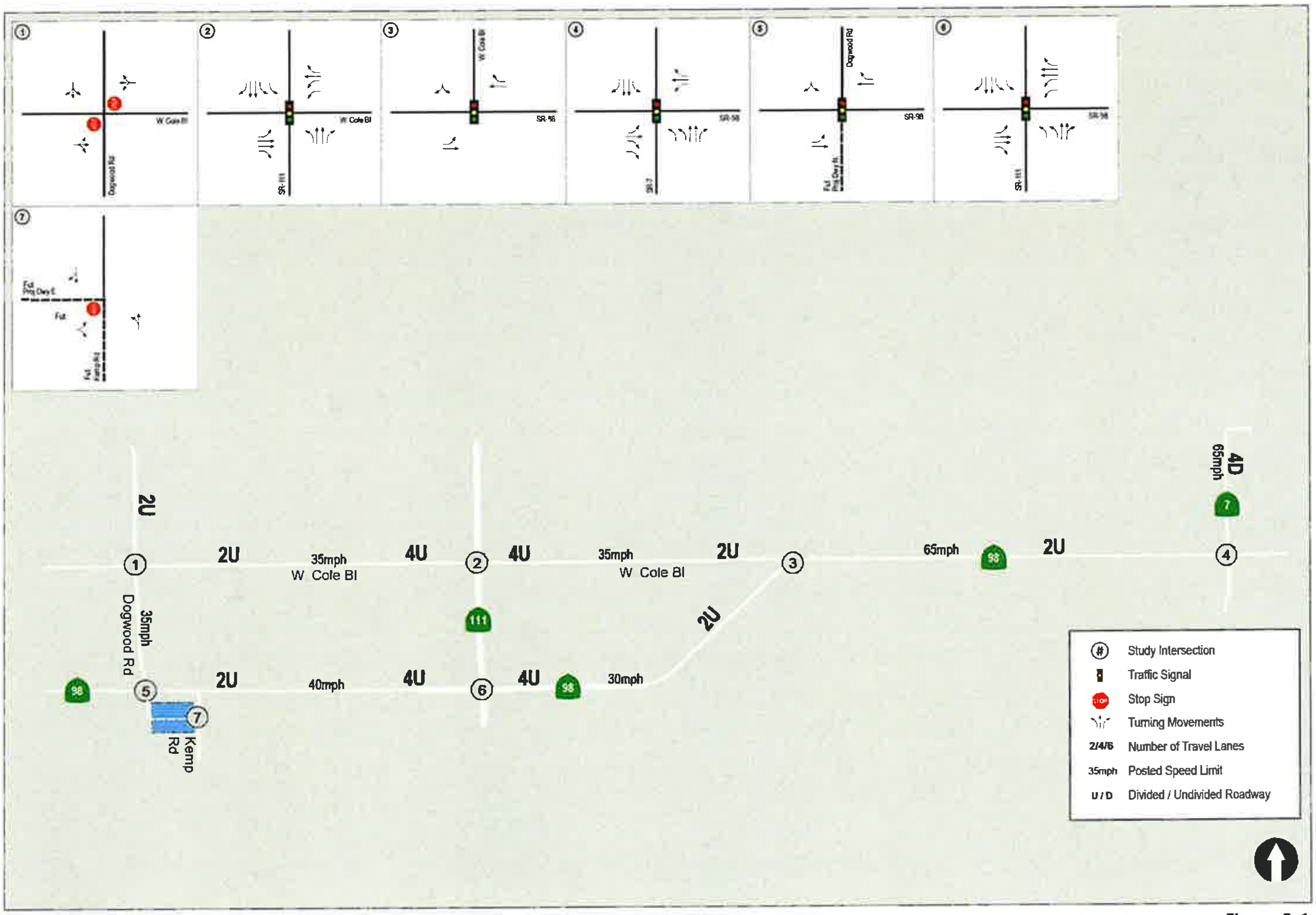
Per the *Imperial County Regional Active Transportation Plan*, a Class I Multi-Use Path is proposed along Dogwood Road from SR-98 and northward.

Kemp Road is an unclassified roadway. It is currently constructed as a two-lane undivided unpaved roadway. Kemp Road borders the east side of the project site. Curbside parking is prohibited, and bike lanes are not provided. There are no sidewalks provided along the roadway. There is no posted speed limit.

3.2 Existing Traffic Volumes

AM and PM peak hour intersection turning movement volume counts at study area intersections were commissioned by LLG Engineers in June 2022. It should be noted that all intersection volumes were applied a growth factor of 10% to represent non-summer conditions. The Dogwood Road Bridge at Willoughby Road was closed when the original traffic counts were conducted in June 2022. The bridge reopened in mid-2023. Traffic counts at the Dogwood Road / Cole Boulevard and Dogwood Road / SR-98 intersections were re-conducted in August 2023 to accurately depict the traffic conditions with the bridge open.

Figure 3–2 depicts the existing traffic volumes on both an ADT and peak hour basis. ***Appendix A*** contains the manual intersection count sheets.



LINSCOTT LAW & GREENSPAN engineers

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Figure 3-1
Existing Conditions Diagram

CHARGER LOGISTICS PROJECT

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PC ORIGINAL PKG

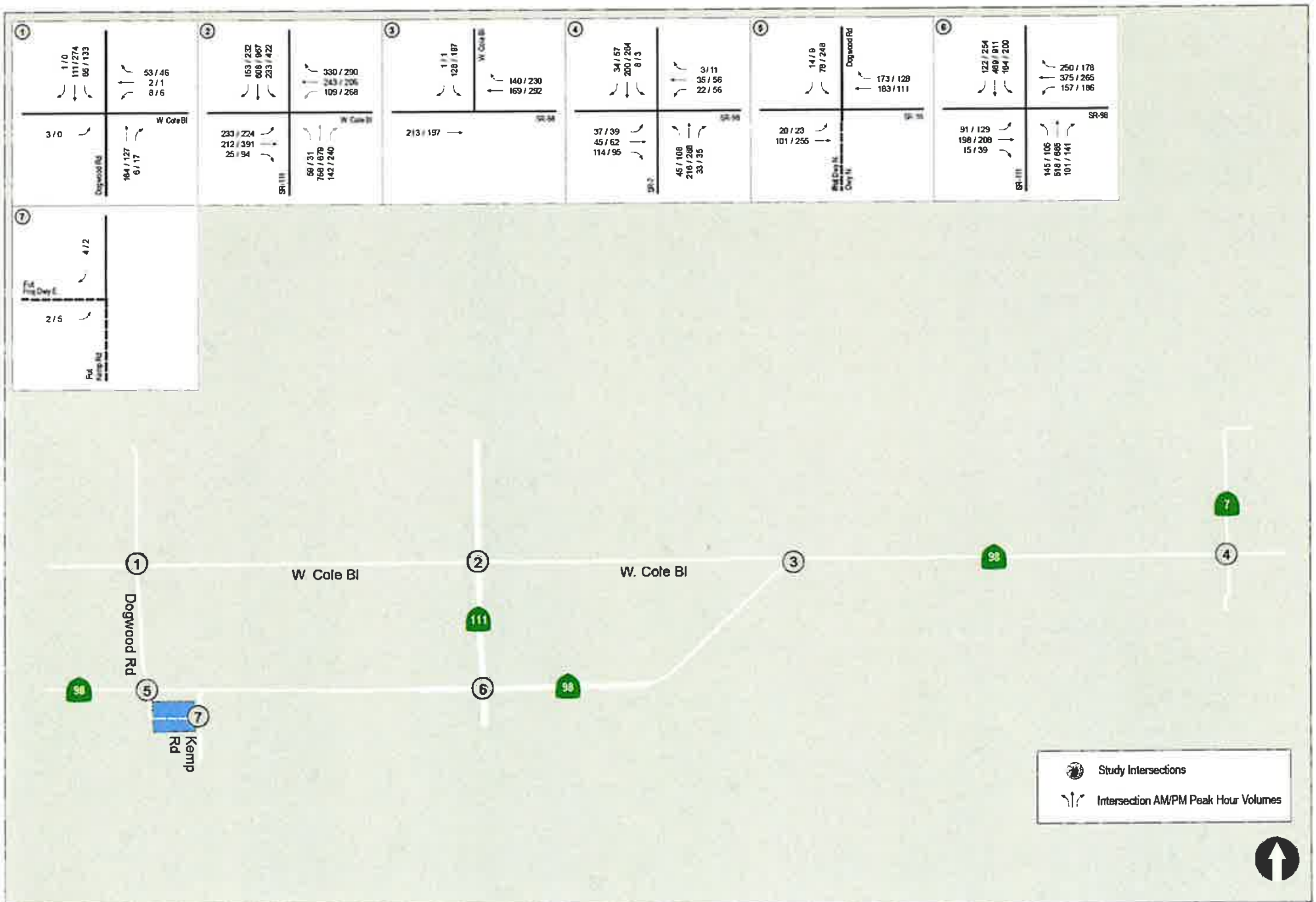

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Figure 3-2
Existing Traffic Volumes

CHARGER LOGISTICS PROJECT

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4.0 ANALYSIS APPROACH AND METHODOLOGY

4.1 Project Study Area

The following intersections and segments were analyzed in this study and were chosen since they will carry the majority of project truck and employee traffic.

Intersections:

1. Dogwood Road / Cole Boulevard
2. SR 111 / Cole Boulevard
3. SR 98 / Cole Boulevard
4. SR 7 / SR 98
5. SR 98 / Dogwood Road
6. SR 111 / SR 98
7. Kemp Road / East Project Driveway

4.2 Analysis Scenarios

The following scenarios are analyzed in this report:

- Existing traffic
- Existing + Project traffic
- Existing + Cumulative traffic
- Existing + Cumulative traffic + Project traffic
- Horizon Year 2050 traffic
- Horizon Year 2050 + Project traffic

4.3 Analysis Methodology

The operations of the project area intersections and segments are characterized using the concept of "Level of Service" (LOS). LOS is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A through F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

Table 4–1 summarizes the description for each level of service. ***Table 4–2*** depicts the criteria, which are based on the average control delay for any particular minor movement (unsignalized intersections).

TABLE 4–1
INTERSECTION LEVEL OF SERVICE DESCRIPTIONS

Level of Service	Description
A	Occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
C	Generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.
F	Considered to be unacceptable to most drivers. This condition often occurs with over saturation i.e. when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume-to-capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

TABLE 4–2
UNSIGNALIZED INTERSECTION LOS & DELAY RANGES

LOS	Delay (seconds/vehicle)
A	≤ 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	≥ 50.1

Source: 2000 Highway Capacity Manual

TABLE 4–3
IMPERIAL COUNTY STANDARD STREET CLASSIFICATION AVERAGE DAILY VEHICLE TRIPS

Road		Level of Service W/ADT*				
Class	**X-Section**	**A**	**B**	**C**	**D**	**E**
Expressway	128 / 210	30,000	42,000	60,000	70,000	80,000
Prime Arterial	106 / 136	22,200	37,000	44,600	50,000	57,000
Minor Arterial	82 / 102	14,800	24,700	29,600	33,400	37,000
Major Collector (Collector)	64 / 84	13,700	22,800	27,400	30,800	34,200
Minor Collector (Local Collector)	40 / 70	1,900	4,100	7,100	10,900	16,200
Residential Street	40 / 60	*	*	< 1,500	*	*
Residential Cul-de-Sac / Loop Street	40/60	*	*	< 1,500	*	*
Industrial Collector	76 / 96	5,000	10,000	14,000	17,000	20,000
Industrial Local Street	44 / 64	2,500	5,000	7,000	8,500	10,000

* Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors. It should be noted that for segments along SR-111, the capacities of a 6-lane expressway were reduced by one-third and utilized to calculate level of service.

5.0 Substantial Effect Criteria

The County of Imperial does not have published significance criteria. However, the County General Plan does state that the level of service (LOS) goal for intersections and roadway segments is to operate at LOS C or better. Therefore, if an intersection or segment degrades from LOS C or better to LOS D or worse with the addition of project traffic, the impact is considered significant. If the location operates at LOS D or worse with and without project traffic, the impact is considered significant if the project causes the intersection delta to increase by more than two (2) seconds, or the V/C ratio to increase by more than 0.02. These amounts are consistent with those used in the City of El Centro and the County of Imperial in numerous traffic studies.

Table 5–1
Traffic Impact Significant Thresholds

Level of Service with Project [a]	Allowable Increase Due to Project Impacts [b]					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min)
D, E & F (*or ramp meter delays above 15 minutes*)					2	

Footnotes:

a. All level of service measurements are based upon HCM procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume. The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

b. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are deemed to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigations (within the Traffic Impact Study [TIS] report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note a above), or if the project adds a significant amount of peak hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating significant impact changes.

c. The allowable increase in delay at a ramp meter with more than 15 minutes of delay and freeway LOS E is 2 minutes and at LOS F is 1 minute.

General Notes:

1. V/C = Volume to Capacity Ratio
2. Speed = Arterial speed measured in miles per hour
3. Delay = Average stopped delay per vehicle measured in seconds for intersections, or minutes for ramp meters.
4. LOS = Level of Service

6.0 Analysis of Existing Conditions

6.1 Peak Hour Intersection Levels of Service

The project study area is located in a rural setting and all project driveways are unsignalized. As seen in ***Table 6–1,*** all study area intersections are calculated to currently operate at LOS C or better during both the AM and PM peak hours with the exception of the following intersections:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

Table 6–1
Existing Intersection Operations

Intersection	Control Type	Peak Hour	Existing	
			Delay [a]	LOS [b]
1. Dogwood Road / Cole Boulevard	TWSC [c]	AM	14.5	B
		PM	11.0	B
2. SR 111 / Cole Boulevard	Signal	AM	59.9	E
		PM	60.5	E
3. SR 98 / Cole Boulevard	Signal	AM	15.6	B
		PM	15.5	B
4. SR 7 / SR 98	Signal	AM	25.9	C
		PM	29.3	C
5. SR 98 / Dogwood Road	Signal	AM	26.5	C
		PM	21.2	C
6. SR 111 / SR 98	Signal	AM	38.7	D
		PM	37.3	D
7. Kemp Road / East Project Driveway	OWSC [d]	AM	DNE [e]	DNE
		PM	DNE	DNE

Footnotes:

a. Delay per vehicle in seconds
b. LOS – Level of service
c. TWSC – Two-Way STOP Controlled intersection.
d. OWSC – One-Way STOP Controlled intersection.
e. DNE – Does Not Exist

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

7.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

7.1 Trip Generation

Project trips consist of vehicular trips added to the street system which begin or end at the Project site and are generated by the proposed development. Trip generation estimates for the Project are based on site specific information provided by the applicant.

The traffic generated by the Project will consist of two main trip types (Employees and Trucks) as described below. Project traffic generation was calculated for each trip type as shown in ***Table 8-1.*** As seen in *Table 7–1,* the Project is calculated to generate a total of 650 ADT, with 30 inbound / 27 outbound trips during the AM peak hour, and 27 inbound / 30 outbound trips during the PM peak hour. A passenger car equivalence factor (PCE) was applied to the truck trips, as discussed below.

- ***Employees*** A total of 20 on-site employees are expected each day. The majority of the employees are expected to drive alone in their own vehicle (i.e., not carpool). Only a small amount of employees are expected to work a 8AM – 5PM shift. In order to provide a conservative analysis, 20% of the total employees were assumed to enter the site (traveling inbound) during the AM peak, and 20% of the total employees were assumed to exit the site (traveling outbound) during the PM peak.
- ***Heavy-Duty Truck Trips:*** A total of 100 heavy-duty trucks are expected to access the site each day. Heavy-duty trucks are assumed to access the site consistently between the hours of 9AM and 9PM (approximately 8 heavy vehicles per hour for 12-hours). A Passenger Car Equivalence (PCE) of 3.0 was applied to account for the diminished performance characteristics of heavy trucks in traffic flow (as compared to passenger vehicles) based on data contained in the Highway Capacity Manual (HCM).

In order to account for miscellaneous trips (such as visitors and deliveries), 10 additional ADT trips were assumed, as well as 1 inbound and 1 outbound trip during both the AM and PM peak hours.

TABLE 7–1
TRIP GENERATION

Use	Quantity	PCE [a]	Daily Trips		AM Peak Hour			PM Peak Hour		
			Rate	ADT [b]	In	Out	*Total*	In	Out	*Total*
Employees	20	1.0	2/vehicle	40	4	1	5	1	4	5
Heavy Vehicles (trucks)	100	3.0	2/vehicle	600	25	25	50	25	25	50
Miscellaneous Deliveries & Visitors	5	1.0	2/vehicle	10	1	1	2	1	1	2
Total				***650***	***30***	***27***	***57***	***27***	***30***	***57***

Footnotes:
a. PCE = Passenger Car Equivalent
b. ADT = Average Daily Traffic (24-hour total bi-directional traffic on a roadway segment)

General Notes:
1. The project site will operate only when the Port is operating (9AM-9PM)
2. 12 hours of truck activity evenly spread throughout the day
3. 20% of employees assured to work 8AM-5PM shift

7.2 Trip Distribution

It should be noted that separate distributions were derived for trucks and employees (and miscellaneous) trips since they will have very different travel patterns.

7.2.1 *Truck Traffic Distribution*

The distribution for trucks is based on the *City of Calexico General Plan Interim and Ultimate Truck Routes,* November 2006 (see ***Appendix B***). The distribution for trucks is also based on the expected inbound and outbound destinations.

The project expects 65% of trucks inbound from Mexico, 15% inbound from San Diego (west of the project site), and 20% inbound from Imperial County (north of project site).

In terms of outbound trips, the project expects 30% outbound to Mexico, 50% outbound to San Diego, and 20% outbound to Imperial County.

The project expects most of the trucks to come in from Mexico (65% assumed), and less trucks to enter back into Mexico (30% assumed).

Figure 7–1 shows the distribution of trucks.

7.2.2 *Employee / Miscellaneous Traffic Distribution*

Project trip distribution was developed based on existing traffic patterns, location of residential areas where employees may live, and the regional roadway network. The employee / miscellaneous distribution assumes 20% along SR-7 to/from Mexico, 15% along Dogwood Road, 55% along SR-111 north of Cole Boulevard, 10% along SR-111 south of SR-98, and 5% along SR-98 west of the project site.

Figure 7–2 shows the distribution of employee passenger car / miscellaneous trips operations traffic

7.3 Trip Assignment

Separate trip assignments were prepared for each trip type based on the distribution percentages detailed above.

For trucks coming inbound from Mexico, the route taken will be directed as follows:

- Travel northbound along SR-7 from the U.S./Mexico border.
- Travel westbound along Cole Blvd.
- Travel southbound via Dogwood Road to reach the project site.

For outbound trucks traveling to Mexico, the route taken will be directed as follows:

- Travel northbound along Dogwood Road

- Travel eastbound along Cole Blvd.
- Travel southbound via SR-7 to reach the U.S./Mexico border.

Trucks traveling to/from San Diego will travel via SR-98. Trucks traveling to/from Imperial County will travel via SR-111.

Trucks will be prohibited from entering the site from the east and using the Kemp Road driveway. All trucks will use the Dogwood Road driveway only. In addition, the majority (90%) of employees are expected to use the Kemp Road driveway. This report assumes 10% of employees will use the Dogwood Road driveway.

The Project truck traffic assignment is shown on ***Figure 7–3. Figure 7–4*** shows the Project employee (and miscellaneous) traffic assignment. ***Figure 7–5*** depicts the total Project traffic assignment.

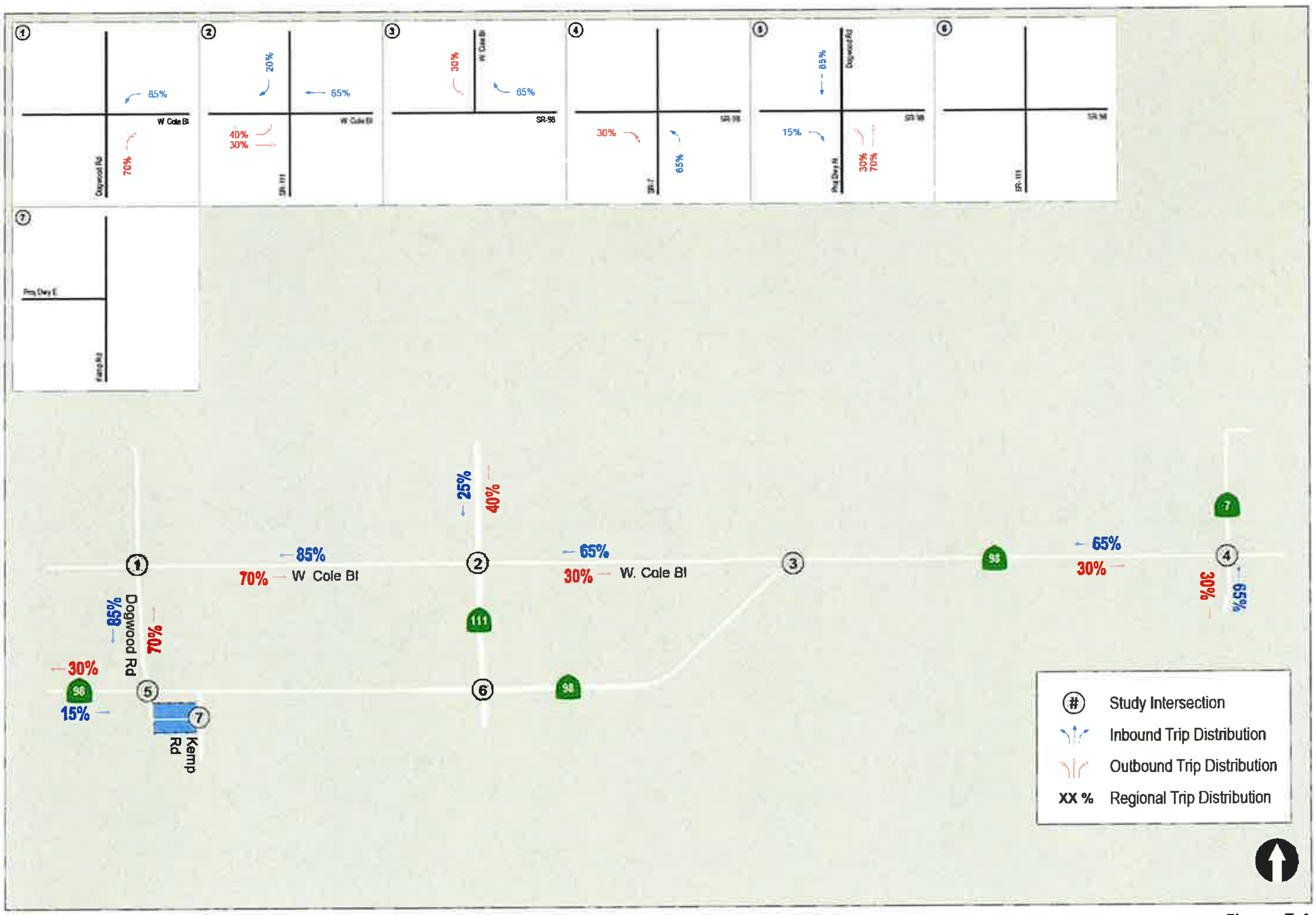

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Figure 7-1
Truck Trip Distribution

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EEC ORIGINAL PKG

PC ORIGINAL PKG

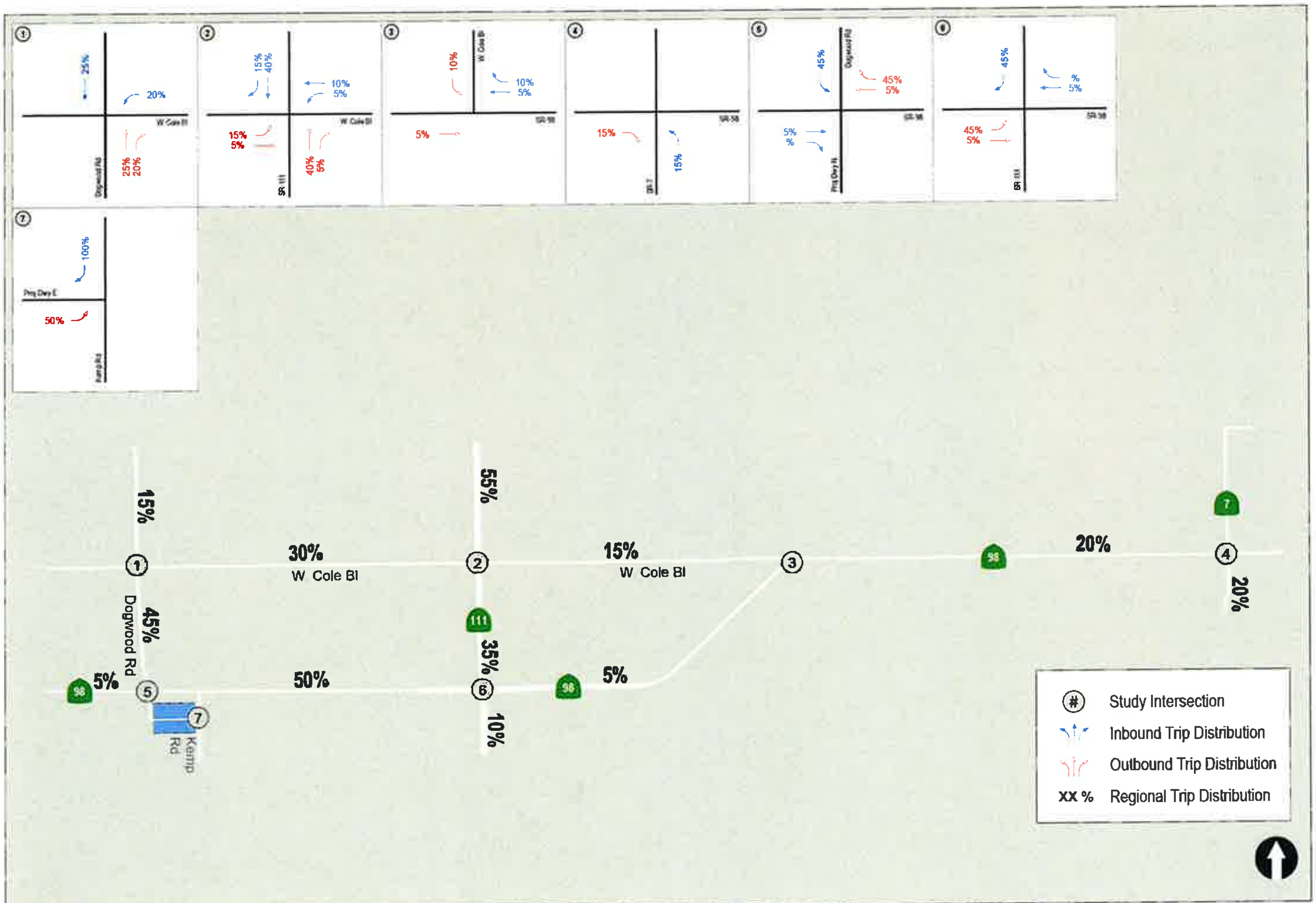

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Figure 7-2
Employee Trip Distribution

CHARGER LOGISTICS PROJECT

EEC ORIGINAL PKG

PC ORIGINAL PKG

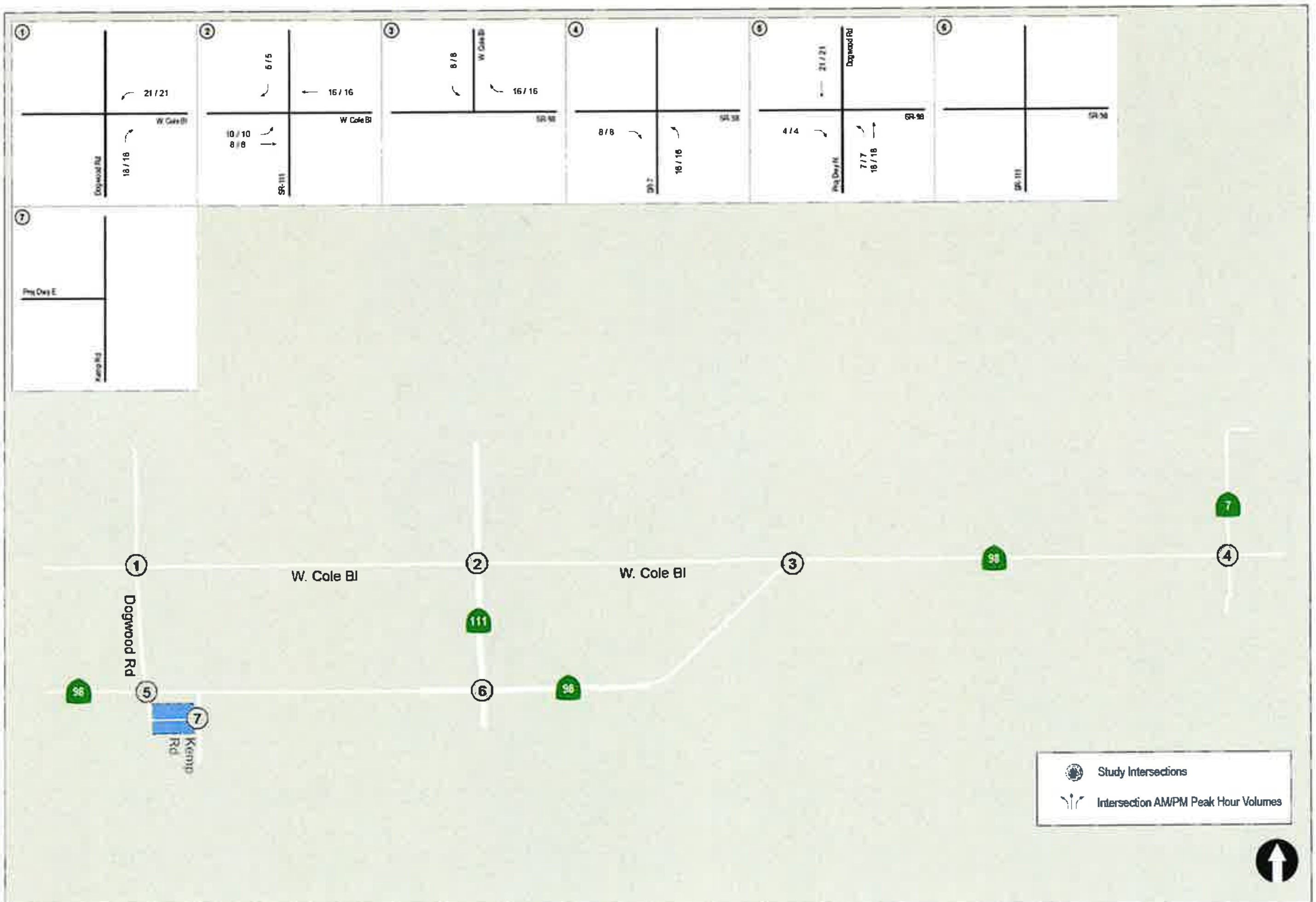

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Figure 7-3
Project Traffic Volumes
Trucks

CHARGER LOGISTICS PROJECT

EEC ORIGINAL PKG

PC ORIGINAL PKG

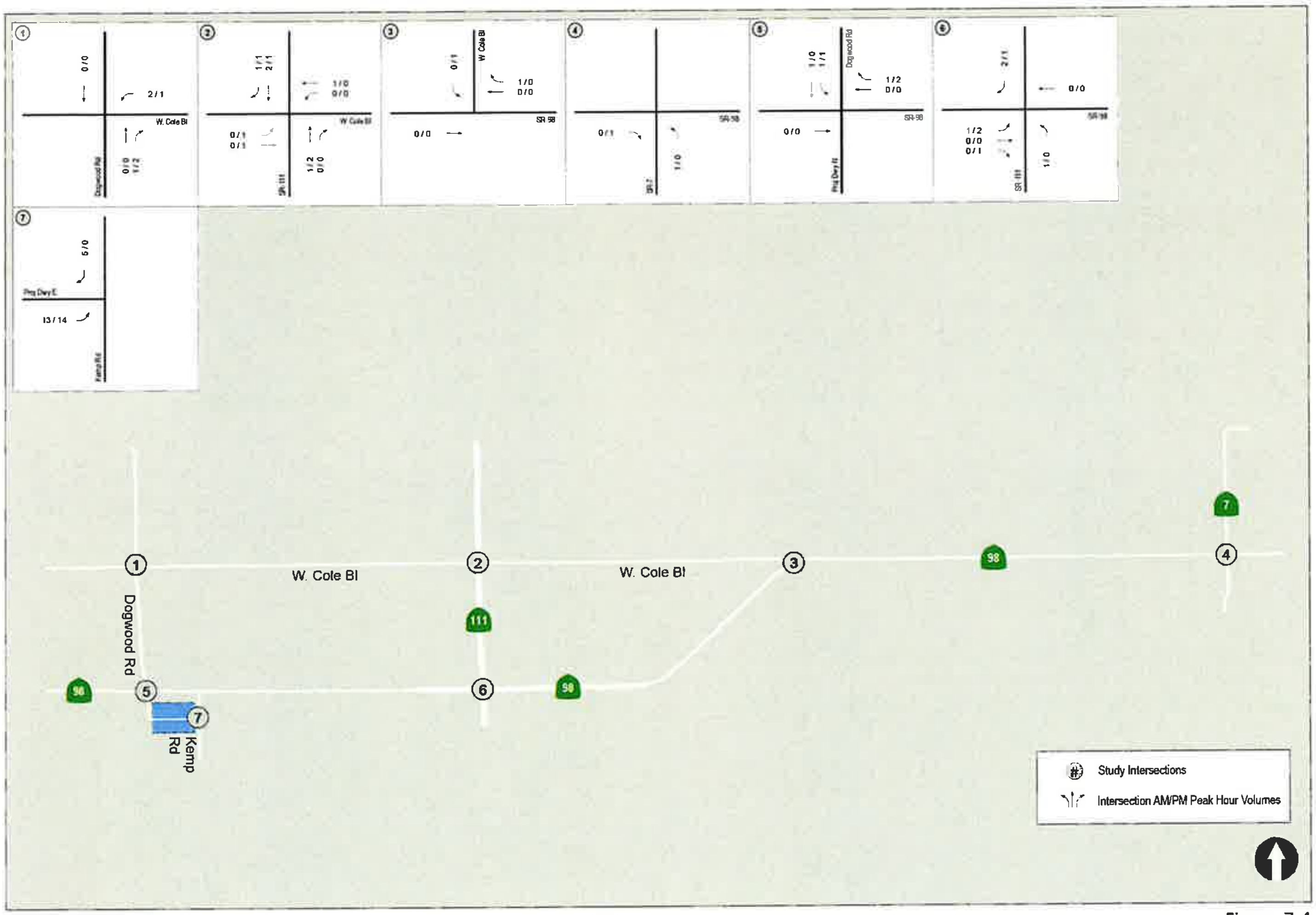

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Figure 7-4
Project Traffic Volumes
Employee / Miscellaneous
CHARGER LOGISTICS PROJECT

EEC ORIGINAL PKG

PC ORIGINAL PKG

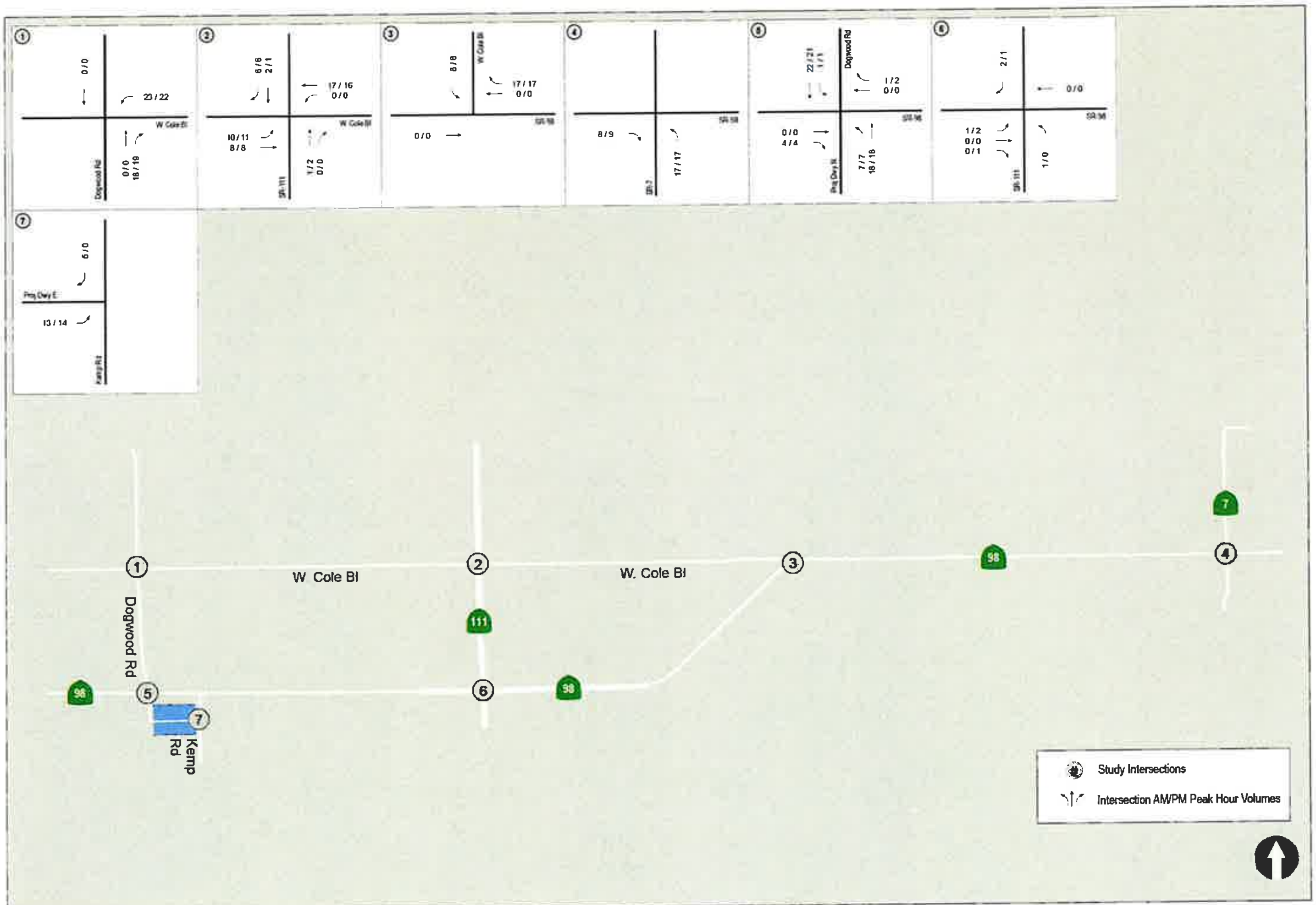

Figure 7-5

Total Project Traffic Volumes

CHARGER LOGISTICS PROJECT

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EEC ORIGINAL PKG

PC ORIGINAL PKG

8.0 EXISTING + PROJECT ANALYSIS

8.1 Peak Hour Intersection Levels of Service

Table 8–1 summarizes the intersection operations throughout the project study area during the Opening Year of the project with the addition of Project traffic. This table shows that all of the intersections in the study area are calculated to continue to operate at LOS C or better during the AM and PM peak hours with the exception of the following intersection:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

The Project-related increase in the LOS delay for the above-listed intersections already operating at an unacceptable LOS is less than the threshold of 2.0 seconds. The Project is not calculated to result in a substantial effect to the study intersection and no improvements are required.

Figure 8-1 shows the Existing with Project traffic volumes.

Appendix C-D includes the Existing and Existing with Project intersection analysis worksheets.

TABLE 8–1
EXISTING + PROJECT INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Δ [c] Delay
			Delay [a]	LOS [b]	Delay [a]	LOS [b]	
1. Dogwood Road / Cole Boulevard	TWSC [d]	AM	14.5	B	14.6	B	0.1
		PM	11.0	B	15.1	C	4.1
2. SR 111 / Cole Boulevard	Signal	AM	59.9	E	60.3	E	0.4
		PM	60.5	E	61.5	E	1.0
3. SR 98 / Cole Boulevard	Signal	AM	15.6	B	16.0	B	0.4
		PM	15.5	B	15.6	B	0.1
4. SR 7 / SR 98	Signal	AM	25.9	C	26.5	C	0.6
		PM	29.3	C	29.5	C	0.2
5. SR 98 / Dogwood Road	Signal	AM	26.5	C	26.5	C	0.0
		PM	21.2	C	24.7	C	3.5
6. SR 111 / SR 98	Signal	AM	38.7	D	38.7	D	0.0
		PM	37.3	D	37.3	D	0.0
7. Kemp Road / East Project Driveway	OWSC [e]	AM	DNE [f]	DNE	8.5	A	8.5
		PM	DNE	DNE	8.5	A	8.5

Footnotes:

a. Delay per vehicle in seconds
b. LOS – Level of service
c. Δ denotes an increase in delay due to project.
d. TWSC – Two-Way STOP Controlled intersection.
e. OWSC – One-Way STOP Controlled intersection.
f. DNE – Does Not Exist
g. The recommended lane geometry that includes the project driveway (south leg) was assumed in the Existing + Project scenario

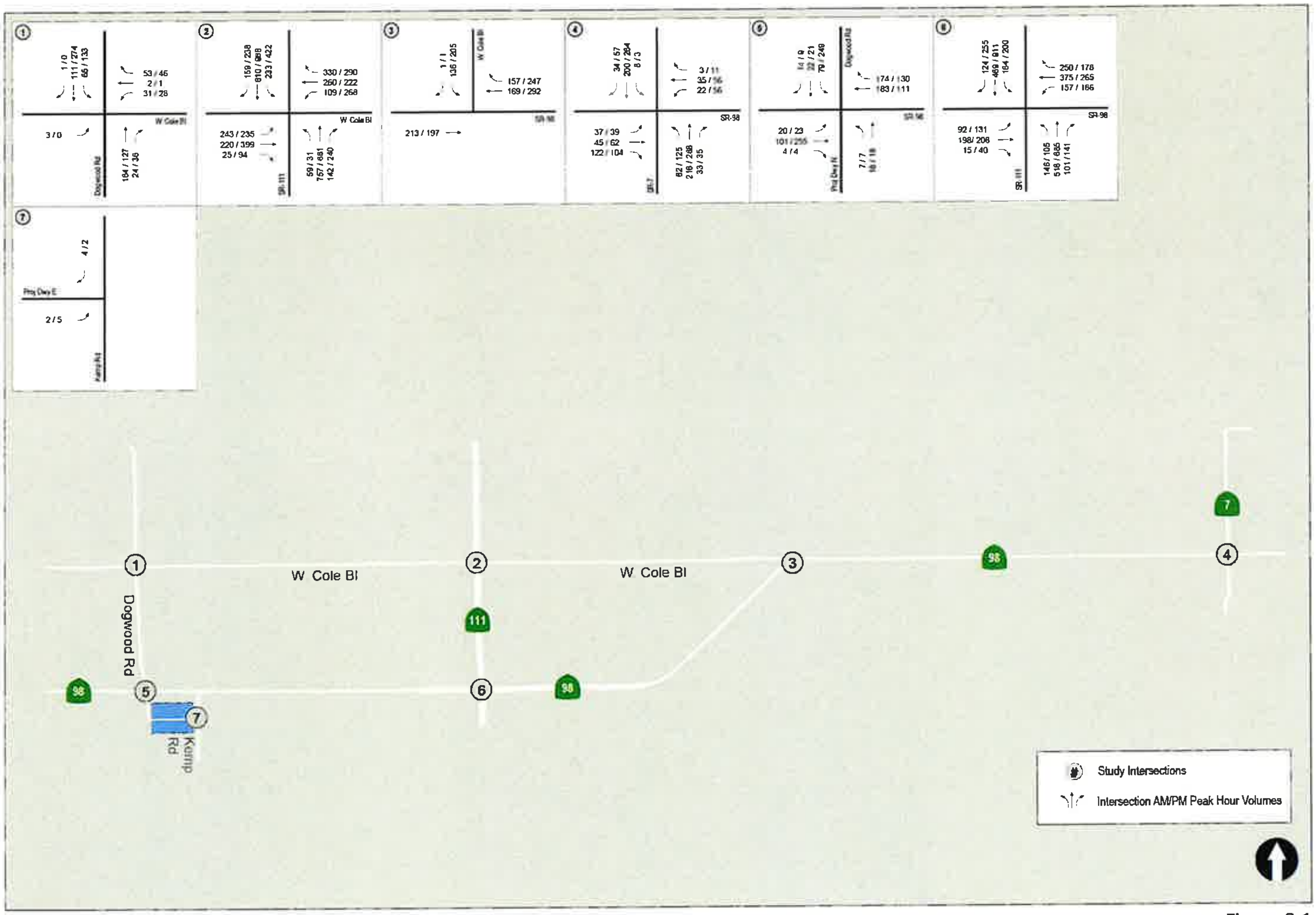

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Figure 8-1
Existing + Project Traffic Volumes

CHARGER LOGISTICS PROJECT

EEC ORIGINAL PKG

PC ORIGINAL PKG

9.0 Near Term Analysis

9.1 Cumulative Traffic

To account for potential cumulative traffic increases in the project area, a 10% growth factor was applied to the existing traffic volumes at the study area intersections. This 10% growth would represent the amount of traffic that may utilize the street system in the project vicinity proposed from future near-by development projects planned in Imperial County and the City of Calexico.

9.2 Opening Year 2024 without Project (Existing + Cumulative) Analysis

9.2.1 *Intersection Operations*

Table 9–1 summarizes the intersection operations throughout the project study area during the Opening Year of the project. This table shows that all of the intersections in the study area are calculated to continue to operate at LOS C or better during the AM and PM peak hours with the exception of the following intersections:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

9.3 Opening Year 2024 with Project (Existing + Cumulative + Project) Analysis

9.3.1 *Intersection Operations*

Table 9–1 summarizes the intersection operations throughout the project study area during the Opening Year of the project and the addition of Project traffic. This table shows that all of the intersections in the study area are calculated to continue to operate at LOS C or better during the AM and PM peak hours with the exception of the following intersections:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

The Project-related increase in the LOS delay for the above-listed intersection already operating at an unacceptable LOS is less than the threshold of 2.0 seconds. The Project is not calculated to result in a substantial effect to the study intersection and no improvements are required.

Figure 9-1 shows the Cumulative traffic volumes. ***Figure 9-2*** shows the Opening Year without Project traffic volumes. ***Figure 9-3*** shows the Opening Year with Project traffic volumes.

Appendix E-F includes the Opening Year and Opening Year with Project intersection analysis worksheets.

TABLE 9–1
OPENING YEAR INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Opening Year Operations		Opening Year + Project Operations		Δ [c] Delay	Impact Type
			Delay [a]	LOS [b]	Delay	LOS		
1. Dogwood Road / Cole Boulevard	TWSC [d]	AM	15.4	C	15.6	C	0.2	None
		PM	11.6	B	16.4	C	4.8	None
2. SR 111 / Cole Boulevard	Signal	AM	70.9	E	71.8	E	0.9	None
		PM	71.5	E	72.8	E	1.3	None
3. SR 98 / Cole Boulevard	Signal	AM	15.8	B	16.2	B	0.4	None
		PM	15.8	B	15.9	B	0.1	None
4. SR 7 / SR 98	Signal	AM	26.4	C	26.9	C	0.5	None
		PM	29.5	C	29.9	C	0.4	None
5. SR 98 / Dogwood Road [g]	Signal	AM	27.9	C	27.9	C	0.0	None
		PM	21.9	C	26.0	C	4.1	None
6. SR 111 / SR 98	Signal	AM	39.9	D	40.0	D	0.1	None
		PM	39.7	D	39.8	D	0.1	None
7. Kemp Road / East Project Driveway	OWSC [e]	AM	DNE [f]	DNE	8.5	A	8.5	None
		PM	DNE	DNE	8.5	A	8.5	None

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes an increase in delay due to project.
d. TWSC – Two-Way STOP Controlled intersection.
e. OWSC – One-Way STOP Controlled intersection.
f. DNE = Does Not Exist
g. The recommended lane geometry that includes the project driveway (south leg) was assumed in the Opening Year + Project scenario

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

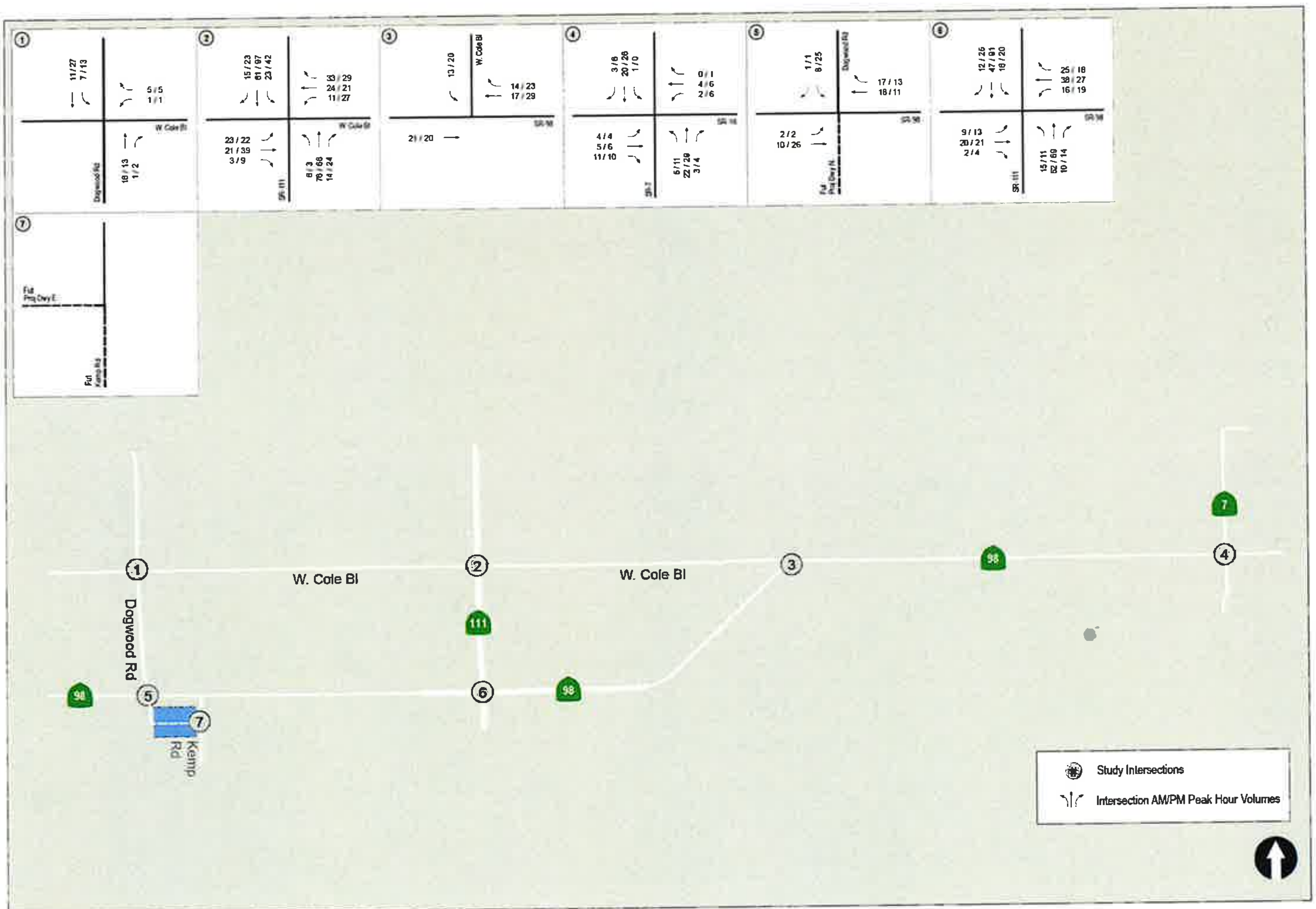

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Figure 9-1
Cumulative Traffic Volumes

CHARGER LOGISTICS PROJECT

EEC ORIGINAL PKG

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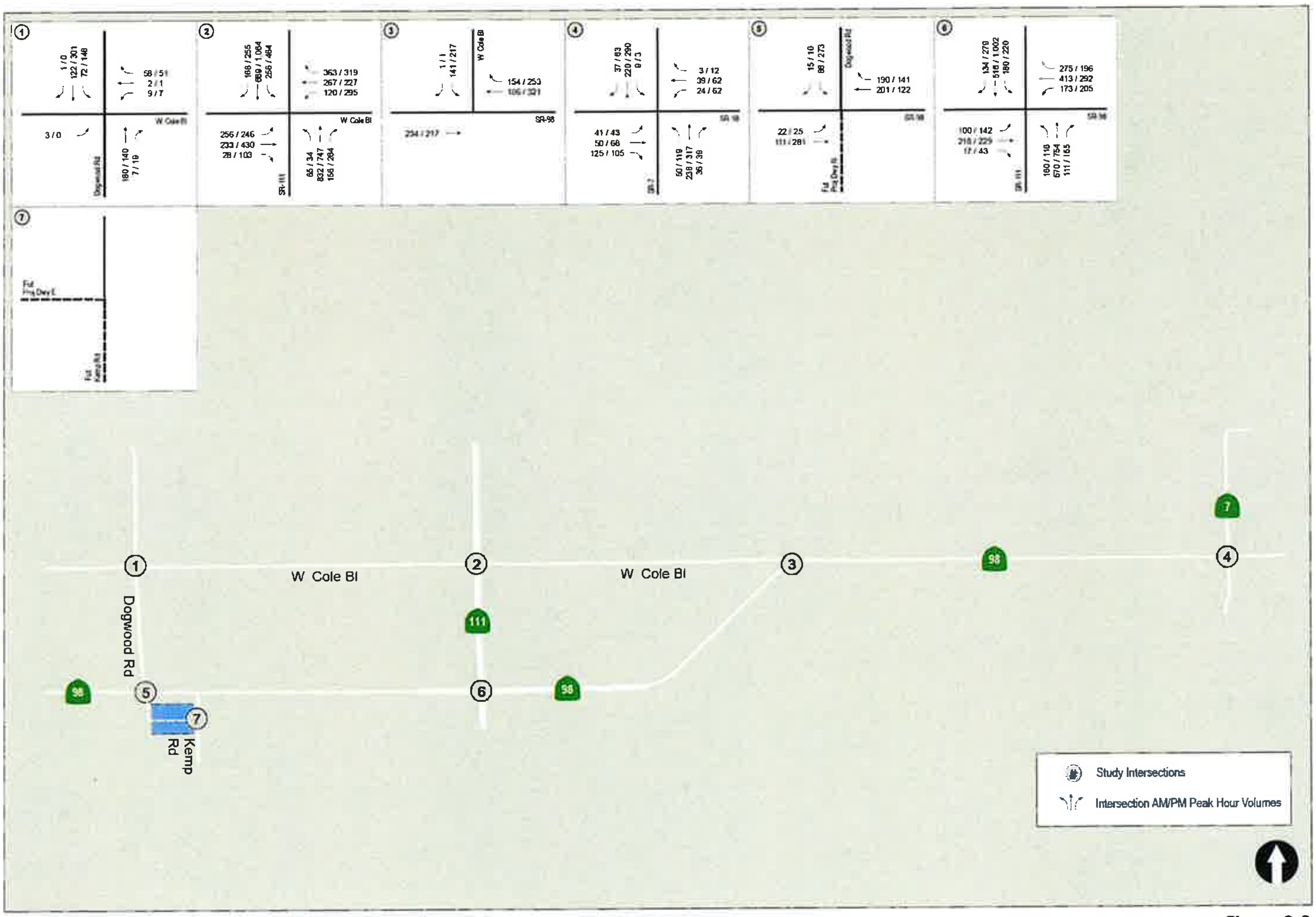

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Figure 9-2

Opening Year without Project (Existing + Cumulative) Traffic Volumes

CHARGER LOGISTICS PROJECT

EEC ORIGINAL PKG

PC ORIGINAL PKG

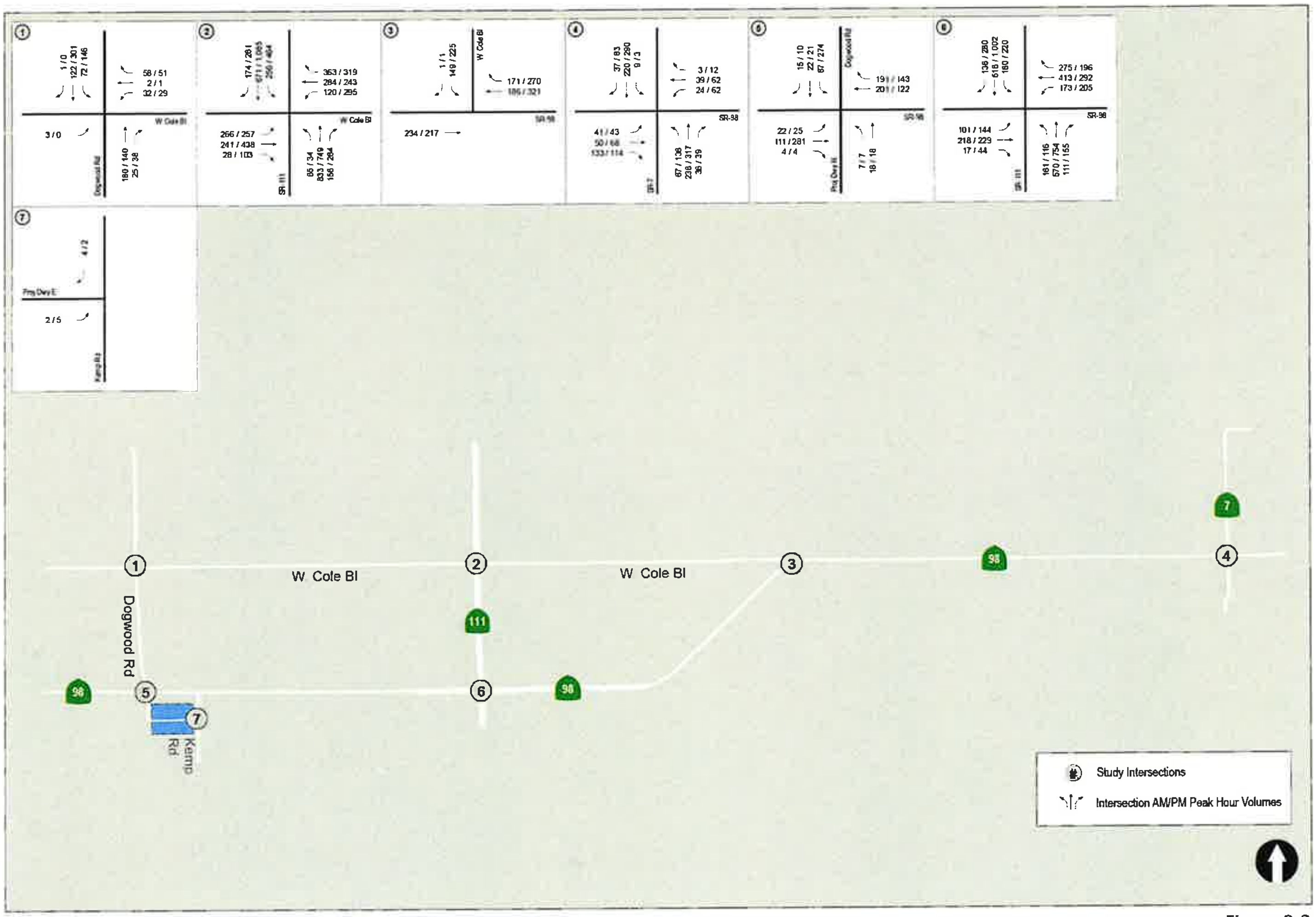

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Figure 9-3

Opening Year + Project (Existing + Cumulative + Project) Traffic Volumes

CHARGER LOGISTICS PROJECT

EEC ORIGINAL PKG

PC ORIGINAL PKG

10.0 Horizon Year 2050 Analysis

10.1 Horizon Year Traffic

To calculate the Horizon Year 2050 traffic volumes, the *Imperial County Circulation and Scenic Highways Element,* January 2008, (see ***Appendix G***) and historical volumes were reviewed.

The *Imperial County Circulation and Scenic Highways Element* includes a 2050 forecast in which traffic volumes are calculated by applying a 0.5%, 1.0%, or 2.0% annual growth factor to Year 2025 forecasted volumes.

Historical volumes from Caltrans Census Data, as well as LLG in-house were reviewed.

A comparison was done of in-house 2018 and 2022 traffic volumes, as well as Caltrans Census Data 2018 and 2022 traffic volumes. The comparison showed that there has been a decrease in traffic between 2018 and 2022 (see ***Appendix H***).

To be conservative, LLG calculated Year Horizon Year 2050 traffic volumes by applying a 0.5% annual growth factor to existing volumes. By applying a 0.5% annual growth factor, LLG is incorporating the same methodology as the *Imperial County Circulation and Scenic Highways Element*, as well as calculating a plausible traffic volume based on historical data.

10.2 Horizon Year 2050 without Project Analysis

10.2.1 *Intersection Operations*

Table 10–1 summarizes the intersection operations throughout the project study area during the Horizon Year of the project. This table shows that all of the intersections in the study area are calculated to continue to operate at LOS C or better during the AM and PM peak hours with the exception of the following intersections:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

10.3 Horizon Year 2050 with Project Analysis

10.3.1 *Intersection Operations*

Table 10–1 summarizes the intersection operations throughout the project study area during the Horizon Year of the project and the addition of Project traffic. This table shows that all of the intersections in the study area are calculated to continue to operate at LOS C or better during the AM and PM peak hours with the exception of the following intersections:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

The Project-related increase in the LOS delay for the above-listed intersections operating at an unacceptable LOS is less than the threshold of 2.0 seconds. The Project is not calculated to result in a substantial effect to the study intersection and no improvements are required.

Figure 10-1 shows the Horizon Year traffic volumes. ***Figure 10-2*** shows the Horizon Year with Project traffic volumes.

Appendix I-J includes the Opening Year and Opening Year with Project intersection analysis worksheets.

TABLE 10–1
HORIZON YEAR 2050 INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Horizon Year Operations		Horizon Year + Project Operations		Δ [c] Delay	Impact Type
			Delay [a]	LOS [b]	Delay	LOS		
1. Dogwood Road / Cole Boulevard	TWSC [d]	AM	16.0	C	16.3	C	0.3	None
		PM	24.6	C	25.0	C	0.4	None
2. SR 111 / Cole Boulevard	Signal	AM	78.1	E	79.3	E	1.2	None
		PM	78.5	E	80.1	F	1.6	None
3. SR 98 / Cole Boulevard	Signal	AM	15.8	B	16.2	B	0.4	None
		PM	15.9	B	16.0	B	0.1	None
4. SR 7 / SR 98	Signal	AM	26.9	C	27.4	C	0.5	None
		PM	28.1	C	28.5	C	0.4	None
5. SR 98 / Dogwood Road [g]	Signal	AM	28.4	C	28.4	C	0.0	None
		PM	22.4	C	27.2	C	4.8	None
6. SR 111 / SR 98	Signal	AM	40.7	D	40.7	D	0.0	None
		PM	41.0	D	41.1	D	0.1	None
7. Kemp Road / East Project Driveway	OWSC [e]	AM	0.0	A	8.5	A	8.5	None
		PM	0.0	A	8.5	A	8.5	None

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes an increase in delay due to project.
d. TWSC – Two-Way STOP Controlled intersection.
e. OWSC – One-Way STOP Controlled intersection.
f. DNE = Does Not Exist
g. The recommended lane geometry that includes the project driveway (south leg) was assumed in the Opening Year + Project scenario

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

EEC ORIGINAL PKG

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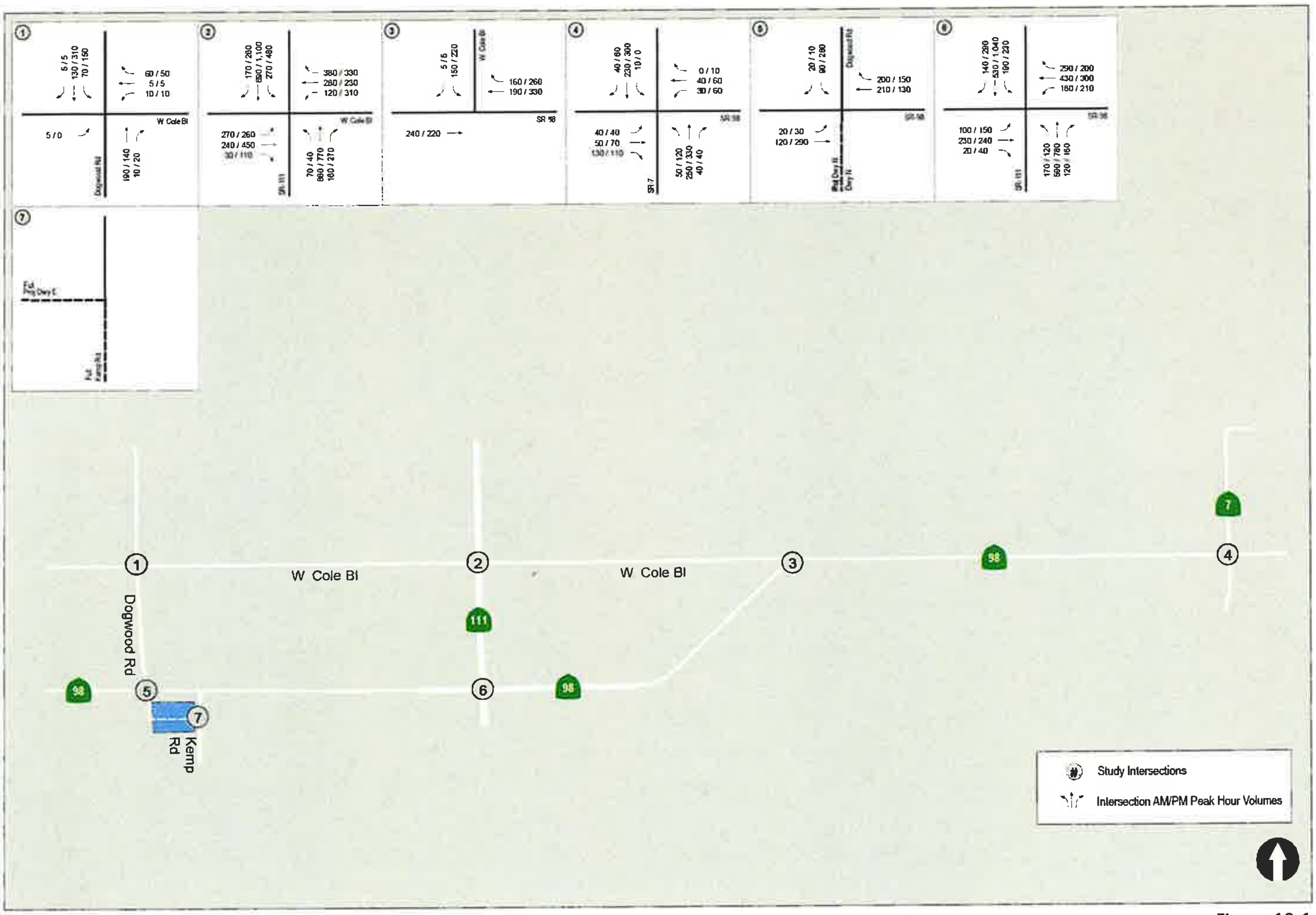

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Figure 10-1
Horizon Year 2050 Without Project Traffic Volumes

CHARGER LOGISTICS PROJECT

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EEC ORIGINAL PKG

PC ORIGINAL PKG

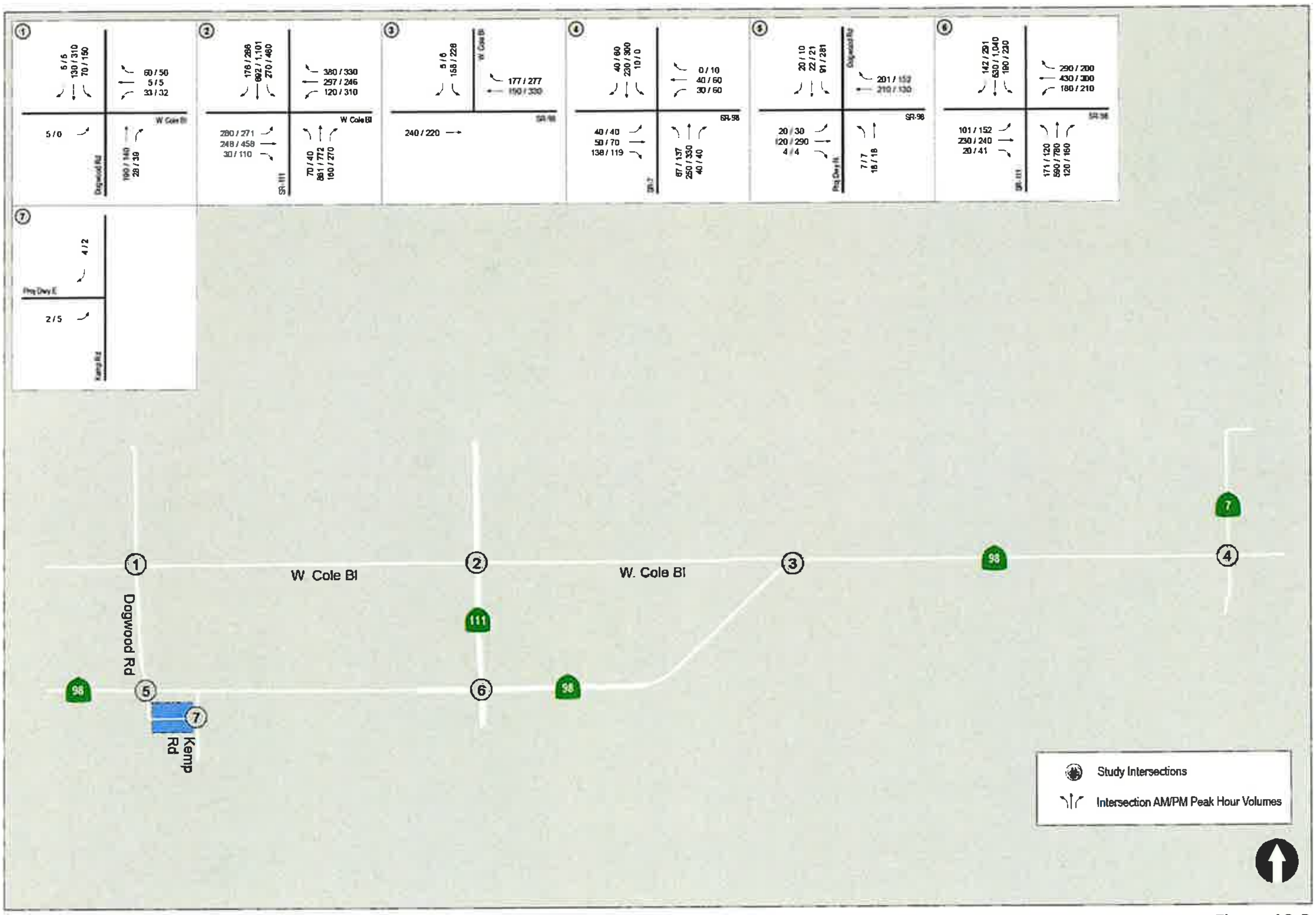

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Figure 10-2

Horizon Year 2050 + Project Traffic Volumes

CHARGER LOGISTICS PROJECT

EEC ORIGINAL PKG

PC ORIGINAL PKG

11.0 SITE ACCESS

11.1 Site Access Assessment

As described in *Section 2.0*, there are two project driveways. Access to the site is provided via Kemp Road on the east side of the project site, and on the west side of the project site at Dogwood Road.

Trucks will be directed to only enter the site on the west side of the project site via Dogwood Road. Trucks will be prohibited to enter the site via Kemp Road. Employees approaching from the east will be directed to use the Kemp Road driveway, but some were assumed to use the Dogwood Road driveway for the analysis.

To facilitate employee traffic entering the site via SR-98 to Kemp Road, a westbound left-turn pocket should be provided on SR-98 at Kemp Road due to the high speeds along SR-98 (65 MPH).

Additionally, a westbound dedicated left-turn lane and a southbound dedicated left-turn lane should be provided at the SR-98 / Dogwood Road intersection, and the overall intersection lane configuration shown in ***Figure 13-1*** should be implemented.

It should be noted that the proposed left turn pockets along SR-98 will require widening of SR-98 to accommodate standard lanes and standard shoulders. Additionally, as stated in *Section 3.1*, a Class I Multi-Use Path is proposed along SR-98 from Dogwood Road to Eady Avenue. This active transportation improvement needs to be considered when providing the westbound left-turn pockets on SR-98 at Kemp Road and Dogwood Road such that project construction does not preclude, prevent, or affect the operations of a future bike path.

It is recommended that an Intersection Control Evaluation (ICE) study be prepared at both the SR-98 / Dogwood Road and SR-98 / Kemp Road intersections, consistent with Caltrans standards. The ICE will include the recommended design of the proposed improvements.

11.2 Queue Analysis at Access

A queue analysis was completed to evaluate the queue lengths at the SR-98 / Dogwood Road intersection with the implementation of the improvements described above. ***Table 11-1*** includes the queue analysis results.

TABLE 11–1
QUEUE ANALYSIS AT ACCESS

Intersection	Movement	Peak Hour	Existing Storage Length	Existing	Existing + Project	Near Term	Near Term + Project	Horizon Year	Horizon Year + Project
5. SR-98 / Dogwood Road	Southbound Left	AM	Shared	46'	46'	50'	50'	52'	52'
		PM		128'	137'	141'	153'	146'	158'
	Westbound Right	AM	350'	15'	47'	16'	49'	16'	50'
		PM		13'	33'	14'	40'	14'	44'
	Westbound Left	AM	-	-	10'	-	10'	-	10'
		PM		-	10'	-	10'	-	10'
	Northbound Left	AM	-	-	8'	-	8'	-	8'
		PM		-	8'	-	8'	-	8'
	Eastbound Left	AM	325'	24'	24'	25'	25'	24'	24'
		PM		26'	26'	28'	28'	32'	32'

General Notes:
1. "+Project" scenarios assume a 4-leg intersection at SR-98 / Dogwood Road

EEC ORIGINAL PKG

PC ORIGINAL PKG

12.0 VEHICLE MILES TRAVELED (VMT)

12.1 Background

In September 2013, the Governor's Office signed SB 743 into law, starting a process that fundamentally changes the way transportation impact analysis is conducted under CEQA. These changes include the elimination of auto delay, level of service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts. The justification for this paradigm shift is that Auto Delay/LOS impacts lead to improvements that increase roadway capacity and therefore induce more traffic and greenhouse gas emissions. The VMT standard for evaluating transportation impacts under CEQA became mandatory statewide on July 1, 2020.

Vehicle Miles Traveled (VMT) is defined as a measurement of miles traveled by vehicles within a specified region and for a specified time period. VMT is a measure of the use and efficiency of the transportation network. VMT's are calculated based on individual vehicle trips generated and their associated trip lengths. VMT accounts for two-way (round trip) travel and is typically estimated on a weekday for the purpose of measuring potential transportation impacts.

12.2 Methodology

Imperial County has not yet formally developed guidelines or adopted significance criteria or technical methodologies for VMT analysis. Therefore, LLG utilized the Governor's Office of Planning and Research (OPR) guidelines from the *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018 (included in ***Appendix I***), to develop technical methodologies for this Project.

The Project will generate trips from two distinct types of vehicles: heavy vehicles, which consist of the Project's feedstock and compost trucks, and employee passenger vehicles. Heavy vehicles and passenger vehicles are classified as different vehicle types in the OPR guidelines and are considered differently in regard to VMT analysis.

12.2.1 *Heavy Duty Vehicles*

Per OPR guidelines, "vehicle miles traveled" refers to the amount and distance of ***automobile*** travel attributable to a project. The OPR guidelines specifically state "The term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT)".

Additionally, the *Caltrans Transportation Analysis Framework,* 1st Edition (September 2020) (included in ***Appendix J***) defines Vehicle Miles Traveled as "The number of miles traveled by motor vehicles on roadways in a given area over a given time period". The *Caltrans Transportation Analysis Framework* continues to state, "VMT may be subdivided for reporting and analysis purposes into single occupant passenger vehicles (SOVs), high occupancy vehicles (HOV's), buses, trains, light duty trucks, and heavy-duty trucks … For a CEQA compliant transportation impact analysis, automobile VMT (cars and light trucks) may be evaluated".

Per the OPR guidelines, heavy vehicles *may* be included in assessments but are not required to be included. Furthermore, per the *Caltrans Transportation Analysis Framework*, CEQA-compliant analyses are to evaluate automobile VMT (cars and light trucks).

Therefore, the VMT analysis does not include trips from heavy-duty trucks and the trips generated by the Project's heavy-duty trucks are excluded from VMT analysis.

12.2.2 *Employee / Miscellaneous Passenger Vehicles*

Many agencies use "screening thresholds" to quickly identify when a project should be expected to cause a less-than-significant impact. OPR contains a screening threshold for small projects which states that, "absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact."

The Project's employee / miscellaneous passenger vehicles are calculated to generate 50 ADT, as shown in *Table 7-1*. Therefore, the employee / miscellaneous component of the Project can be considered a "small project", assumed to cause a less-than significant transportation impact per OPR guidelines.

12.3 VMT Conclusions

The trips generated by the Project's heavy-duty trucks are excluded from VMT analysis. The employee / miscellaneous component of the Project can be considered a "small project", assumed to cause a less-than significant transportation impact per OPR guidelines.

13.0 Conclusions

The capacity analyses performed for the key roadway segments and unsignalized and signalized intersections indicate that ***no substantial effects would occur*** with the addition of the project.

13.1 Transportation LOS Analysis

All of the intersections in the study area are calculated to continue to operate at LOS C or better during the AM and PM peak hours with the exception of the following intersection:

- Intersection #2: SR-111 / Cole Blvd, LOS E during the AM & PM peak hours
- Intersection #6: SR-111 / SR-98, LOS D during the AM & PM peak hours

The Project-related increase in the LOS delay for the above-listed intersections which operate at an unacceptable LOS in the pre-project condition is less than the threshold of 2.0 seconds. The Project is not calculated to result in a substantial effect to these two intersections and no improvements are required.

13.2 VMT Analysis

The project does not create a significant VMT transportation impact, and no mitigation measures are required.

13.3 Access

The following access related improvements are recommended:

1. Provide a westbound left-turn lane on SR-98 at Kemp Road.
2. Provide the following geometrics of the SR-98 / Kemp Road intersection.
    a. Northbound
        i. Stop controlled shared left-right lane
    b. Eastbound
        i. Shared through-right lane
    c. Westbound:
        i. Exclusive left-turn lane
        ii. Excusive through lane
3. Pave Kemp Road along the project frontage.

4. Prohibit trucks from utilizing SR-98 from the east to access the site. Trucks should be required to use Dogwood Road to ingress the site.

5. Prohibit trucks from using Kemp Road to access the site.

6. Provide the following geometrics at the SR-98 / Dogwood Road intersection. ***Figure 13-1*** illustrates the recommended improvements at the SR-98 / Dogwood Road intersection.

    a. Northbound

        i. Exclusive left-turn lane

        ii. Shared through-right lane

    b. Southbound

        i. Exclusive left-turn lane

        ii. Shared through-right lane

    c. Eastbound

        i. Exclusive left-turn lane

        ii. Shared through-right lane

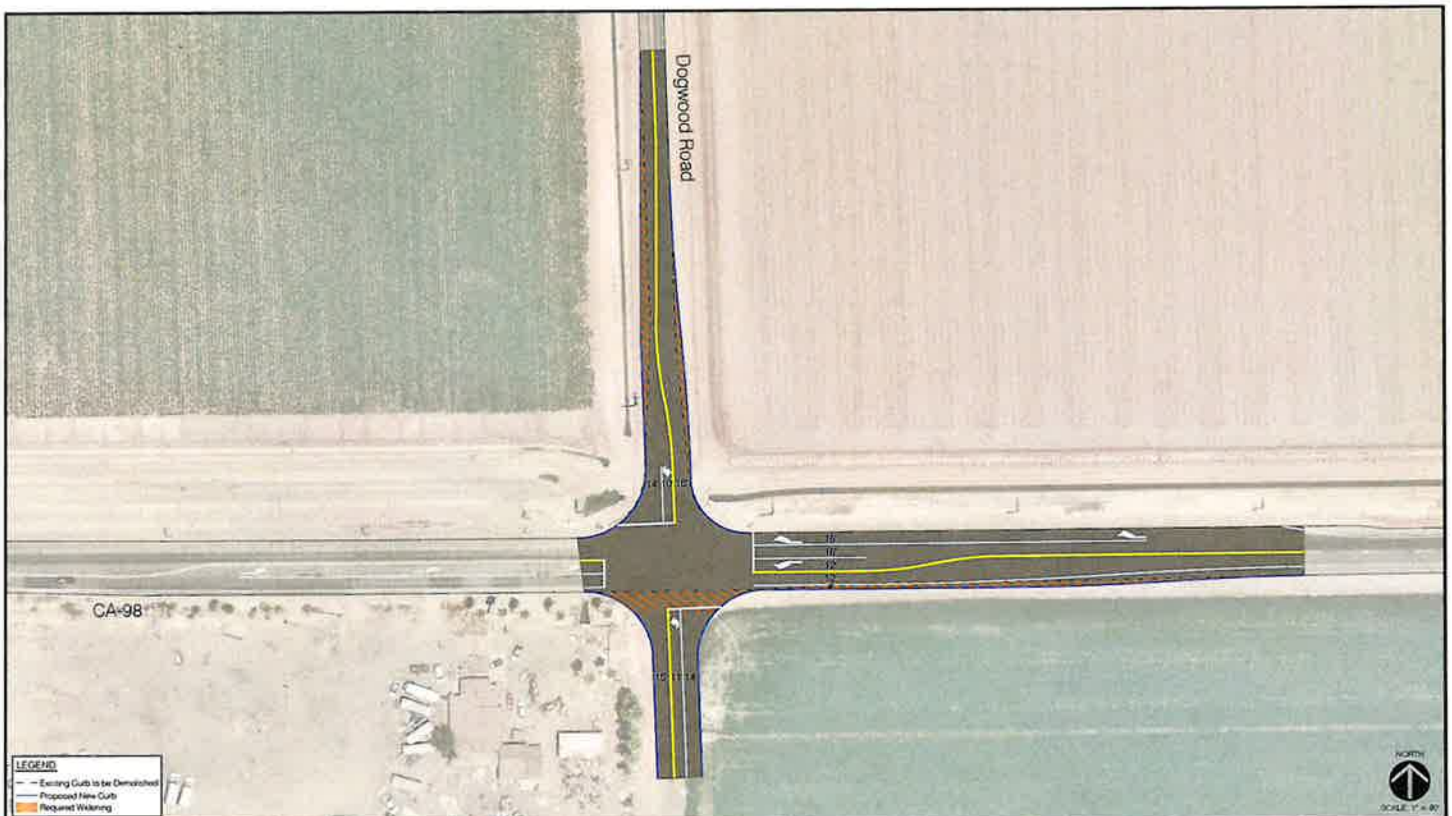
    d. Westbound

        i. Exclusive left-turn lane

        ii. Excusive through lane

        iii. Excusive right-turn lane

7. Prepare a Caltrans Intersection Control Evaluation (ICE) analysis at the SR-98 intersections at Dogwood Road and Kemp Road. The ICE will include the recommended design of the proposed improvements.



LINSCOTT LAW & GREENSPAN engineers

CONCEPTUAL ONLY
NOT FOR CONSTRUCTION

Figure 13-1

Recommended Improvements at SR-98 & Dogwood Road

CHARGER LOGISTICS PROJECT

EEC ORIGINAL PKG

PC ORIGINAL PKG

TECHNICAL APPENDICES

CHARGER LOGISTICS CAL-98 HOLDINGS PROJECT

County of Imperial, California
January 2024

LLG Ref. 3-22-3596

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858.300.8800 T
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APPENDIX A

INTERSECTION COUNT SHEETS

Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers		
Location:	#01	File Name: ITM-23-075-01
Intersection:	Dogwood Road & Cole Road	Project: LLG Ref. 3-23-3596
Date of Count:	Wednesday August 02, 2023	Charger Logistics Project

AM	Dogwood Road Southbound			Cole Road Westbound			Dogwood Road Northbound			Cole Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	8	16	0	5	0	7	0	24	0	0	0	0	60
7:15	17	18	0	1	0	10	0	57	0	0	0	0	103
7:30	5	19	0	1	0	14	0	48	2	0	1	0	90
7:45	20	27	0	1	1	18	0	42	1	1	0	0	111
8:00	12	17	0	2	0	6	0	24	2	0	0	0	63
8:15	16	22	0	3	1	13	0	45	0	1	0	0	101
8:30	11	35	1	1	0	11	0	38	2	1	0	0	100
8:45	13	34	0	1	0	9	0	45	1	0	0	0	103
Total	102	188	1	15	2	88	0	323	8	3	1	0	731
Approach%	35.1	64.6	0.3	14.3	1.9	83.8	-	97.6	2.4	75.0	25.0	-	
Total%	14.0	25.7	0.1	2.1	0.3	12.0	-	44.2	1.1	0.4	0.1	-	

AM Intersection Peak Hour: **07:45 to 08:45**

Volume	59	101	1	7	2	48	-	149	5	3	-	-	375
Approach%	36.6	62.7	0.6	12.3	3.5	84.2	-	96.8	3.2	100.0	-	-	
Total%	15.7	26.9	0.3	1.9	0.5	12.8	-	39.7	1.3	0.8	-	-	
PHF			0.86			0.71			0.86			0.75	0.84

PM	Dogwood Road Southbound			Cole Road Westbound			Dogwood Road Northbound			Cole Road Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	33	52	0	1	0	6	0	20	1	0	1	0	114
16:15	30	59	0	0	0	9	0	29	1	0	0	0	128
16:30	28	53	0	1	0	11	0	32	3	0	0	0	128
16:45	20	56	0	2	0	5	0	27	5	0	0	0	115
17:00	28	67	0	3	0	12	0	31	2	0	0	0	143
17:15	46	63	0	0	1	12	0	32	4	0	0	0	158
17:30	27	63	0	0	0	13	0	25	4	0	0	0	132
17:45	15	60	0	0	0	8	0	25	1	0	1	0	110
Total	227	473	0	7	1	76	0	221	21	0	2	0	1028
Approach%	32.4	67.6	-	8.3	1.2	90.5	-	91.3	8.7	-	100.0	-	
Total%	22.1	46.0	-	0.7	0.1	7.4	-	21.5	2.0	-	0.2	-	

PM Intersection Peak Hour: **16:45 to 17:45**

Volume	121	249	-	5	1	42	-	115	15	-	-	-	548
Approach%	32.7	67.3	-	10.4	2.1	87.5	-	88.5	11.5	-	-	-	
Total%	22.1	45.4	-	0.9	0.2	7.7	-	21.0	2.7	-	-	-	
PHF			0.85			0.80			0.90			#DIV/0!	0.87

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

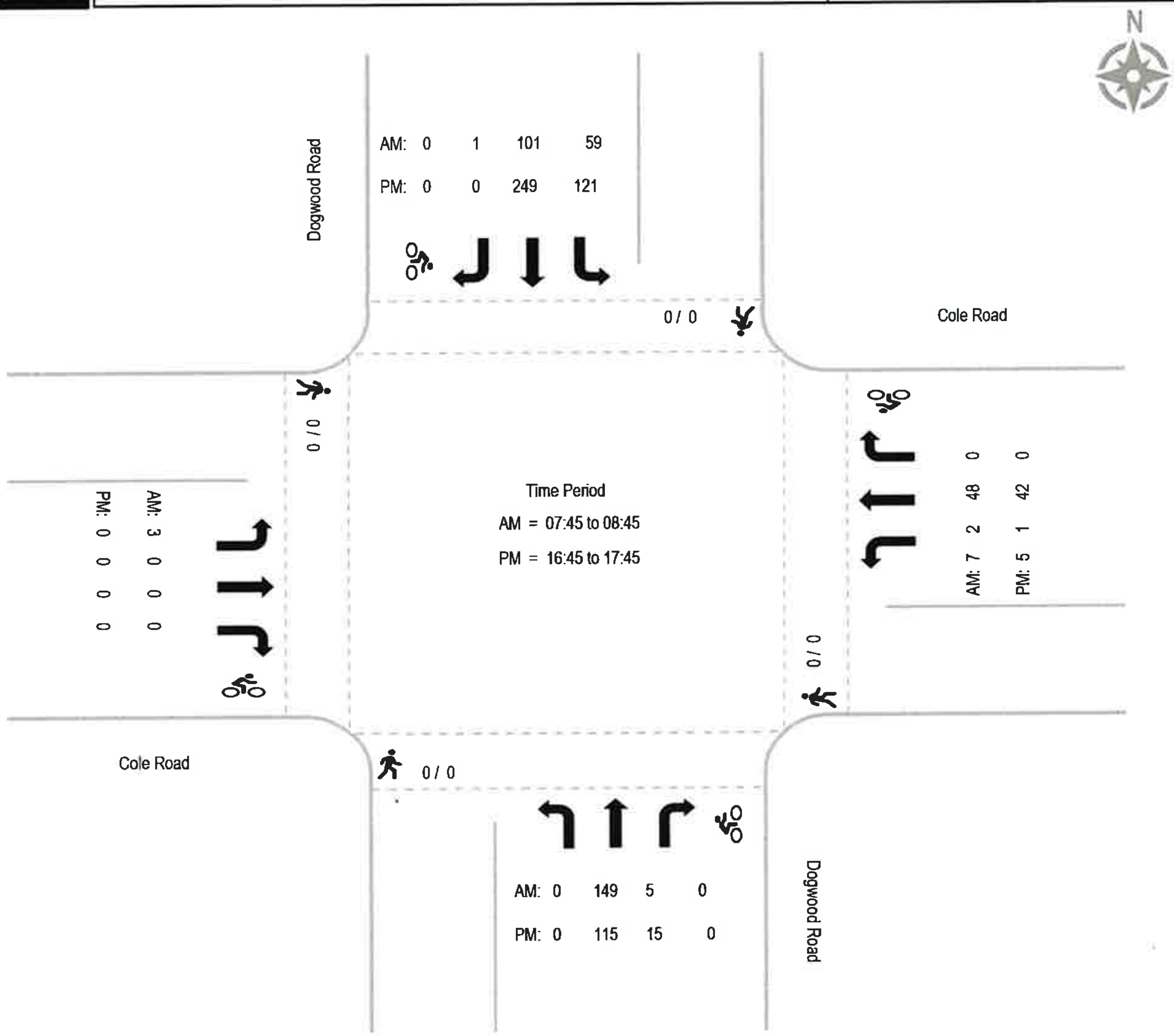
Location:	#01	File Name:	ITM-23-075-01
Intersection:	Dogwood Road & Cole Road	Project:	LLG Ref. 3-23-3596
Date of Count:	Wednesday August 02, 2023		Charger Logistics Project

AM	Dogwood Road Southbound				Cole Road Westbound				Dogwood Road Northbound				Cole Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Dogwood Road Southbound				Cole Road Westbound				Dogwood Road Northbound				Cole Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary

Location:	#01	File Name:	ITM-23-075-01
Intersection:	Dogwood Road & Cole Road	Project:	LLG Ref. 3-23-3596
Date of Count:	Wednesday August 02, 2023		Charger Logistics Project



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EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#02	File Name:	ITM-23-075-02
Intersection:	Dogwood Road & Birch Street (SR-98)	Project:	LLG Ref. 3-23-3596
Date of Count:	Wednesday August 02, 2023		Charger Logistics Project

AM	Dogwood Road Southbound			Birch Street (SR-98) Westbound			S-31 Northbound			Birch Street (SR-98) Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	15	0	6	0	30	29	0	0	0	1	9	0	90
7:15	16	0	3	0	41	47	0	0	0	5	23	0	135
7:30	18	0	1	0	35	51	0	0	0	6	19	0	130
7:45	19	0	8	0	51	33	0	0	0	4	24	0	139
8:00	18	0	1	0	39	26	0	0	0	3	26	0	113
8:15	21	0	3	0	29	37	0	0	0	4	21	0	115
8:30	29	0	7	0	30	40	0	0	0	4	25	0	135
8:45	28	0	6	0	34	44	0	0	0	2	29	0	143
Total	164	0	35	0	289	307	0	0	0	29	176	0	1000
Approach%	82.4	-	17.6	-	48.5	51.5	-	-	-	14.1	85.9	-	
Total%	16.4	-	3.5	-	28.9	30.7	-	-	-	2.9	17.6	-	

AM Intersection Peak Hour: **07:15 to 08:15**

	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Volume	71	-	13	-	166	157	-	-	-	18	92	-	517
Approach%	84.5	-	15.5	-	51.4	48.6	-	-	-	16.4	83.6	-	
Total%	13.7	-	2.5	-	32.1	30.4	-	-	-	3.5	17.8	-	
PHF			0.78			0.92			#DIV/0!			0.95	0.93

PM	Dogwood Road Southbound			Birch Street (SR-98) Westbound			S-31 Northbound			Birch Street (SR-98) Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	50	0	2	0	24	18	0	0	0	3	35	0	132
16:15	57	0	1	0	18	27	0	0	0	5	50	0	158
16:30	50	0	2	0	28	31	0	0	0	4	71	0	186
16:45	57	0	2	0	26	26	0	0	0	6	48	0	165
17:00	58	0	4	0	26	30	0	0	0	5	47	0	170
17:15	60	0	0	0	21	29	0	0	0	6	66	0	182
17:30	53	0	1	0	32	26	0	0	0	3	36	0	151
17:45	61	0	0	0	24	26	0	0	0	2	44	0	157
Total	446	0	12	0	199	213	0	0	0	34	397	0	1301
Approach%	97.4	-	2.6	-	48.3	51.7	-	-	-	7.9	92.1	-	
Total%	34.3	-	0.9	-	15.3	16.4	-	-	-	2.6	30.5	-	

PM Intersection Peak Hour: **16:30 to 17:30**

	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Volume	225	-	8	-	101	116	-	-	-	21	232	-	703
Approach%	96.6	-	3.4	-	46.5	53.5	-	-	-	8.3	91.7	-	
Total%	32.0	-	1.1	-	14.4	16.5	-	-	-	3.0	33.0	-	
PHF			0.94			0.92			#DIV/0!			0.84	0.94

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

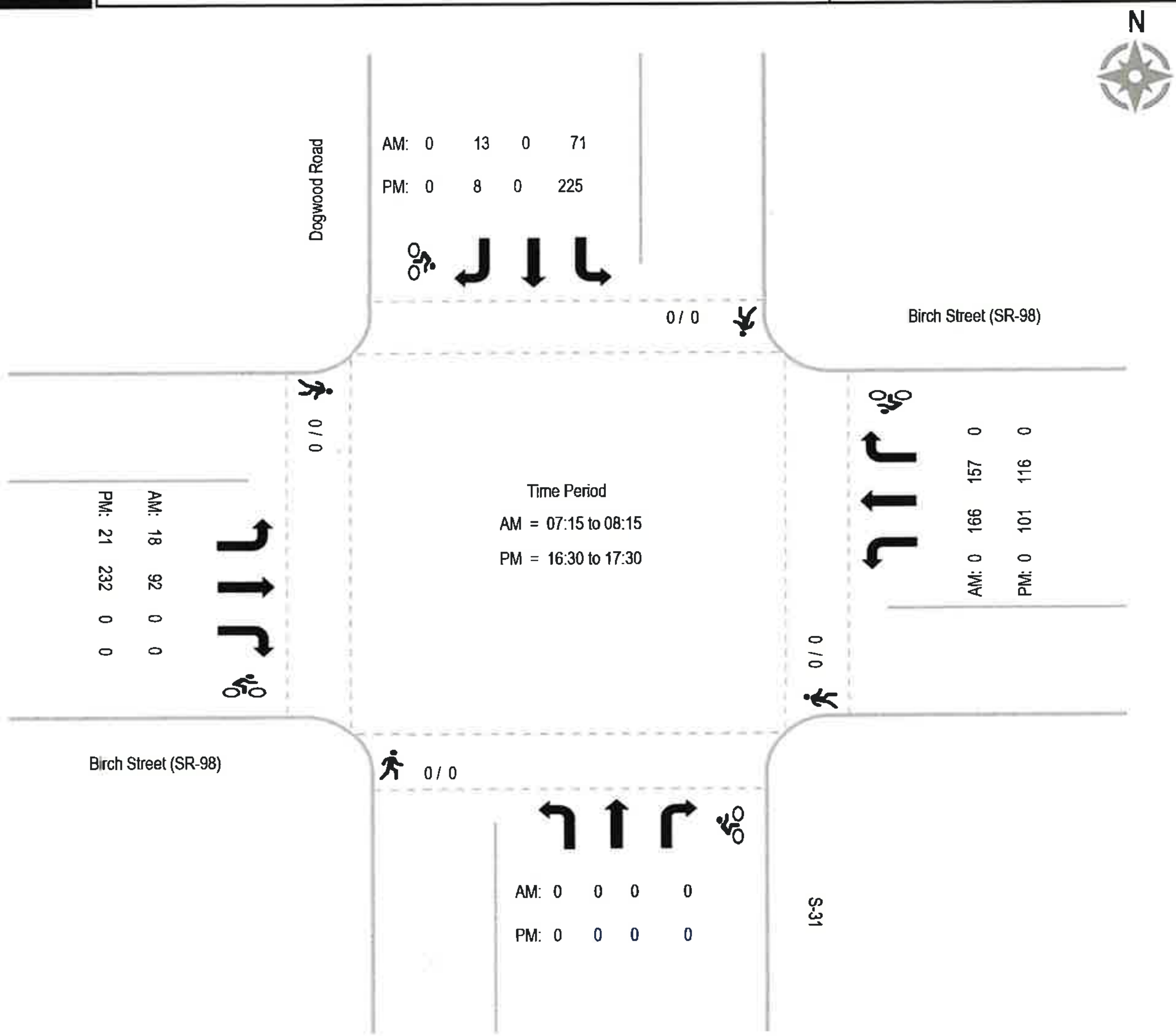
Location:	#02	File Name:	ITM-23-075-02
Intersection:	Dogwood Road & Birch Street (SR-98)	Project:	LLG Ref. 3-23-3596
Date of Count:	Wednesday August 02, 2023		Charger Logistics Project

AM	Dogwood Road Southbound				Birch Street (SR-98) Westbound				S-31 Northbound				Birch Street (SR-98) Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Dogwood Road Southbound				Birch Street (SR-98) Westbound				S-31 Northbound				Birch Street (SR-98) Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary

Location:	#02	File Name:	ITM-23-075-02
Intersection:	Dogwood Road & Birch Street (SR-98)	Project:	LLG Ref. 3-23-3596
Date of Count:	Wednesday August 02, 2023		Charger Logistics Project



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EEC ORIGINAL PKG

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

County of Imperial
N/S: Dogwood Road
E/W: Cole Road
Weather: Clear

File Name : 01_CIM_Dogwood_Cole_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Dogwood Road Southbound				Cole Road Westbound				Dogwood Road Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	7	0	1	8	1	0	2	3	0	3	0	3	14
07:15 AM	0	0	0	0	3	0	0	3	0	1	2	3	0	1	0	1	7
07:30 AM	0	1	0	1	2	1	0	3	0	0	1	1	0	3	0	3	8
07:45 AM	0	0	0	0	5	3	0	8	0	0	5	5	0	0	0	0	13
Total	0	1	0	1	17	4	1	22	1	1	10	12	0	7	0	7	42
08:00 AM	0	0	0	0	6	1	1	8	0	0	3	3	0	0	1	1	12
08:15 AM	0	0	1	1	7	0	1	8	0	0	2	2	0	1	0	1	12
08:30 AM	0	0	0	0	6	0	0	6	0	0	4	4	0	0	0	0	10
08:45 AM	1	0	0	1	3	0	2	5	0	0	7	7	0	0	0	0	13
Total	1	0	1	2	22	1	4	27	0	0	16	16	0	1	1	2	47
Grand Total	1	1	1	3	39	5	5	49	1	1	26	28	0	8	1	9	89
Apprch %	33.3	33.3	33.3		79.6	10.2	10.2		3.6	3.6	92.9		0	88.9	11.1		
Total %	1.1	1.1	1.1	3.4	43.8	5.6	5.6	55.1	1.1	1.1	29.2	31.5	0	9	1.1	10.1	

	Dogwood Road Southbound				Cole Road Westbound				Dogwood Road Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	5	**3**	0	**8**	0	0	**5**	**5**	0	0	0	0	**13**
08:00 AM	0	0	0	0	6	1	**1**	8	0	0	3	3	0	0	**1**	**1**	12
08:15 AM	0	0	**1**	**1**	**7**	0	1	8	0	0	2	2	0	**1**	0	1	12
08:30 AM	0	0	0	0	6	0	0	6	0	0	4	4	0	0	0	0	10
Total Volume	0	0	1	1	24	4	2	30	0	0	14	14	0	1	1	2	47
% App. Total	0	0	100		80	13.3	6.7		0	0	100		0	50	50		
PHF	.000	.000	.250	.250	.857	.333	.500	.938	.000	.000	.700	.700	.000	.250	.250	.500	.904

EEC ORIGINAL PKG

PC ORIGINAL PKG

Counts Unlimited, Inc.
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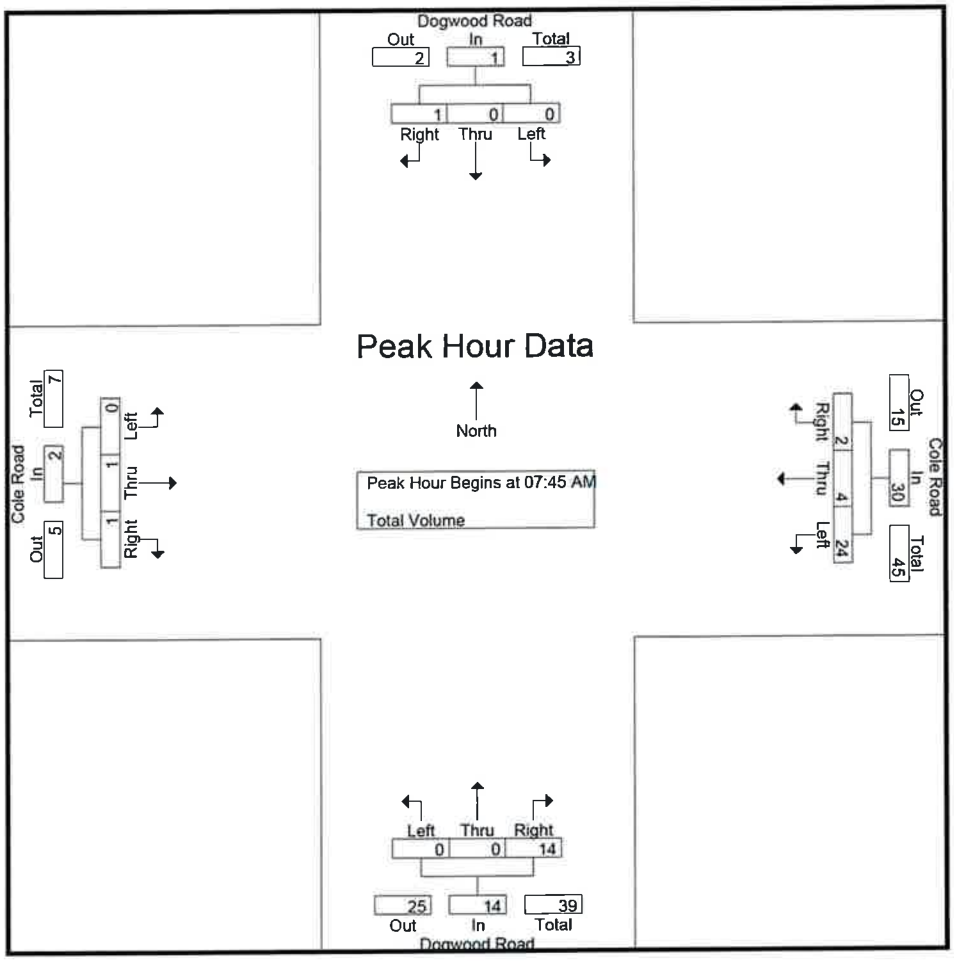
counts@countsunlimited.com

County of Imperial
N/S: Dogwood Road
E/W: Cole Road
Weather: Clear

File Name : 01_CIM_Dogwood_Cole_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				08:00 AM				07:00 AM			
+0 mins.	0	1	0	1	5	3	0	8	0	0	3	3	0	3	0	3
+15 mins.	0	0	0	0	6	1	1	8	0	0	2	2	0	1	0	1
+30 mins.	0	0	0	0	7	0	1	8	0	0	4	4	0	3	0	3
+45 mins.	0	0	1	1	6	0	0	6	0	0	7	7	0	0	0	0
Total Volume	0	1	1	2	24	4	2	30	0	0	16	16	0	7	0	7
% App. Total	0	50	50		80	13.3	6.7		0	0	100		0	100	0	
PHF	.000	.250	.250	.500	.857	.333	.500	.938	.000	.000	.571	.571	.000	.583	.000	.583

EEC ORIGINAL PKG

PC ORIGINAL PKG

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268
counts@countsunlimited.com

County of Imperial
N/S: Dogwood Road
E/W: Cole Road
Weather: Clear

File Name : 01_CIM_Dogwood_Cole_PM
Site Code : 05722648
Start Date : 6/28/2022

Groups Printed- Total Volume

	Dogwood Road Southbound				Cole Road Westbound				Dogwood Road Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	7	0	0	7	0	0	7	7	0	1	0	1	15
04:15 PM	0	0	0	0	1	0	0	1	1	0	3	4	0	1	0	1	6
04:30 PM	0	0	0	0	2	0	0	2	0	0	8	8	0	0	0	0	10
04:45 PM	0	0	0	0	2	0	0	2	1	0	7	8	0	0	0	0	10
Total	0	0	0	0	12	0	0	12	2	0	25	27	0	2	0	2	41
05:00 PM	0	0	0	0	3	0	0	3	0	0	2	2	0	0	0	0	5
05:15 PM	0	0	0	0	5	2	0	7	1	0	4	5	0	3	1	4	16
05:30 PM	0	0	0	0	1	0	0	1	0	0	4	4	0	0	0	0	5
05:45 PM	0	0	0	0	1	0	0	1	0	0	4	4	0	0	0	0	5
Total	0	0	0	0	10	2	0	12	1	0	14	15	0	3	1	4	31
Grand Total	0	0	0	0	22	2	0	24	3	0	39	42	0	5	1	6	72
Apprch %	0	0	0		91.7	8.3	0		7.1	0	92.9		0	83.3	16.7		
Total %	0	0	0	0	30.6	2.8	0	33.3	4.2	0	54.2	58.3	0	6.9	1.4	8.3	

	Dogwood Road Southbound				Cole Road Westbound				Dogwood Road Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	7	0	0	7	0	0	7	7	0	1	0	1	15
04:15 PM	0	0	0	0	1	0	0	1	1	0	3	4	0	1	0	1	6
04:30 PM	0	0	0	0	2	0	0	2	0	0	8	8	0	0	0	0	10
04:45 PM	0	0	0	0	2	0	0	2	1	0	7	8	0	0	0	0	10
Total Volume	0	0	0	0	12	0	0	12	2	0	25	27	0	2	0	2	41
% App. Total	0	0	0		100	0	0		7.4	0	92.6		0	100	0		
PHF	.000	.000	.000	.000	.429	.000	.000	.429	.500	.000	.781	.844	.000	.500	.000	.500	.683

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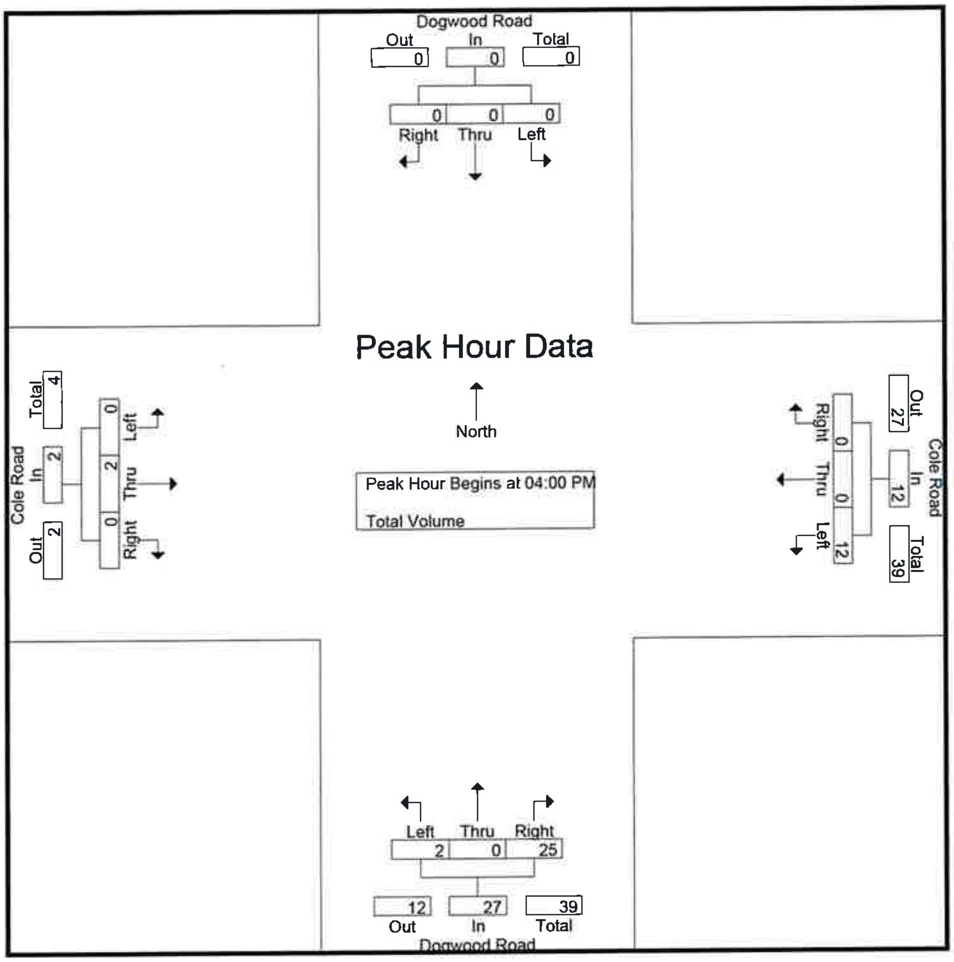
County of Imperial
N/S: Dogwood Road
E/W: Cole Road
Weather: Clear

File Name : 01_CIM_Dogwood_Cole_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:00 PM				04:30 PM			
+0 mins.	0	0	0	0	2	0	0	2	0	0	7	7	0	0	0	0
+15 mins.	0	0	0	0	2	0	0	2	1	0	3	4	0	0	0	0
+30 mins.	0	0	0	0	3	0	0	3	0	0	8	8	0	0	0	0
+45 mins.	0	0	0	0	5	2	0	7	1	0	7	8	0	3	1	4
Total Volume	0	0	0	0	12	2	0	14	2	0	25	27	0	3	1	4
% App. Total	0	0	0		85.7	14.3	0		7.4	0	92.6		0	75	25	
PHF	.000	.000	.000	.000	.600	.250	.000	.500	.500	.000	.781	.844	.000	.250	.250	.250

EEC ORIGINAL PKG

PC ORIGINAL PKG

Location: County of Imperial
N/S: Dogwood Road
E/W: Cole Road

Date: 6/28/2022
Day: Tuesday

PEDESTRIANS

	North Leg Dogwood Road	East Leg Cole Road	South Leg Dogwood Road	West Leg Cole Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Dogwood Road	East Leg Cole Road	South Leg Dogwood Road	West Leg Cole Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
951-268-6268

Location: County of Imperial
N/S: Dogwood Road
E/W: Cole Road

Date: 6/28/2022
Day: Tuesday

BICYCLES

	Southbound Dogwood Road			Westbound Cole Road			Northbound Dogwood Road			Eastbound Cole Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Dogwood Road			Westbound Cole Road			Northbound Dogwood Road			Eastbound Cole Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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counts@countsunlimited.com

County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Cole Road
Weather: Clear

File Name : 02_CIM_Imperial_Cole_AM
Site Code : 05722648
Start Date : 6/28/2022

Groups Printed- Total Volume

	Imperial Avenue (SR-111) Southbound				Cole Road Westbound				Imperial Avenue (SR-111) Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	33	83	27	143	21	32	66	119	8	128	34	170	41	26	7	74	506
07:15 AM	42	101	26	169	17	51	66	134	6	145	23	174	41	21	8	70	547
07:30 AM	49	132	33	214	31	51	85	167	12	197	20	229	68	37	1	106	716
07:45 AM	68	180	42	290	21	53	69	143	21	207	36	264	46	48	5	99	796
Total	192	496	128	816	90	187	286	563	47	677	113	837	196	132	21	349	2565
08:00 AM	36	107	32	175	22	56	77	155	13	153	23	189	39	51	9	99	618
08:15 AM	59	134	32	225	25	61	69	155	8	130	50	188	59	57	8	124	692
08:30 AM	38	154	29	221	20	46	66	132	14	161	30	205	40	57	10	107	665
08:45 AM	49	140	28	217	34	49	62	145	15	134	38	187	40	62	8	110	659
Total	182	535	121	838	101	212	274	587	50	578	141	769	178	227	35	440	2634
Grand Total	374	1031	249	1654	191	399	560	1150	97	1255	254	1606	374	359	56	789	5199
Apprch %	22.6	62.3	15.1		16.6	34.7	48.7		6	78.1	15.8		47.4	45.5	7.1		
Total %	7.2	19.8	4.8	31.8	3.7	7.7	10.8	22.1	1.9	24.1	4.9	30.9	7.2	6.9	1.1	15.2	

	Imperial Avenue (SR-111) Southbound				Cole Road Westbound				Imperial Avenue (SR-111) Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	49	132	33	214	**31**	51	**85**	**167**	12	197	20	229	**68**	37	1	106	716
07:45 AM	**68**	**180**	**42**	**290**	21	53	69	143	**21**	**207**	36	**264**	46	48	5	99	**796**
08:00 AM	36	107	32	175	22	56	77	155	13	153	23	189	39	51	**9**	99	618
08:15 AM	59	134	32	225	25	**61**	69	155	8	130	**50**	188	59	**57**	8	**124**	692
Total Volume	212	553	139	904	99	221	300	620	54	687	129	870	212	193	23	428	2822
% App. Total	23.5	61.2	15.4		16	35.6	48.4		6.2	79	14.8		49.5	45.1	5.4		
PHF	.779	.768	.827	.779	.798	.906	.882	.928	.643	.830	.645	.824	.779	.846	.639	.863	.886

EEC ORIGINAL PKG

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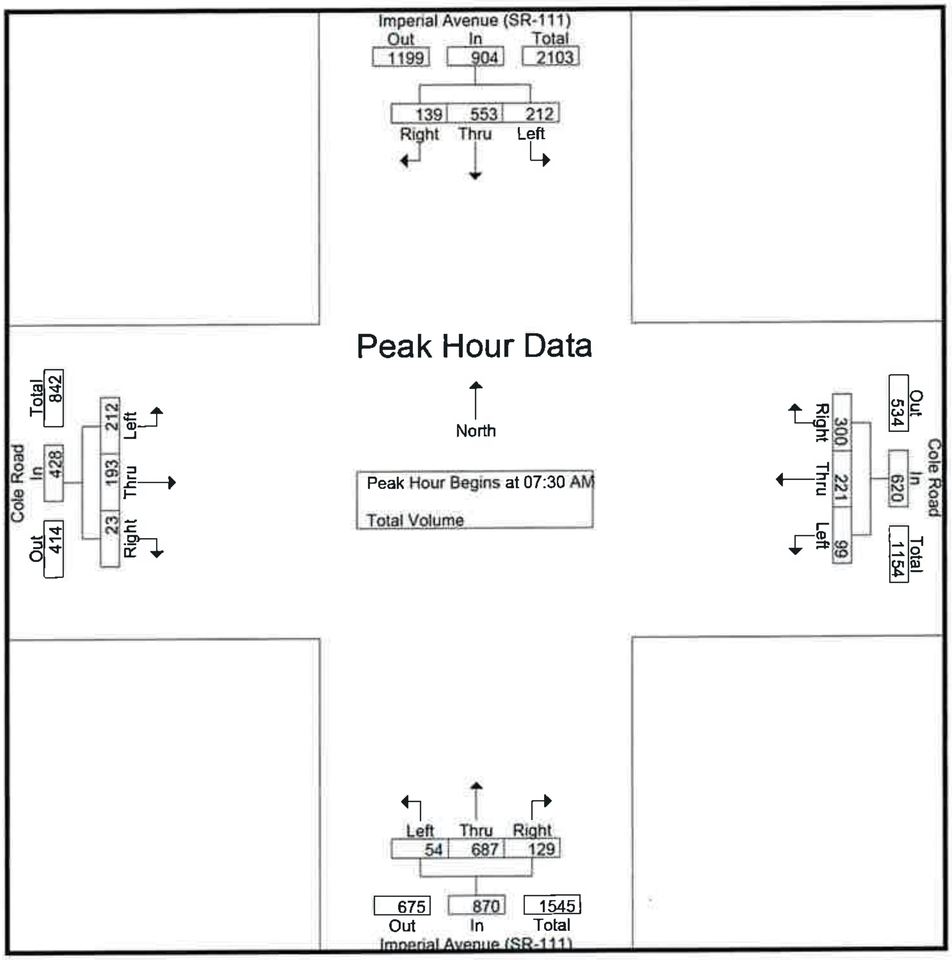
County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Cole Road
Weather: Clear

File Name : 02_CIM_Imperial_Cole_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				07:30 AM				08:00 AM			
+0 mins.	**68**	**180**	**42**	**290**	**31**	51	**85**	**167**	12	197	20	229	39	51	9	99
+15 mins.	36	107	32	175	21	53	69	143	**21**	**207**	36	**264**	**59**	57	8	**124**
+30 mins.	59	134	32	225	22	56	77	155	13	153	23	189	40	57	**10**	107
+45 mins.	38	154	29	221	25	**61**	69	155	8	130	**50**	188	40	**62**	8	110
Total Volume	201	575	135	911	99	221	300	620	54	687	129	870	178	227	35	440
% App. Total	22.1	63.1	14.8		16	35.6	48.4		6.2	79	14.8		40.5	51.6	8	
PHF	.739	.799	.804	.785	.798	.906	.882	.928	.643	.830	.645	.824	.754	.915	.875	.887

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County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Cole Road
Weather: Clear

File Name : 02_CIM_Imperial_Cole_PM
Site Code : 05722648
Start Date : 6/28/2022

Groups Printed- Total Volume

	Imperial Avenue (SR-111) Southbound				Cole Road Westbound				Imperial Avenue (SR-111) Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	89	222	61	372	46	58	46	150	18	168	52	238	38	88	17	143	903
04:15 PM	105	236	64	405	69	37	65	171	5	146	63	214	51	83	20	154	944
04:30 PM	89	215	54	358	58	54	60	172	12	168	48	228	42	88	20	150	908
04:45 PM	78	223	56	357	59	44	62	165	7	168	55	230	53	72	17	142	894
Total	361	896	235	1492	232	193	233	658	42	650	218	910	184	331	74	589	3649
05:00 PM	112	205	37	354	58	52	77	187	4	135	52	191	58	112	28	198	930
05:15 PM	106	219	58	383	54	56	65	175	13	151	42	206	47	71	15	133	897
05:30 PM	108	263	51	422	76	47	50	173	6	141	38	185	39	64	10	113	893
05:45 PM	110	225	60	395	50	40	58	148	10	153	54	217	50	74	10	134	894
Total	436	912	206	1554	238	195	250	683	33	580	186	799	194	321	63	578	3614
Grand Total	797	1808	441	3046	470	388	483	1341	75	1230	404	1709	378	652	137	1167	7263
Apprch %	26.2	59.4	14.5		35	28.9	36		4.4	72	23.6		32.4	55.9	11.7		
Total %	11	24.9	6.1	41.9	6.5	5.3	6.7	18.5	1	16.9	5.6	23.5	5.2	9	1.9	16.1	

	Imperial Avenue (SR-111) Southbound				Cole Road Westbound				Imperial Avenue (SR-111) Northbound				Cole Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	105	**236**	**64**	**405**	**69**	37	65	171	5	146	**63**	214	51	83	20	154	**944**
04:30 PM	89	215	54	358	58	**54**	60	172	**12**	**168**	48	228	42	88	20	150	908
04:45 PM	78	223	56	357	59	44	62	165	7	168	55	**230**	53	72	17	142	894
05:00 PM	**112**	205	37	354	58	52	**77**	**187**	4	135	52	191	**58**	**112**	**28**	**198**	930
Total Volume	384	879	211	1474	244	187	264	695	28	617	218	863	204	355	85	644	3676
% App. Total	26.1	59.6	14.3		35.1	26.9	38		3.2	71.5	25.3		31.7	55.1	13.2		
PHF	.857	.931	.824	.910	.884	.866	.857	.929	.583	.918	.865	.938	.879	.792	.759	.813	.974

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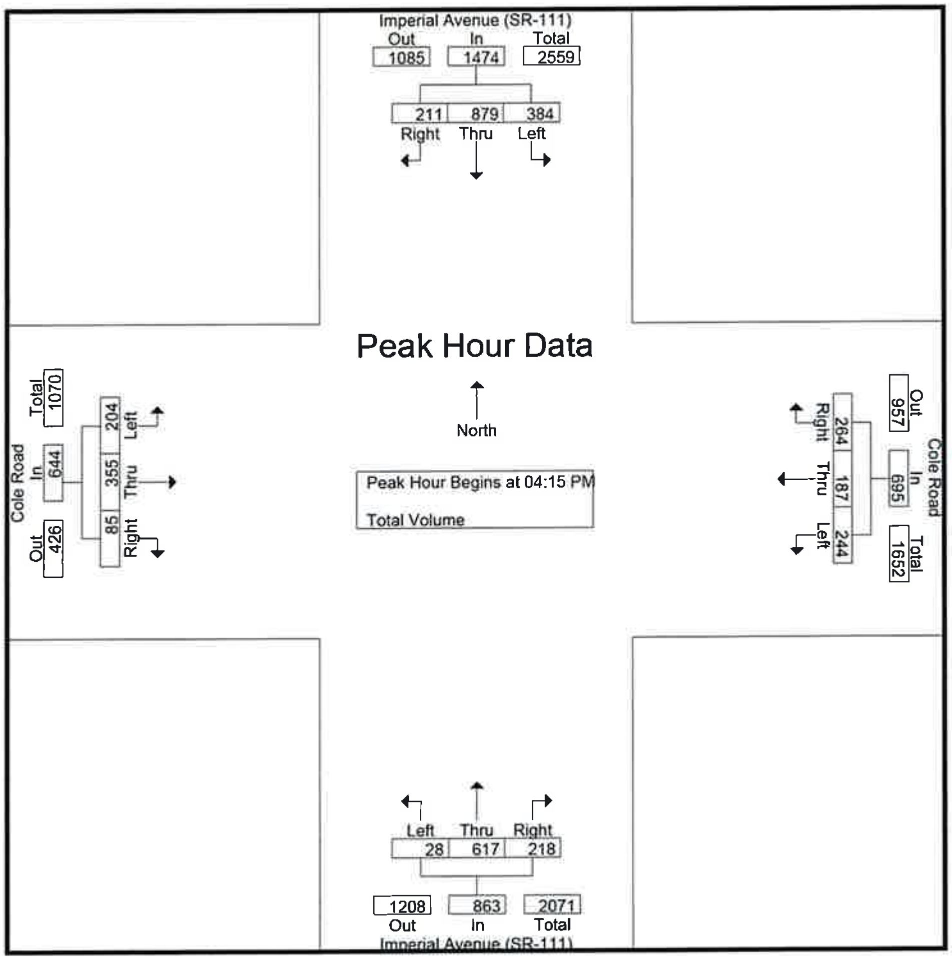
County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Cole Road
Weather: Clear

File Name : 02_CIM_Imperial_Cole_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:00 PM				04:15 PM			
+0 mins.	**112**	205	37	354	59	44	62	165	**18**	**168**	52	**238**	51	83	20	154
+15 mins.	106	219	58	383	58	52	**77**	**187**	5	146	**63**	214	42	88	20	150
+30 mins.	108	**263**	51	**422**	54	**56**	65	175	12	168	48	228	53	72	17	142
+45 mins.	110	225	**60**	395	**76**	47	50	173	7	168	55	230	**58**	**112**	**28**	**198**
Total Volume	436	912	206	1554	247	199	254	700	42	650	218	910	204	355	85	644
% App. Total	28.1	58.7	13.3		35.3	28.4	36.3		4.6	71.4	24		31.7	55.1	13.2	
PHF	.973	.867	.858	.921	.813	.888	.825	.936	.583	.967	.865	.956	.879	.792	.759	.813

EEC ORIGINAL PKG

PC ORIGINAL PKG

Location: County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Cole Road

Date: 6/28/2022
Day: Tuesday

PEDESTRIANS

	North Leg Imperial Avenue (SR-111)	East Leg Cole Road	South Leg Imperial Avenue (SR-111)	West Leg Cole Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	2	0	0	0	2
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	2	0	0	0	2
8:15 AM	0	0	0	0	0
8:30 AM	3	0	0	0	3
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	7	0	0	0	7

	North Leg Imperial Avenue (SR-111)	East Leg Cole Road	South Leg Imperial Avenue (SR-111)	West Leg Cole Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	1	1	1	1	4
4:45 PM	0	0	1	0	1
5:00 PM	1	1	0	0	2
5:15 PM	0	0	1	0	1
5:30 PM	2	0	0	0	2
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	4	2	3	1	10

Counts Unlimited, Inc.
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951-268-6268

EEC ORIGINAL PKG

PC ORIGINAL PKG

Location: County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Cole Road

Date: 6/28/2022
Day: Tuesday

BICYCLES

	Southbound Imperial Avenue (SR-111)			Westbound Cole Road			Northbound Imperial Avenue (SR-111)			Eastbound Cole Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	0	0	0	0	0	0	0	0	1

	Southbound Imperial Avenue (SR-111)			Westbound Cole Road			Northbound Imperial Avenue (SR-111)			Eastbound Cole Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	1	0	2

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County of Imperial
N/S: Cole Road
E/W: SR-98
Weather: Clear

File Name : 03_CIM_Cole_SR-98_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Cole Road Southbound			SR-98 Westbound			SR-98 Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	13	0	13	25	28	53	0	42	42	108
07:15 AM	21	1	22	47	35	82	0	46	46	150
07:30 AM	27	0	27	33	27	60	0	45	45	132
07:45 AM	29	0	29	43	37	80	0	47	47	156
Total	90	1	91	148	127	275	0	180	180	546
08:00 AM	39	0	39	31	28	59	0	56	56	154
08:15 AM	29	0	29	36	40	76	0	27	27	132
08:30 AM	24	0	24	36	40	76	0	31	31	131
08:45 AM	33	0	33	51	43	94	0	43	43	170
Total	125	0	125	154	151	305	0	157	157	587
Grand Total	215	1	216	302	278	580	0	337	337	1133
Apprch %	99.5	0.5		52.1	47.9		0	100		
Total %	19	0.1	19.1	26.7	24.5	51.2	0	29.7	29.7	

	Cole Road Southbound			SR-98 Westbound			SR-98 Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	21	**1**	22	**47**	35	**82**	0	46	46	150
07:30 AM	27	0	27	33	27	60	0	45	45	132
07:45 AM	29	0	29	43	**37**	80	0	47	47	**156**
08:00 AM	**39**	0	**39**	31	28	59	0	**56**	**56**	154
Total Volume	116	1	117	154	127	281	0	194	194	592
% App. Total	99.1	0.9		54.8	45.2		0	100		
PHF	.744	.250	.750	.819	.858	.857	.000	.866	.866	.949

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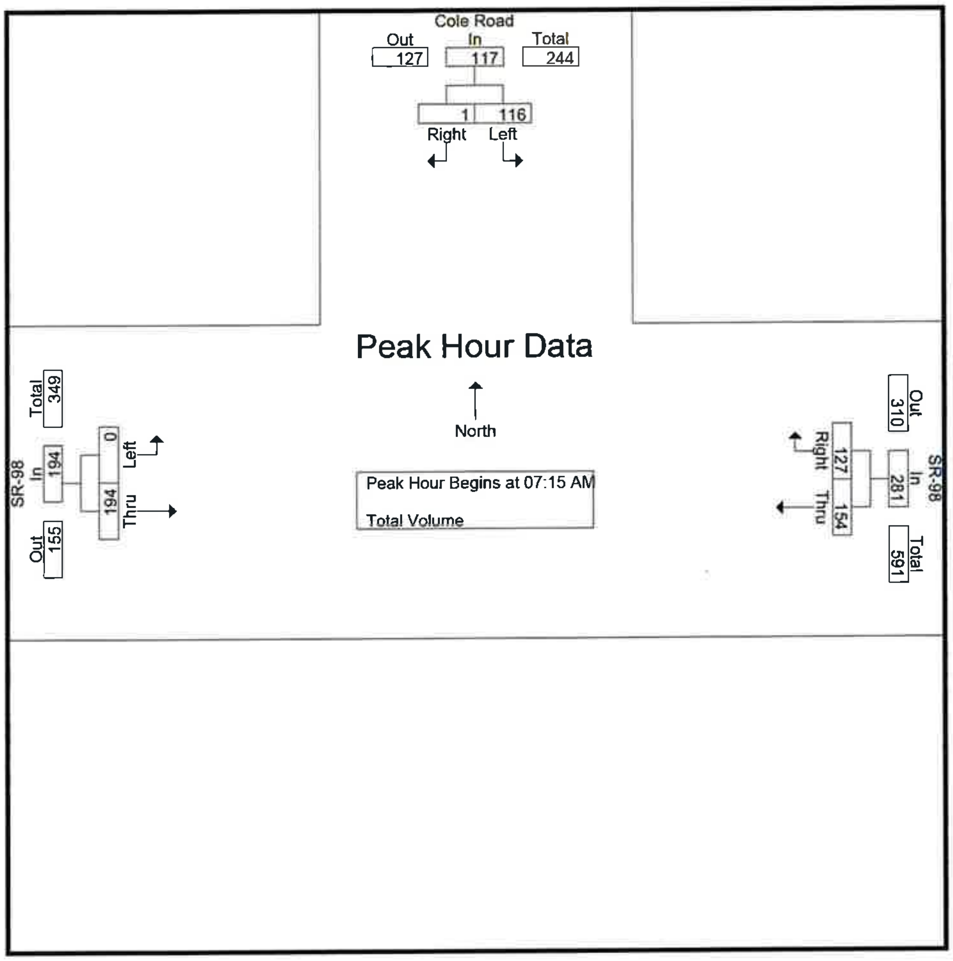
County of Imperial
N/S: Cole Road
E/W: SR-98
Weather: Clear

File Name : 03_CIM_Cole_SR-98_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			07:15 AM		
+0 mins.	**39**	0	**39**	31	28	59	0	46	46
+15 mins.	29	0	29	36	40	76	0	45	45
+30 mins.	24	0	24	36	40	76	0	47	47
+45 mins.	33	0	33	**51**	**43**	**94**	0	**56**	**56**
Total Volume	125	0	125	154	151	305	0	194	194
% App. Total	100	0		50.5	49.5		0	100	
PHF	.801	.000	.801	.755	.878	.811	.000	.866	.866

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County of Imperial
N/S: Cole Road
E/W: SR-98
Weather: Clear

File Name : 03_CIM_Cole_SR-98_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Cole Road Southbound			SR-98 Westbound			SR-98 Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	43	1	44	72	49	121	0	42	42	207
04:15 PM	58	0	58	70	50	120	0	46	46	224
04:30 PM	46	0	46	67	52	119	0	51	51	216
04:45 PM	32	0	32	56	58	114	0	40	40	186
Total	179	1	180	265	209	474	0	179	179	833
05:00 PM	52	1	53	73	48	121	0	27	27	201
05:15 PM	50	1	51	70	42	112	0	37	37	200
05:30 PM	65	1	66	50	47	97	0	37	37	200
05:45 PM	46	0	46	57	42	99	0	35	35	180
Total	213	3	216	250	179	429	0	136	136	781
Grand Total	392	4	396	515	388	903	0	315	315	1614
Apprch %	99	1		57	43		0	100		
Total %	24.3	0.2	24.5	31.9	24	55.9	0	19.5	19.5	

	Cole Road Southbound			SR-98 Westbound			SR-98 Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	43	**1**	44	**72**	49	**121**	0	42	**42**	207
04:15 PM	**58**	0	**58**	70	50	120	0	46	46	**224**
04:30 PM	46	0	46	67	52	119	0	**51**	**51**	216
04:45 PM	32	0	32	56	**58**	114	0	40	40	186
Total Volume	179	1	180	265	209	474	0	179	179	833
% App. Total	99.4	0.6		55.9	44.1		0	100		
PHF	.772	.250	.776	.920	.901	.979	.000	.877	.877	.930

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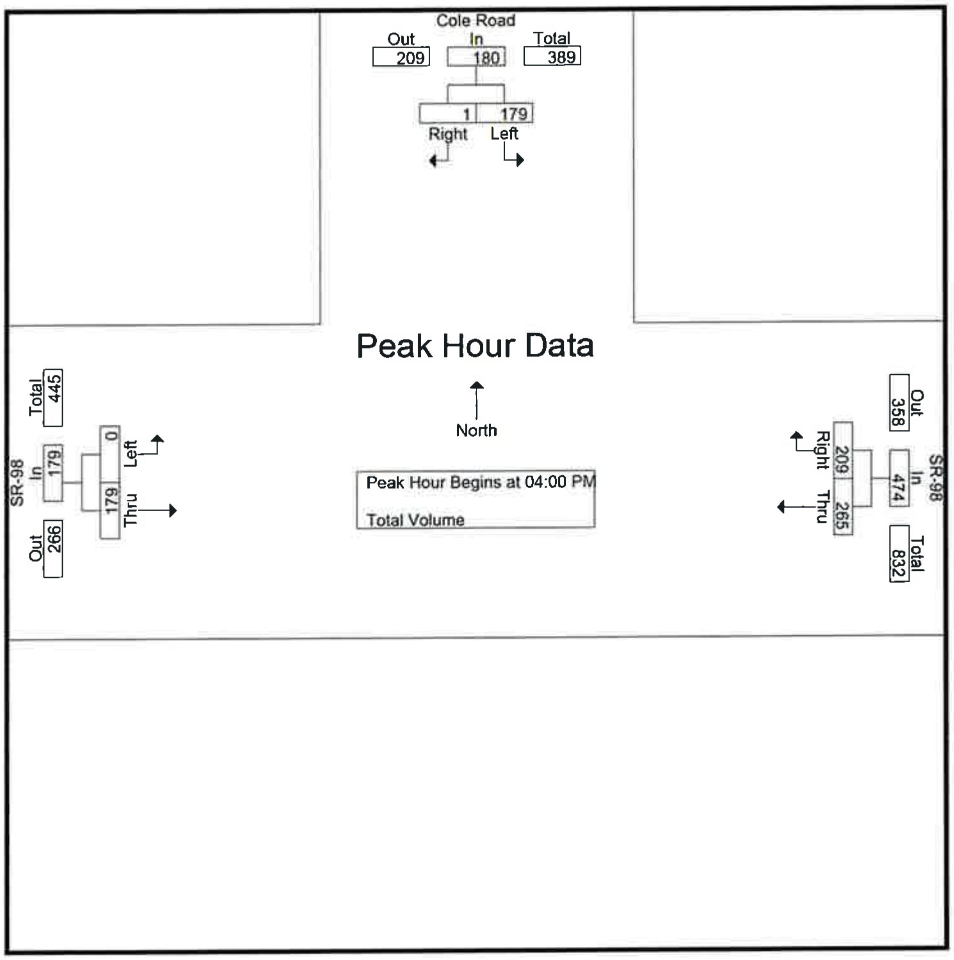
County of Imperial
N/S: Cole Road
E/W: SR-98
Weather: Clear

File Name : 03_CIM_Cole_SR-98_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:	05:00 PM			04:00 PM			04:00 PM		
+0 mins.	52	**1**	53	**72**	49	**121**	0	42	42
+15 mins.	50	1	51	70	50	120	0	46	46
+30 mins.	**65**	1	**66**	67	52	119	0	**51**	**51**
+45 mins.	46	0	46	56	**58**	114	0	40	40
Total Volume	213	3	216	265	209	474	0	179	179
% App. Total	98.6	1.4		55.9	44.1		0	100	
PHF	.819	.750	.818	.920	.901	.979	.000	.877	.877

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Location: County of Imperial
N/S: Cole Road
E/W: SR-98

Date: 6/28/2022
Day: Tuesday

PEDESTRIANS

	North Leg Cole Road Pedestrians	East Leg SR-98 Pedestrians	South Leg Cole Road Pedestrians	West Leg SR-98 Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Cole Road Pedestrians	East Leg SR-98 Pedestrians	South Leg Cole Road Pedestrians	West Leg SR-98 Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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PC ORIGINAL PKG

Location: County of Imperial
N/S: Cole Road
E/W: SR-98

Date: 6/28/2022
Day: Tuesday

BICYCLES

	Southbound Cole Road			Westbound SR-98			Northbound Cole Road			Eastbound SR-98			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Cole Road			Westbound SR-98			Northbound Cole Road			Eastbound SR-98			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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County of Imperial
N/S: SR-7
E/W: SR-98
Weather: Clear

File Name : 04_CIM_SR-7_SR-98_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	SR-7 Southbound				SR-98 Westbound				SR-7 Northbound				SR-98 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	17	10	31	6	11	0	17	3	61	10	74	4	15	14	33	155
07:15 AM	2	38	5	45	7	8	0	15	4	72	11	87	4	14	17	35	182
07:30 AM	3	44	8	55	6	8	1	15	16	55	5	76	5	9	14	28	174
07:45 AM	2	63	14	79	4	11	1	16	10	43	8	61	7	7	33	47	203
Total	11	162	37	210	23	38	2	63	33	231	34	298	20	45	78	143	714
08:00 AM	0	37	4	41	3	5	1	9	11	26	6	43	18	11	40	69	162
08:15 AM	1	37	7	45	5	8	2	15	15	30	9	54	6	7	17	30	144
08:30 AM	1	32	8	41	9	11	1	21	20	36	5	61	5	12	14	31	154
08:45 AM	0	37	8	45	4	11	3	18	10	47	4	61	9	13	33	55	179
Total	2	143	27	172	21	35	7	63	56	139	24	219	38	43	104	185	639
Grand Total	13	305	64	382	44	73	9	126	89	370	58	517	58	88	182	328	1353
Apprch %	3.4	79.8	16.8		34.9	57.9	7.1		17.2	71.6	11.2		17.7	26.8	55.5		
Total %	1	22.5	4.7	28.2	3.3	5.4	0.7	9.3	6.6	27.3	4.3	38.2	4.3	6.5	13.5	24.2	

	SR-7 Southbound				SR-98 Westbound				SR-7 Northbound				SR-98 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	2	38	5	45	**7**	8	0	15	4	**72**	**11**	**87**	4	**14**	17	35	182
07:30 AM	**3**	44	8	55	6	8	**1**	15	**16**	55	5	76	5	9	14	28	174
07:45 AM	2	**63**	**14**	**79**	4	**11**	1	**16**	10	43	8	61	7	7	33	47	**203**
08:00 AM	0	37	4	41	3	5	1	9	11	26	6	43	**18**	11	**40**	**69**	162
Total Volume	7	182	31	220	20	32	3	55	41	196	30	267	34	41	104	179	721
% App. Total	3.2	82.7	14.1		36.4	58.2	5.5		15.4	73.4	11.2		19	22.9	58.1		
PHF	.583	.722	.554	.696	.714	.727	.750	.859	.641	.681	.682	.767	.472	.732	.650	.649	.888

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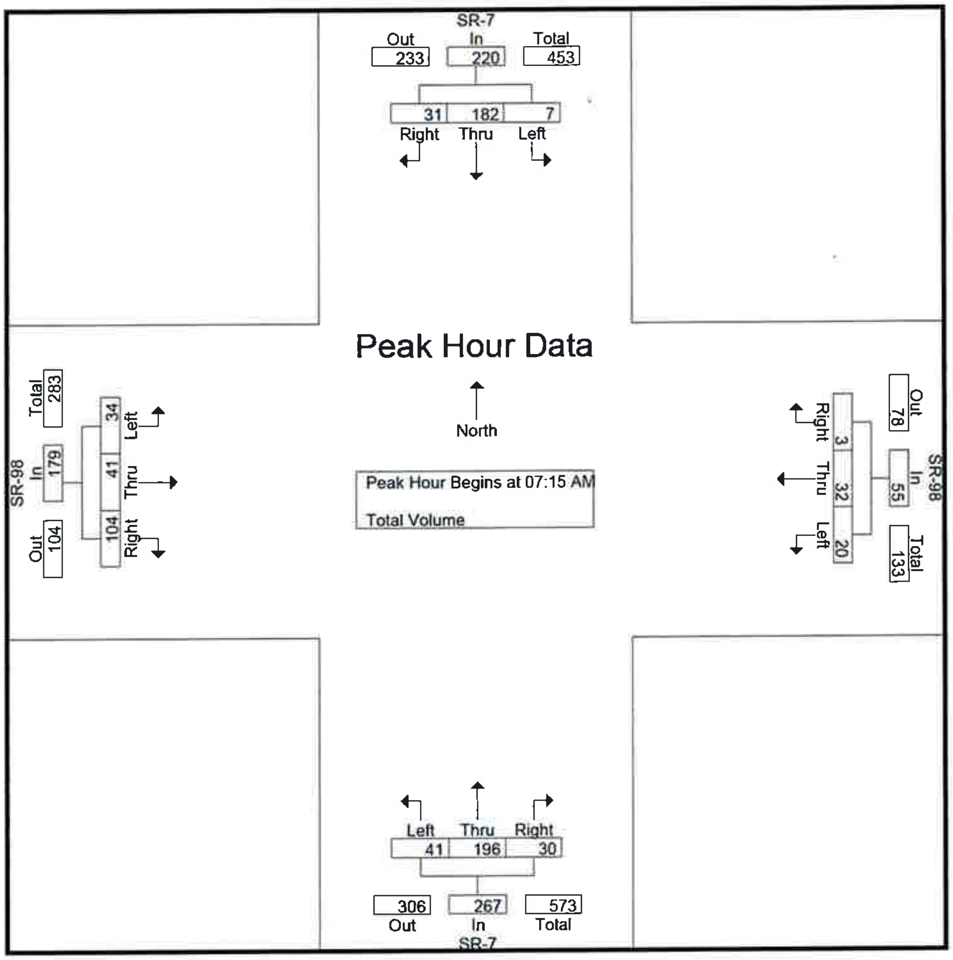
County of Imperial
N/S: SR-7
E/W: SR-98
Weather: Clear

File Name : 04_CIM_SR-7_SR-98_AM
Site Code : 05722648
Start Date : 6/28/2022



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:00 AM				08:00 AM			
+0 mins.	2	38	5	45	6	11	0	17	3	61	10	74	18	11	40	69
+15 mins.	3	44	8	55	7	8	0	15	4	72	11	87	6	7	17	30
+30 mins.	2	63	14	79	6	8	1	15	16	55	5	76	5	12	14	31
+45 mins.	0	37	4	41	4	11	1	16	10	43	8	61	9	13	33	55
Total Volume	7	182	31	220	23	38	2	63	33	231	34	298	38	43	104	185
% App. Total	3.2	82.7	14.1		36.5	60.3	3.2		11.1	77.5	11.4		20.5	23.2	56.2	
PHF	.583	.722	.554	.696	.821	.864	.500	.926	.516	.802	.773	.856	.528	.827	.650	.670

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County of Imperial
N/S: SR-7
E/W: SR-98
Weather: Clear

File Name : 04_CIM_SR-7_SR-98_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	SR-7 Southbound				SR-98 Westbound				SR-7 Northbound				SR-98 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	46	10	57	15	29	0	44	13	51	7	71	8	20	26	54	226
04:15 PM	2	71	11	84	9	11	5	25	17	80	9	106	13	20	23	56	271
04:30 PM	1	59	10	70	16	17	4	37	16	57	9	82	7	10	25	42	231
04:45 PM	0	50	16	66	13	9	0	22	23	62	7	92	8	12	18	38	218
Total	4	226	47	277	53	66	9	128	69	250	32	351	36	62	92	190	946
05:00 PM	0	60	15	75	13	14	1	28	42	63	7	112	7	14	20	41	256
05:15 PM	2	63	10	75	9	17	1	27	14	57	9	80	8	11	16	35	217
05:30 PM	0	61	14	75	12	16	0	28	13	56	9	78	12	13	16	41	222
05:45 PM	0	52	6	58	8	19	1	28	17	49	4	70	7	18	23	48	204
Total	2	236	45	283	42	66	3	111	86	225	29	340	34	56	75	165	899
Grand Total	6	462	92	560	95	132	12	239	155	475	61	691	70	118	167	355	1845
Apprch %	1.1	82.5	16.4		39.7	55.2	5		22.4	68.7	8.8		19.7	33.2	47		
Total %	0.3	25	5	30.4	5.1	7.2	0.7	13	8.4	25.7	3.3	37.5	3.8	6.4	9.1	19.2	

	SR-7 Southbound				SR-98 Westbound				SR-7 Northbound				SR-98 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**2**	**71**	11	**84**	9	11	**5**	25	17	**80**	**9**	106	**13**	**20**	23	**56**	**271**
04:30 PM	1	59	10	70	**16**	**17**	4	**37**	16	57	9	82	7	10	**25**	42	231
04:45 PM	0	50	**16**	66	13	9	0	22	23	62	7	92	8	12	18	38	218
05:00 PM	0	60	15	75	13	14	1	28	**42**	63	7	**112**	7	14	20	41	256
Total Volume	3	240	52	295	51	51	10	112	98	262	32	392	35	56	86	177	976
% App. Total	1	81.4	17.6		45.5	45.5	8.9		25	66.8	8.2		19.8	31.6	48.6		
PHF	.375	.845	.813	.878	.797	.750	.500	.757	.583	.819	.889	.875	.673	.700	.860	.790	.900

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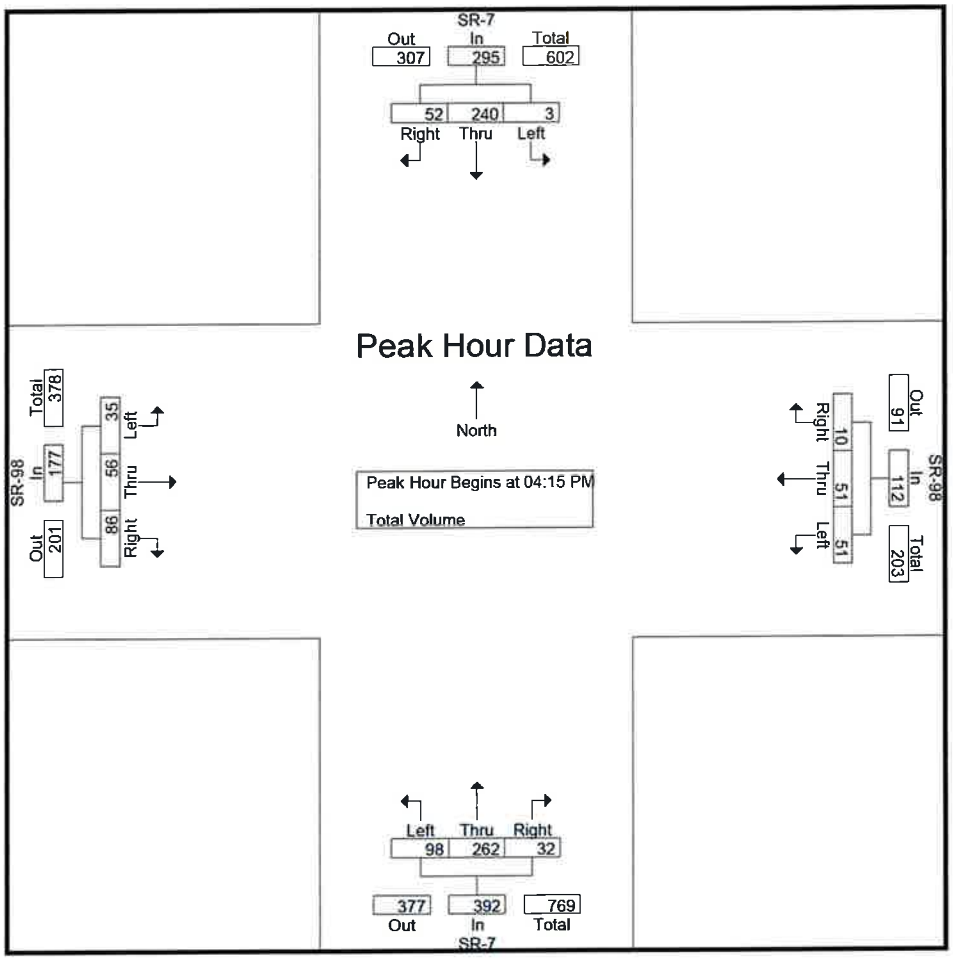
County of Imperial
N/S: SR-7
E/W: SR-98
Weather: Clear

File Name : 04_CIM_SR-7_SR-98_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:15 PM				04:00 PM			
+0 mins.	**2**	**71**	11	**84**	15	**29**	0	**44**	17	**80**	**9**	106	8	**20**	**26**	54
+15 mins.	1	59	10	70	9	11	**5**	25	16	57	9	82	**13**	20	23	**56**
+30 mins.	0	50	**16**	66	**16**	17	4	37	23	62	7	92	7	10	25	42
+45 mins.	0	60	15	75	13	9	0	22	**42**	63	7	**112**	8	12	18	38
Total Volume	3	240	52	295	53	66	9	128	98	262	32	392	36	62	92	190
% App. Total	1	81.4	17.6		41.4	51.6	7		25	66.8	8.2		18.9	32.6	48.4	
PHF	.375	.845	.813	.878	.828	.569	.450	.727	.583	.819	.889	.875	.692	.775	.885	.848

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Location:	County of Imperial
N/S:	SR-7
E/W:	SR-98

Date: 6/28/2022
Day: Tuesday

PEDESTRIANS

	North Leg SR-7	East Leg SR-98	South Leg SR-7	West Leg SR-98	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg SR-7	East Leg SR-98	South Leg SR-7	West Leg SR-98	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Counts Unlimited, Inc.
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951-268-6268

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Location: County of Imperial
N/S: SR-7
E/W: SR-98

Date: 6/28/2022
Day: Tuesday

BICYCLES

	Southbound SR-7			Westbound SR-98			Northbound SR-7			Eastbound SR-98			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	1	1

	Southbound SR-7			Westbound SR-98			Northbound SR-7			Eastbound SR-98			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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County of Imperial
N/S: Dogwood Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 05_CIM_Dogwood_Birch_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Dogwood Road Southbound				Birch Street (SR-98) Westbound				Dogwood Road Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	0	6	7	0	41	1	42	0	0	0	0	2	10	0	12	61
07:15 AM	0	0	3	3	0	59	1	60	0	0	0	0	2	24	0	26	89
07:30 AM	0	0	3	3	0	58	0	58	1	0	0	1	2	35	0	37	99
07:45 AM	0	0	4	4	0	55	0	55	0	0	0	0	3	26	0	29	88
Total	1	0	16	17	0	213	2	215	1	0	0	1	9	95	0	104	337
08:00 AM	0	0	5	5	0	43	1	44	0	0	0	0	2	16	0	18	67
08:15 AM	1	0	3	4	0	43	0	43	0	0	0	0	1	28	0	29	76
08:30 AM	0	0	5	5	0	43	0	43	0	0	0	0	4	21	0	25	73
08:45 AM	0	0	3	3	0	34	5	39	0	0	0	0	3	22	0	25	67
Total	1	0	16	17	0	163	6	169	0	0	0	0	10	87	0	97	283
Grand Total	2	0	32	34	0	376	8	384	1	0	0	1	19	182	0	201	620
Apprch %	5.9	0	94.1		0	97.9	2.1		100	0	0		9.5	90.5	0		
Total %	0.3	0	5.2	5.5	0	60.6	1.3	61.9	0.2	0	0	0.2	3.1	29.4	0	32.4	

	Dogwood Road Southbound				Birch Street (SR-98) Westbound				Dogwood Road Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	3	3	0	**59**	**1**	**60**	0	0	0	0	2	24	0	26	89
07:30 AM	0	0	3	3	0	58	0	58	**1**	0	0	**1**	2	**35**	0	**37**	**99**
07:45 AM	0	0	4	4	0	55	0	55	0	0	0	0	**3**	26	0	29	88
08:00 AM	0	0	**5**	**5**	0	43	1	44	0	0	0	0	2	16	0	18	67
Total Volume	0	0	15	15	0	215	2	217	1	0	0	1	9	101	0	110	343
% App. Total	0	0	100		0	99.1	0.9		100	0	0		8.2	91.8	0		
PHF	.000	.000	.750	.750	.000	.911	.500	.904	.250	.000	.000	.250	.750	.721	.000	.743	.866

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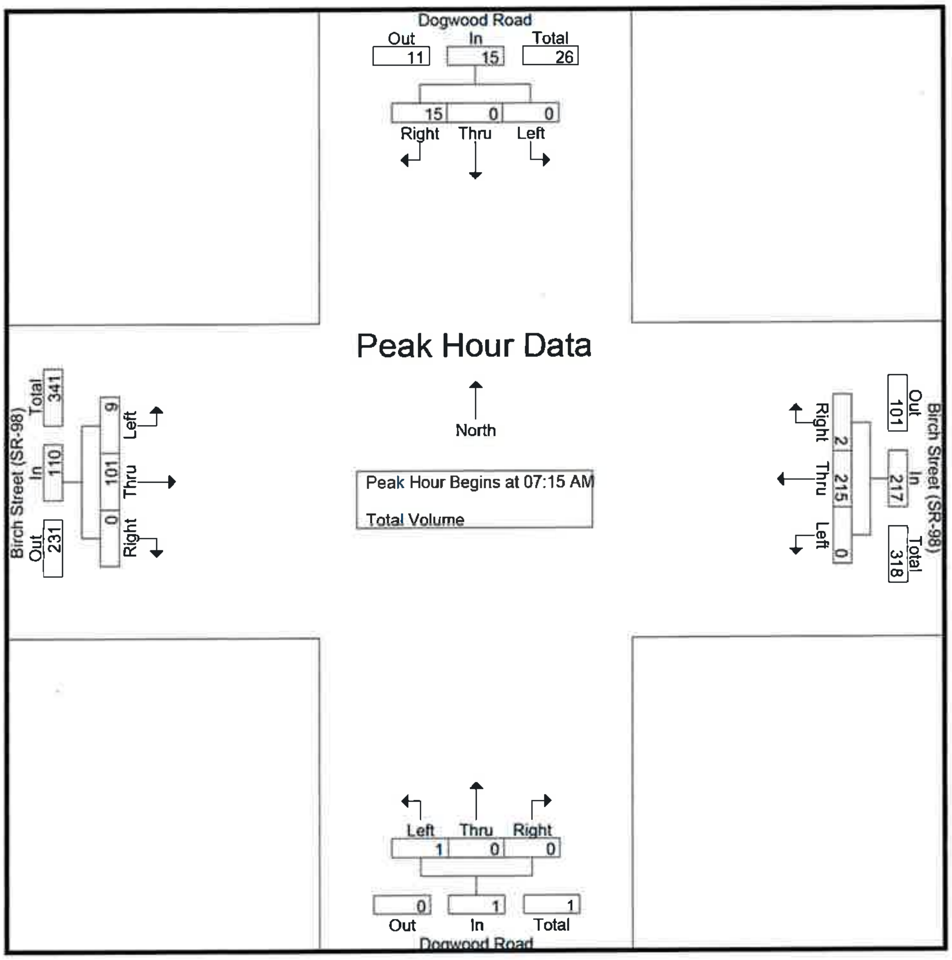
County of Imperial
N/S: Dogwood Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 05_CIM_Dogwood_Birch_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:15 AM				07:00 AM				07:30 AM			
+0 mins.	0	0	4	4	0	59	1	60	0	0	0	0	2	35	0	37
+15 mins.	0	0	5	5	0	58	0	58	0	0	0	0	3	26	0	29
+30 mins.	1	0	3	4	0	55	0	55	1	0	0	1	2	16	0	18
+45 mins.	0	0	5	5	0	43	1	44	0	0	0	0	1	28	0	29
Total Volume	1	0	17	18	0	215	2	217	1	0	0	1	8	105	0	113
% App. Total	5.6	0	94.4		0	99.1	0.9		100	0	0		7.1	92.9	0	
PHF	.250	.000	.850	.900	.000	.911	.500	.904	.250	.000	.000	.250	.667	.750	.000	.764

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County of Imperial
N/S: Dogwood Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 05_CIM_Dogwood_Birch_PM
Site Code : 05722648
Start Date : 6/28/2022

Groups Printed- Total Volume

	Dogwood Road Southbound				Birch Street (SR-98) Westbound				Dogwood Road Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	2	2	0	19	1	20	0	0	0	0	4	50	0	54	76
04:15 PM	0	0	1	1	0	24	4	28	0	0	0	0	0	61	0	61	90
04:30 PM	0	0	1	1	0	37	5	42	0	0	0	0	3	44	0	47	90
04:45 PM	0	0	3	3	0	12	5	17	0	0	0	0	4	59	0	63	83
Total	0	0	7	7	0	92	15	107	0	0	0	0	11	214	0	225	339
05:00 PM	0	0	2	2	0	24	1	25	0	0	0	0	2	65	1	68	95
05:15 PM	0	0	4	4	0	28	3	31	0	0	0	0	1	65	0	66	101
05:30 PM	0	0	1	1	0	35	2	37	0	0	0	0	2	67	0	69	107
05:45 PM	0	0	1	1	0	21	3	24	0	0	0	0	2	56	0	58	83
Total	0	0	8	8	0	108	9	117	0	0	0	0	7	253	1	261	386
Grand Total	0	0	15	15	0	200	24	224	0	0	0	0	18	467	1	486	725
Apprch %	0	0	100		0	89.3	10.7		0	0	0		3.7	96.1	0.2		
Total %	0	0	2.1	2.1	0	27.6	3.3	30.9	0	0	0	0	2.5	64.4	0.1	67	

	Dogwood Road Southbound				Birch Street (SR-98) Westbound				Dogwood Road Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	3	3	0	12	**5**	17	0	0	0	0	**4**	59	0	63	83
05:00 PM	0	0	2	2	0	24	1	25	0	0	0	0	2	65	**1**	68	95
05:15 PM	0	0	**4**	**4**	0	28	3	31	0	0	0	0	1	65	0	66	101
05:30 PM	0	0	1	1	0	**35**	2	**37**	0	0	0	0	2	**67**	0	**69**	**107**
Total Volume	0	0	10	10	0	99	11	110	0	0	0	0	9	256	1	266	386
% App. Total	0	0	100		0	90	10		0	0	0		3.4	96.2	0.4		
PHF	.000	.000	.625	.625	.000	.707	.550	.743	.000	.000	.000	.000	.563	.955	.250	.964	.902

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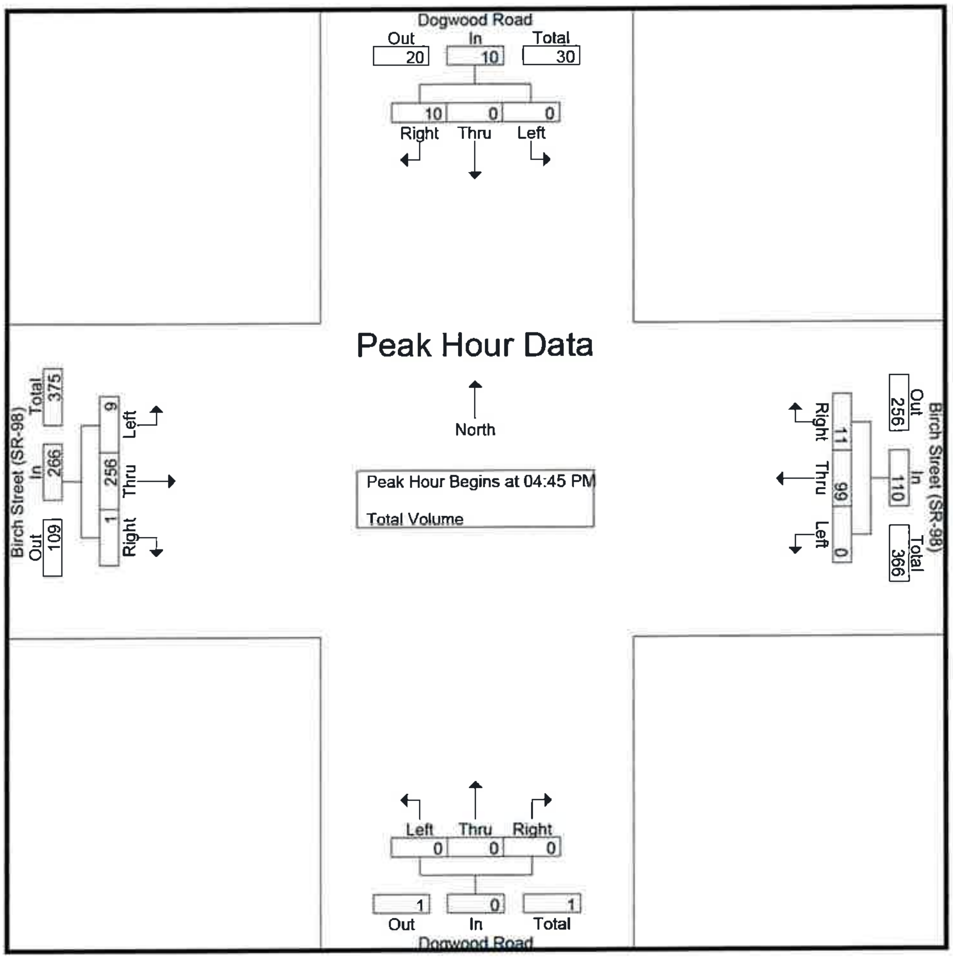
County of Imperial
N/S: Dogwood Road
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 05_CIM_Dogwood_Birch_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				05:00 PM				04:00 PM				04:45 PM			
+0 mins.	0	0	1	1	0	24	1	25	0	0	0	0	**4**	59	0	63
+15 mins.	0	0	3	3	0	28	**3**	31	0	0	0	0	2	65	**1**	68
+30 mins.	0	0	2	2	0	**35**	2	**37**	0	0	0	0	1	65	0	66
+45 mins.	0	0	**4**	**4**	0	21	3	24	0	0	0	0	2	**67**	0	**69**
Total Volume	0	0	10	10	0	108	9	117	0	0	0	0	9	256	1	266
% App. Total	0	0	100		0	92.3	7.7		0	0	0		3.4	96.2	0.4	
PHF	.000	.000	.625	.625	.000	.771	.750	.791	.000	.000	.000	.000	.563	.955	.250	.964

EEC ORIGINAL PKG

PC ORIGINAL PKG

Location: County of Imperial
N/S: Dogwood Road
E/W: Birch Street (SR-98)

Date: 6/28/2022
Day: Tuesday

PEDESTRIANS

	North Leg Dogwood Road	East Leg Birch Street (SR-98)	South Leg Dogwood Road	West Leg Birch Street (SR-98)	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Dogwood Road	East Leg Birch Street (SR-98)	South Leg Dogwood Road	West Leg Birch Street (SR-98)	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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EEC ORIGINAL PKG

PC ORIGINAL PKG

Location: County of Imperial
N/S: Dogwood Road
E/W: Birch Street (SR-98)

Date: 6/28/2022
Day: Tuesday

BICYCLES

	Southbound Dogwood Road			Westbound Birch Street (SR-98)			Northbound Dogwood Road			Eastbound Birch Street (SR-98)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Dogwood Road			Westbound Birch Street (SR-98)			Northbound Dogwood Road			Eastbound Birch Street (SR-98)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 06_CIM_Imperial_Birch_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Imperial Avenue (SR-111) Southbound				Birch Street (SR-98) Westbound				Imperial Avenue (SR-111) Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	14	70	14	98	27	41	59	127	21	94	23	138	23	22	4	49	412
07:15 AM	21	81	29	131	20	59	49	128	15	111	19	145	30	38	2	70	474
07:30 AM	24	121	25	170	16	61	84	161	30	129	18	177	16	47	3	66	574
07:45 AM	57	101	26	184	42	102	67	211	30	116	27	173	16	63	3	82	650
Total	116	373	94	583	105	263	259	627	96	450	87	633	85	170	12	267	2110
08:00 AM	33	87	29	149	30	102	57	189	42	133	25	200	18	55	4	77	615
08:15 AM	30	101	33	164	24	78	50	152	28	106	29	163	22	24	2	48	527
08:30 AM	29	137	23	189	47	59	53	159	32	116	11	159	27	38	5	70	577
08:45 AM	40	126	31	197	37	76	48	161	29	116	22	167	26	40	10	76	601
Total	132	451	116	699	138	315	208	661	131	471	87	689	93	157	21	271	2320
Grand Total	248	824	210	1282	243	578	467	1288	227	921	174	1322	178	327	33	538	4430
Apprch %	19.3	64.3	16.4		18.9	44.9	36.3		17.2	69.7	13.2		33.1	60.8	6.1		
Total %	5.6	18.6	4.7	28.9	5.5	13	10.5	29.1	5.1	20.8	3.9	29.8	4	7.4	0.7	12.1	

	Imperial Avenue (SR-111) Southbound				Birch Street (SR-98) Westbound				Imperial Avenue (SR-111) Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**57**	101	26	184	42	**102**	**67**	**211**	30	116	27	173	16	**63**	3	**82**	**650**
08:00 AM	33	87	29	149	30	102	57	189	**42**	**133**	25	**200**	18	55	4	77	615
08:15 AM	30	101	**33**	164	24	78	50	152	28	106	**29**	163	22	24	2	48	527
08:30 AM	29	**137**	23	**189**	**47**	59	53	159	32	116	11	159	**27**	38	**5**	70	577
Total Volume	149	426	111	686	143	341	227	711	132	471	92	695	83	180	14	277	2369
% App. Total	21.7	62.1	16.2		20.1	48	31.9		19	67.8	13.2		30	65	5.1		
PHF	.654	.777	.841	.907	.761	.836	.847	.842	.786	.885	.793	.869	.769	.714	.700	.845	.911

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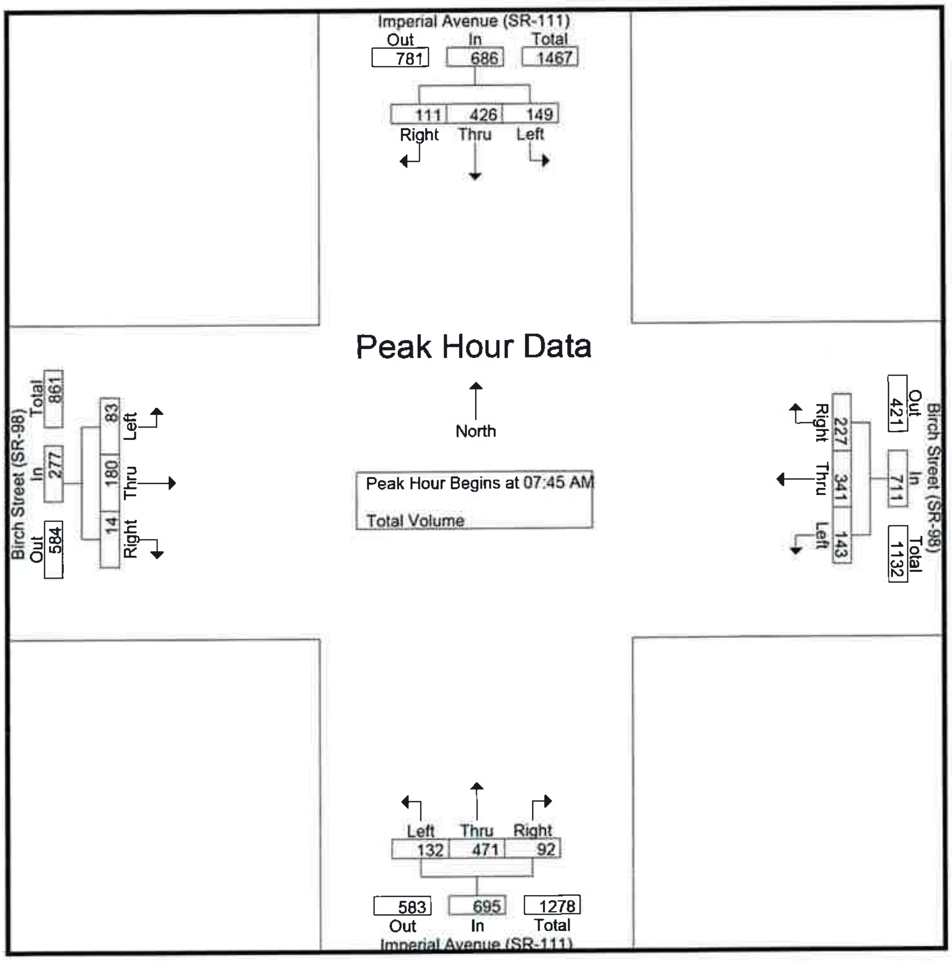
County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 06_CIM_Imperial_Birch_AM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:30 AM				07:15 AM			
+0 mins.	33	87	29	149	16	61	**84**	161	30	129	18	177	**30**	38	2	70
+15 mins.	30	101	**33**	164	**42**	**102**	67	**211**	30	116	27	173	16	47	3	66
+30 mins.	29	**137**	23	189	30	102	57	189	**42**	**133**	25	**200**	16	**63**	3	**82**
+45 mins.	**40**	126	31	**197**	24	78	50	152	28	106	**29**	163	18	55	**4**	77
Total Volume	132	451	116	699	112	343	258	713	130	484	99	713	80	203	12	295
% App. Total	18.9	64.5	16.6		15.7	48.1	36.2		18.2	67.9	13.9		27.1	68.8	4.1	
PHF	.825	.823	.879	.887	.667	.841	.768	.845	.774	.910	.853	.891	.667	.806	.750	.899

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County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Birch Street (SR-98)
Weather: Clear

File Name : 06_CIM_Imperial_Birch_PM
Site Code : 05722648
Start Date : 6/28/2022
Page No : 1

Groups Printed- Total Volume

	Imperial Avenue (SR-111) Southbound				Birch Street (SR-98) Westbound				Imperial Avenue (SR-111) Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	41	191	63	295	48	67	43	158	23	144	32	199	31	58	7	96	748
04:15 PM	57	228	59	344	42	60	36	138	23	170	31	224	30	44	10	84	790
04:30 PM	50	204	59	313	45	63	50	158	27	153	31	211	23	33	11	67	749
04:45 PM	34	205	50	289	34	51	33	118	22	156	34	212	33	54	7	94	713
Total	182	828	231	1241	169	241	162	572	95	623	128	846	117	189	35	341	3000
05:00 PM	49	195	67	311	48	75	57	180	24	119	23	166	34	38	8	80	737
05:15 PM	39	195	65	299	38	66	34	138	18	133	41	192	28	58	4	90	719
05:30 PM	48	234	60	342	48	65	24	137	21	123	24	168	24	39	7	70	717
05:45 PM	40	187	54	281	35	62	30	127	19	121	27	167	32	53	5	90	665
Total	176	811	246	1233	169	268	145	582	82	496	115	693	118	188	24	330	2838
Grand Total	358	1639	477	2474	338	509	307	1154	177	1119	243	1539	235	377	59	671	5838
Apprch %	14.5	66.2	19.3		29.3	44.1	26.6		11.5	72.7	15.8		35	56.2	8.8		
Total %	6.1	28.1	8.2	42.4	5.8	8.7	5.3	19.8	3	19.2	4.2	26.4	4	6.5	1	11.5	

	Imperial Avenue (SR-111) Southbound				Birch Street (SR-98) Westbound				Imperial Avenue (SR-111) Northbound				Birch Street (SR-98) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	41	191	**63**	295	**48**	**67**	43	**158**	23	144	32	199	31	**58**	7	**96**	748
04:15 PM	**57**	**228**	59	**344**	42	60	36	138	23	**170**	31	**224**	30	44	10	84	**790**
04:30 PM	50	204	59	313	45	63	**50**	158	**27**	153	31	211	23	33	**11**	67	749
04:45 PM	34	205	50	289	34	51	33	118	22	156	**34**	212	**33**	54	7	94	713
Total Volume	182	828	231	1241	169	241	162	572	95	623	128	846	117	189	35	341	3000
% App. Total	14.7	66.7	18.6		29.5	42.1	28.3		11.2	73.6	15.1		34.3	55.4	10.3		
PHF	.798	.908	.917	.902	.880	.899	.810	.905	.880	.916	.941	.944	.886	.815	.795	.888	.949

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County of Imperial
N/S: Imperial Avenue (SR-111)
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Weather: Clear

File Name : 06_CIM_Imperial_Birch_PM
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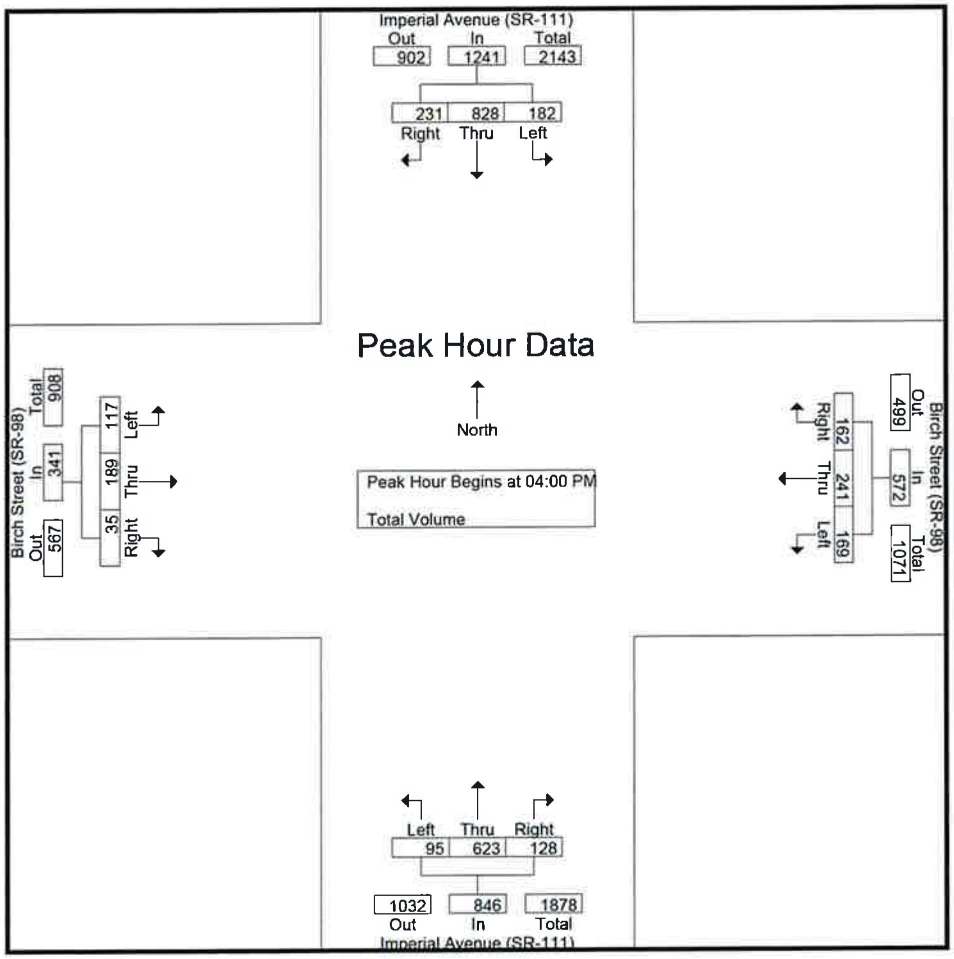
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:00 PM				04:00 PM			
+0 mins.	**57**	**228**	59	**344**	42	60	36	138	23	144	32	199	31	**58**	7	**96**
+15 mins.	50	204	59	313	45	63	50	158	23	**170**	31	**224**	30	44	10	84
+30 mins.	34	205	50	289	34	51	33	118	**27**	153	31	211	23	33	**11**	67
+45 mins.	49	195	**67**	311	**48**	**75**	**57**	**180**	22	156	**34**	212	**33**	54	7	94
Total Volume	190	832	235	1257	169	249	176	594	95	623	128	846	117	189	35	341
% App. Total	15.1	66.2	18.7		28.5	41.9	29.6		11.2	73.6	15.1		34.3	55.4	10.3	
PHF	.833	.912	.877	.914	.880	.830	.772	.825	.880	.916	.941	.944	.886	.815	.795	.888

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Location: County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Birch Street (SR-98)

Date: 6/28/2022
Day: Tuesday

PEDESTRIANS

	North Leg Imperial Avenue (SR-111)	East Leg Birch Street (SR-98)	South Leg Imperial Avenue (SR-111)	West Leg Birch Street (SR-98)	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	1	0	0	0	1
7:15 AM	3	2	0	1	6
7:30 AM	0	0	0	0	0
7:45 AM	1	0	0	0	1
8:00 AM	0	0	0	0	0
8:15 AM	2	0	0	0	2
8:30 AM	2	0	0	0	2
8:45 AM	1	1	0	0	2
TOTAL VOLUMES:	10	3	0	1	14

	North Leg Imperial Avenue (SR-111)	East Leg Birch Street (SR-98)	South Leg Imperial Avenue (SR-111)	West Leg Birch Street (SR-98)	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	1	0	0	1	2
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	1	1
5:00 PM	0	0	0	0	0
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	1	0	2	4

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EEC ORIGINAL PKG

PC ORIGINAL PKG

Location: County of Imperial
N/S: Imperial Avenue (SR-111)
E/W: Birch Street (SR-98)

Date: 6/28/2022
Day: Tuesday

BICYCLES

	Southbound Imperial Avenue (SR-111)			Westbound Birch Street (SR-98)			Northbound Imperial Avenue (SR-111)			Eastbound Birch Street (SR-98)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES:	1	0	0	0	0	0	0	1	0	0	2	0	4

	Southbound Imperial Avenue (SR-111)			Westbound Birch Street (SR-98)			Northbound Imperial Avenue (SR-111)			Eastbound Birch Street (SR-98)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

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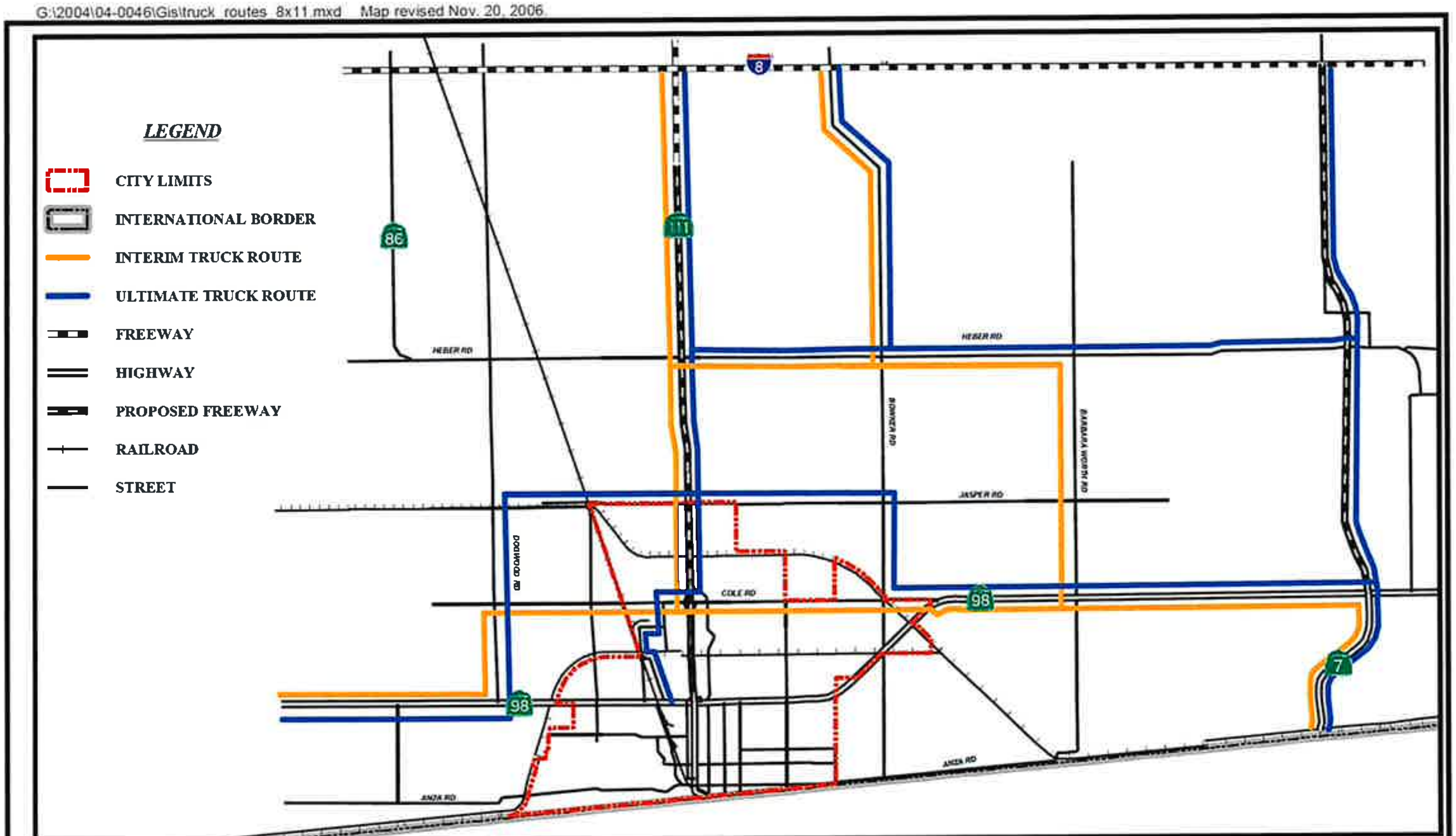
APPENDIX B

CITY OF CALEXICO GENERAL PLAN INTERIM AND ULTIMATE TRUCK ROUTES, NOVEMBER 2006

G:\2004\04-0046\Gis\truck_routes_8x11.mxd   Map revised Nov. 20, 2006



Source: City of Calexico

N
W E
S
Not to Scale

Figure C-4

Interim and Ultimate Truck Routes

City of Calexico General Plan

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APPENDIX C

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – EXISTING

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	0	8	2	53	0	164	6	65	111	1
Future Vol, veh/h	3	0	0	8	2	53	0	164	6	65	111	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	71	71	71	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	0	11	3	75	0	191	7	76	129	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	536	500	150	497	497	215	140	0	0	208	0	0
Stage 1	292	292	-	205	205	-	-	-	-	-	-	-
Stage 2	244	208	-	292	292	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	455	473	896	483	475	825	1443	-	-	1363	-	-
Stage 1	716	671	-	797	732	-	-	-	-	-	-	-
Stage 2	760	730	-	716	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	384	435	879	452	437	809	1429	-	-	1350	-	-
Mov Cap-2 Maneuver	384	435	-	452	437	-	-	-	-	-	-	-
Stage 1	709	624	-	789	725	-	-	-	-	-	-	-
Stage 2	681	723	-	666	624	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.5	10.7	0	2.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1429	-	-	384	718	1350	-	-
HCM Lane V/C Ratio	-	-	-	0.01	0.124	0.056	-	-
HCM Control Delay (s)	0	-	-	14.5	10.7	7.8	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0.2	-	-

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	212	25	109	243	330	59	756	142	233	608	153
Future Volume (veh/h)	233	212	25	109	243	330	59	756	142	233	608	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	271	247	29	117	261	355	72	922	173	299	779	196
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	1297	564	253	538	442	123	997	431	308	1067	462
Arrive On Green	0.15	0.37	0.37	0.07	0.29	0.29	0.07	0.28	0.28	0.09	0.30	0.30
Sat Flow, veh/h	1781	3554	1544	3456	1870	1538	1781	3554	1537	3456	3554	1539
Grp Volume(v), veh/h	271	247	29	117	261	355	72	922	173	299	779	196
Grp Sat Flow(s),veh/h/ln	1781	1777	1544	1728	1870	1538	1781	1777	1537	1728	1777	1539
Q Serve(g_s), s	20.3	6.4	1.6	4.4	15.6	28.8	5.3	34.0	12.3	11.6	26.5	13.8
Cycle Q Clear(g_c), s	20.3	6.4	1.6	4.4	15.6	28.8	5.3	34.0	12.3	11.6	26.5	13.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	1297	564	253	538	442	123	997	431	308	1067	462
V/C Ratio(X)	1.01	0.19	0.05	0.46	0.49	0.80	0.58	0.93	0.40	0.97	0.73	0.42
Avail Cap(c_a), veh/h	268	1432	622	256	611	502	132	997	431	308	1067	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	29.2	27.7	59.9	39.7	44.5	60.8	47.1	39.3	61.2	42.3	37.8
Incr Delay (d2), s/veh	57.5	0.3	0.1	1.3	2.5	12.7	3.3	15.3	2.8	43.5	4.4	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	2.8	0.6	2.0	7.5	12.4	2.5	17.0	5.0	6.9	12.2	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	114.8	29.5	27.8	61.2	42.2	57.1	64.1	62.4	42.1	104.7	46.7	40.6
LnGrp LOS	F	C	C	E	D	E	E	E	D	F	D	D
Approach Vol, veh/h		547			733			1167			1274	
Approach Delay, s/veh		71.6			52.4			59.5			59.4	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	46.2	15.6	55.3	15.0	48.9	26.0	44.9
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 12	* 38	* 10	54.3	* 10	* 40	* 20	44.0
Max Q Clear Time (g_c+I1), s	13.6	36.0	6.4	8.4	7.3	28.5	22.3	30.8
Green Ext Time (p_c), s	0.0	1.6	0.1	4.6	0.0	7.9	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	59.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	213	169	140	128	1
Future Volume (veh/h)	0	213	169	140	128	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	245	197	163	171	1
Peak Hour Factor	0.87	0.87	0.86	0.86	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	4	519	519	417	775	5
Arrive On Green	0.00	0.28	0.28	0.28	0.44	0.44
Sat Flow, veh/h	1781	1870	1870	1505	1760	10
Grp Volume(v), veh/h	0	245	197	163	173	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1505	1780	0
Q Serve(g_s), s	0.0	5.4	4.2	4.4	3.0	0.0
Cycle Q Clear(g_c), s	0.0	5.4	4.2	4.4	3.0	0.0
Prop In Lane	1.00			1.00	0.99	0.01
Lane Grp Cap(c), veh/h	4	519	519	417	784	0
V/C Ratio(X)	0.00	0.47	0.38	0.39	0.22	0.00
Avail Cap(c_a), veh/h	285	1644	1131	910	784	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	15.0	14.6	14.6	8.7	0.0
Incr Delay (d2), s/veh	0.0	3.1	2.1	2.7	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	1.6	1.4	1.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.1	16.7	17.4	9.3	0.0
LnGrp LOS	A	B	B	B	A	A
Approach Vol, veh/h		245	360		173	
Approach Delay, s/veh		18.1	17.0		9.3	
Approach LOS		B	B		A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		21.8		28.1	0.0	21.8
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		7.4		5.0	0.0	6.4
Green Ext Time (p_c), s		4.9		0.7	0.0	5.2
Intersection Summary						
HCM 6th Ctrl Delay			15.6			
HCM 6th LOS			B			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	45	114	22	35	3	45	216	33	8	200	34
Future Volume (veh/h)	37	45	114	22	35	3	45	216	33	8	200	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	69	175	26	41	3	58	281	43	11	286	49
Peak Hour Factor	0.65	0.65	0.65	0.86	0.86	0.86	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	168	385	760	109	324	263	273	1530	752	47	1342	733
Arrive On Green	0.09	0.21	0.21	0.06	0.17	0.17	0.08	0.43	0.43	0.03	0.38	0.38
Sat Flow, veh/h	1781	1870	2619	1781	1870	1519	3456	3554	1522	1781	3554	1544
Grp Volume(v), veh/h	57	69	175	26	41	3	58	281	43	11	286	49
Grp Sat Flow(s),veh/h/ln	1781	1870	1309	1781	1870	1519	1728	1777	1522	1781	1777	1544
Q Serve(g_s), s	3.1	3.1	5.2	1.4	1.9	0.2	1.6	5.0	1.5	0.6	5.6	1.8
Cycle Q Clear(g_c), s	3.1	3.1	5.2	1.4	1.9	0.2	1.6	5.0	1.5	0.6	5.6	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	168	385	760	109	324	263	273	1530	752	47	1342	733
V/C Ratio(X)	0.34	0.18	0.23	0.24	0.13	0.01	0.21	0.18	0.06	0.24	0.21	0.07
Avail Cap(c_a), veh/h	214	1018	1645	214	1018	827	348	1530	752	180	1342	733
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	33.4	28.0	45.7	35.7	35.0	44.1	18.0	13.6	48.8	21.5	14.7
Incr Delay (d2), s/veh	1.7	0.2	0.2	1.6	0.2	0.0	0.4	0.3	0.1	3.6	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.4	1.5	0.6	0.8	0.1	0.7	1.9	0.5	0.3	2.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	33.7	28.1	47.3	35.9	35.0	44.5	18.3	13.7	52.4	21.9	14.9
LnGrp LOS	D	C	C	D	D	D	D	B	B	D	C	B
Approach Vol, veh/h		301			70			382			346	
Approach Delay, s/veh		32.6			40.1			21.7			21.9	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	29.5	13.8	47.0	15.3	26.1	8.4	52.4
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 56	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	3.4	7.2	3.6	7.6	5.1	3.9	2.6	7.0
Green Ext Time (p_c), s	0.0	1.0	0.1	1.7	0.1	0.2	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	25.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	101	183	173	78	14
Future Volume (veh/h)	20	101	183	173	78	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.93	1.00	0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	106	199	188	100	18
Peak Hour Factor	0.95	0.95	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	71	556	317	250	602	108
Arrive On Green	0.04	0.30	0.17	0.17	0.41	0.41
Sat Flow, veh/h	1781	1870	1870	1474	1460	263
Grp Volume(v), veh/h	21	106	199	188	119	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1474	1737	0
Q Serve(g_s), s	0.6	2.3	5.3	6.5	2.3	0.0
Cycle Q Clear(g_c), s	0.6	2.3	5.3	6.5	2.3	0.0
Prop In Lane	1.00			1.00	0.84	0.15
Lane Grp Cap(c), veh/h	71	556	317	250	716	0
V/C Ratio(X)	0.29	0.19	0.63	0.75	0.17	0.00
Avail Cap(c_a), veh/h	267	788	343	271	716	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.9	14.0	20.6	21.1	9.9	0.0
Incr Delay (d2), s/veh	0.8	0.8	9.1	18.8	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.9	2.8	3.2	0.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.7	14.7	29.7	39.9	10.4	0.0
LnGrp LOS	C	B	C	D	B	A
Approach Vol, veh/h		127	387		119	
Approach Delay, s/veh		16.5	34.7		10.4	
Approach LOS		B	C		B	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	23.9	29.5	6.8	17.0
Change Period (Y+Rc), s	8.0	7.5	* 4.7	8.0
Max Green Setting (Gmax), s	22.5	22.0	* 8	9.8
Max Q Clear Time (g_c+I1), s	4.3	4.3	2.6	8.5
Green Ext Time (p_c), s	1.2	0.8	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	198	15	157	375	250	145	518	101	164	469	122
Future Volume (veh/h)	91	198	15	157	375	250	145	518	101	164	469	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	233	18	187	446	298	167	595	116	180	515	134
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	853	468	240	838	468	219	1343	261	234	1630	710
Arrive On Green	0.07	0.24	0.24	0.07	0.24	0.24	0.06	0.45	0.45	0.07	0.46	0.46
Sat Flow, veh/h	1781	3554	1532	3456	3554	1532	3456	2953	574	3456	3554	1548
Grp Volume(v), veh/h	107	233	18	187	446	298	167	357	354	180	515	134
Grp Sat Flow(s),veh/h/ln	1781	1777	1532	1728	1777	1532	1728	1777	1751	1728	1777	1548
Q Serve(g_s), s	7.7	6.9	1.1	6.9	14.3	21.9	6.2	17.8	17.9	6.7	11.9	6.7
Cycle Q Clear(g_c), s	7.7	6.9	1.1	6.9	14.3	21.9	6.2	17.8	17.9	6.7	11.9	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	131	853	468	240	838	468	219	808	796	234	1630	710
V/C Ratio(X)	0.82	0.27	0.04	0.78	0.53	0.64	0.76	0.44	0.44	0.77	0.32	0.19
Avail Cap(c_a), veh/h	208	1096	573	330	1039	555	300	808	796	367	1630	710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.4	40.2	31.9	59.5	43.4	39.1	59.9	24.2	24.2	59.6	22.3	20.8
Incr Delay (d2), s/veh	6.1	0.2	0.0	5.2	0.5	1.8	4.6	1.8	1.8	2.0	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	3.0	0.4	3.2	6.4	8.5	2.8	7.8	7.8	3.0	5.1	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.5	40.4	32.0	64.7	43.9	41.0	64.5	26.0	26.0	61.7	22.8	21.4
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		358			931			878			829	
Approach Delay, s/veh		47.4			47.1			33.3			31.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	64.7	14.2	37.1	13.4	65.2	14.7	36.6
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 14	41.8	* 12	40.1	* 11	44.3	* 15	* 38
Max Q Clear Time (g_c+I1), s	9.7	19.9	8.9	8.9	8.2	13.9	9.7	23.9
Green Ext Time (p_c), s	0.1	4.4	0.1	1.5	0.1	4.1	0.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	38.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection						
Int Delay, s/veh	0					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	6	1	46	0	127	17	133	274	0
Future Vol, veh/h	0	0	0	6	1	46	0	127	17	133	274	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	90	90	90	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	8	1	58	0	141	19	156	322	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	834	814	342	805	805	171	332	0	0	170	0	0
Stage 1	644	644	-	161	161	-	-	-	-	-	-	-
Stage 2	190	170	-	644	644	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	288	312	701	301	316	873	1227	-	-	1407	-	-
Stage 1	461	468	-	841	765	-	-	-	-	-	-	-
Stage 2	812	758	-	461	468	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	235	264	688	265	268	856	1215	-	-	1394	-	-
Mov Cap-2 Maneuver	235	264	-	265	268	-	-	-	-	-	-	-
Stage 1	456	400	-	833	757	-	-	-	-	-	-	-
Stage 2	749	750	-	395	400	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	11	0	2.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1215	-	-	-	662	1394	-	-
HCM Lane V/C Ratio	-	-	-	-	0.1	0.112	-	-
HCM Control Delay (s)	0	-	-	0	11	7.9	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	391	94	268	206	290	31	679	240	422	967	232
Future Volume (veh/h)	224	391	94	268	206	290	31	679	240	422	967	232
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	277	483	116	288	222	312	33	722	255	464	1063	255
Peak Hour Factor	0.81	0.81	0.81	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	1128	489	343	489	401	91	954	412	465	1250	543
Arrive On Green	0.16	0.32	0.32	0.10	0.26	0.26	0.05	0.27	0.27	0.13	0.35	0.35
Sat Flow, veh/h	1781	3554	1540	3456	1870	1535	1781	3554	1536	3456	3554	1543
Grp Volume(v), veh/h	277	483	116	288	222	312	33	722	255	464	1063	255
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1870	1535	1781	1777	1536	1728	1777	1543
Q Serve(g_s), s	22.3	15.4	8.0	11.8	14.3	27.0	2.6	26.8	20.9	19.3	39.7	18.4
Cycle Q Clear(g_c), s	22.3	15.4	8.0	11.8	14.3	27.0	2.6	26.8	20.9	19.3	39.7	18.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	1128	489	343	489	401	91	954	412	465	1250	543
V/C Ratio(X)	1.00	0.43	0.24	0.84	0.45	0.78	0.36	0.76	0.62	1.00	0.85	0.47
Avail Cap(c_a), veh/h	277	1162	504	467	574	471	124	954	412	465	1250	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.6	38.7	36.1	63.5	44.4	49.1	65.8	48.2	46.1	62.1	43.0	36.1
Incr Delay (d2), s/veh	54.2	0.9	0.9	9.7	2.4	12.0	0.9	5.6	6.8	41.2	7.4	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	6.9	3.1	5.6	7.0	11.6	1.2	12.5	8.7	11.1	18.5	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	114.8	39.6	37.0	73.2	46.8	61.2	66.7	53.8	52.9	103.3	50.4	39.0
LnGrp LOS	F	D	D	E	D	E	E	D	D	F	D	D
Approach Vol, veh/h		876			822			1010			1782	
Approach Delay, s/veh		63.1			61.5			54.0			62.5	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	46.9	19.9	51.6	13.0	58.9	28.0	43.6
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 19	* 39	* 19	46.9	* 10	* 48	* 22	44.0
Max Q Clear Time (g_c+I1), s	21.3	28.8	13.8	17.4	4.6	41.7	24.3	29.0
Green Ext Time (p_c), s	0.0	6.9	0.5	9.3	0.0	5.3	0.0	5.2

Intersection Summary	
HCM 6th Ctrl Delay	60.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	197	292	230	197	1
Future Volume (veh/h)	0	197	292	230	197	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	224	298	235	253	1
Peak Hour Factor	0.88	0.88	0.98	0.98	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	626	626	506	716	3
Arrive On Green	0.00	0.33	0.33	0.33	0.41	0.41
Sat Flow, veh/h	1781	1870	1870	1513	1767	7
Grp Volume(v), veh/h	0	224	298	235	255	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1513	1781	0
Q Serve(g_s), s	0.0	4.9	6.8	6.6	5.4	0.0
Cycle Q Clear(g_c), s	0.0	4.9	6.8	6.6	5.4	0.0
Prop In Lane	1.00			1.00	0.99	0.00
Lane Grp Cap(c), veh/h	3	626	626	506	722	0
V/C Ratio(X)	0.00	0.36	0.48	0.46	0.35	0.00
Avail Cap(c_a), veh/h	263	1513	1041	842	722	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.6	14.3	14.2	11.2	0.0
Incr Delay (d2), s/veh	0.0	1.6	2.6	3.0	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	2.6	2.1	2.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.2	16.9	17.3	12.6	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		224	533		255	
Approach Delay, s/veh		15.2	17.0		12.6	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		26.2		28.1	0.0	26.2
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		6.9		7.4	0.0	8.8
Green Ext Time (p_c), s		4.4		1.0	0.0	7.5
Intersection Summary						
HCM 6th Ctrl Delay			15.5			
HCM 6th LOS			B			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	62	95	56	56	11	108	288	35	3	264	57
Future Volume (veh/h)	39	62	95	56	56	11	108	288	35	3	264	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	78	120	74	74	14	123	327	40	3	300	65
Peak Hour Factor	0.79	0.79	0.79	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	372	770	175	397	324	309	1549	819	14	1259	682
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.09	0.44	0.44	0.01	0.35	0.35
Sat Flow, veh/h	1781	1870	2615	1781	1870	1528	3456	3554	1522	1781	3554	1543
Grp Volume(v), veh/h	49	78	120	74	74	14	123	327	40	3	300	65
Grp Sat Flow(s),veh/h/ln	1781	1870	1307	1781	1870	1528	1728	1777	1522	1781	1777	1543
Q Serve(g_s), s	2.8	3.8	3.7	4.3	3.5	0.8	3.7	6.2	1.4	0.2	6.5	2.7
Cycle Q Clear(g_c), s	2.8	3.8	3.7	4.3	3.5	0.8	3.7	6.2	1.4	0.2	6.5	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	372	770	175	397	324	309	1549	819	14	1259	682
V/C Ratio(X)	0.32	0.21	0.16	0.42	0.19	0.04	0.40	0.21	0.05	0.21	0.24	0.10
Avail Cap(c_a), veh/h	201	949	1577	206	954	780	327	1549	819	163	1259	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	36.5	28.9	46.2	35.2	34.1	46.8	19.1	12.1	53.7	24.8	17.9
Incr Delay (d2), s/veh	1.7	0.3	0.1	2.3	0.2	0.1	0.8	0.3	0.1	10.2	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.7	1.1	1.9	1.6	0.3	1.5	2.4	0.4	0.1	2.6	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	36.8	29.0	48.5	35.4	34.2	47.7	19.4	12.3	63.9	25.3	18.2
LnGrp LOS	D	D	C	D	D	C	D	B	B	E	C	B
Approach Vol, veh/h		247			162			490			368	
Approach Delay, s/veh		35.3			41.3			25.9			24.3	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	30.1	15.5	47.0	15.0	31.5	6.6	55.9
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 13	* 55	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	6.3	5.8	5.7	8.5	4.8	5.5	2.2	8.2
Green Ext Time (p_c), s	0.1	0.9	0.1	1.9	0.1	0.4	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	29.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	255	111	128	248	9
Future Volume (veh/h)	23	255	111	128	248	9
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.92	1.00	0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	304	121	139	264	10
Peak Hour Factor	0.84	0.84	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	88	530	269	210	715	27
Arrive On Green	0.05	0.28	0.14	0.14	0.42	0.42
Sat Flow, veh/h	1781	1870	1870	1460	1700	64
Grp Volume(v), veh/h	27	304	121	139	275	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1460	1771	0
Q Serve(g_s), s	0.8	7.3	3.1	4.7	5.6	0.0
Cycle Q Clear(g_c), s	0.8	7.3	3.1	4.7	5.6	0.0
Prop In Lane	1.00			1.00	0.96	0.04
Lane Grp Cap(c), veh/h	88	530	269	210	745	0
V/C Ratio(X)	0.31	0.57	0.45	0.66	0.37	0.00
Avail Cap(c_a), veh/h	272	804	350	273	745	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.0	16.0	20.5	21.2	10.4	0.0
Incr Delay (d2), s/veh	0.7	4.5	5.4	15.3	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.2	1.6	2.3	2.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.7	20.5	25.9	36.5	11.8	0.0
LnGrp LOS	C	C	C	D	B	A
Approach Vol, veh/h		331	260		275	
Approach Delay, s/veh		20.9	31.5		11.8	
Approach LOS		C	C		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		22.8		29.5	7.3	15.5
Change Period (Y+Rc), s		8.0		7.5	* 4.7	8.0
Max Green Setting (Gmax), s		22.5		22.0	* 8	9.8
Max Q Clear Time (g_c+I1), s		9.3		7.6	2.8	6.7
Green Ext Time (p_c), s		3.6		2.1	0.0	0.8
Intersection Summary						
HCM 6th Ctrl Delay			21.2			
HCM 6th LOS			C			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	208	39	186	265	178	105	685	141	200	911	254
Future Volume (veh/h)	129	208	39	186	265	178	105	685	141	200	911	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	145	234	44	204	291	196	112	729	150	222	1012	282
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	747	395	257	672	413	161	1367	281	273	1778	776
Arrive On Green	0.10	0.21	0.21	0.07	0.19	0.19	0.05	0.47	0.47	0.08	0.50	0.50
Sat Flow, veh/h	1781	3554	1527	3456	3554	1523	3456	2921	601	3456	3554	1550
Grp Volume(v), veh/h	145	234	44	204	291	196	112	443	436	222	1012	282
Grp Sat Flow(s),veh/h/ln	1781	1777	1527	1728	1777	1523	1728	1777	1746	1728	1777	1550
Q Serve(g_s), s	10.4	7.2	2.9	7.5	9.4	14.0	4.2	23.0	23.0	8.2	25.9	14.4
Cycle Q Clear(g_c), s	10.4	7.2	2.9	7.5	9.4	14.0	4.2	23.0	23.0	8.2	25.9	14.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	170	747	395	257	672	413	161	831	817	273	1778	776
V/C Ratio(X)	0.85	0.31	0.11	0.79	0.43	0.47	0.70	0.53	0.53	0.81	0.57	0.36
Avail Cap(c_a), veh/h	216	1093	544	348	1039	571	181	831	817	314	1778	776
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.9	43.4	37.0	59.2	46.6	39.9	61.1	24.5	24.5	58.9	22.7	19.8
Incr Delay (d2), s/veh	18.8	0.2	0.1	6.0	0.4	0.8	7.3	2.4	2.5	11.6	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	3.2	1.1	3.5	4.2	5.4	2.0	10.1	9.9	4.0	10.9	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.7	43.6	37.1	65.2	47.0	40.8	68.4	27.0	27.0	70.5	24.0	21.2
LnGrp LOS	E	D	D	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		423			691			991			1516	
Approach Delay, s/veh		54.3			50.6			31.7			30.3	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	66.4	14.9	33.2	11.3	70.7	17.6	30.5				
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9				
Max Green Setting (Gmax), s	* 12	43.2	* 13	40.0	* 6.8	48.2	* 16	* 38				
Max Q Clear Time (g_c+I1), s	10.2	25.0	9.5	9.2	6.2	27.9	12.4	16.0				
Green Ext Time (p_c), s	0.1	5.3	0.1	1.6	0.0	8.3	0.1	2.6				

Intersection Summary	
HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	21	106	199	188	118
v/c Ratio	0.08	0.23	0.51	0.17	0.15
Control Delay	21.4	15.6	25.5	1.0	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	15.6	25.5	1.0	9.5
Queue Length 50th (ft)	5	25	49	0	16
Queue Length 95th (ft)	24	53	#147	15	46
Internal Link Dist (ft)		427	7752		505
Turn Bay Length (ft)	325			350	
Base Capacity (vph)	264	783	388	1119	806
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.14	0.51	0.17	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

EEC ORIGINAL PKG

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Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	27	304	121	139	274
v/c Ratio	0.11	0.51	0.28	0.13	0.39
Control Delay	23.6	18.4	21.9	1.3	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	18.4	21.9	1.3	14.8
Queue Length 50th (ft)	8	80	28	0	59
Queue Length 95th (ft)	26	127	83	13	128
Internal Link Dist (ft)		427	7752		505
Turn Bay Length (ft)	325			350	
Base Capacity (vph)	255	757	438	1053	708
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.40	0.28	0.13	0.39

Intersection Summary

EEC ORIGINAL PKG

PC ORIGINAL PKG

APPENDIX D

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – EXISTING WITH PROJECT

Intersection												
Int Delay, s/veh	3.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	0	31	2	53	0	164	24	65	111	1
Future Vol, veh/h	3	0	0	31	2	53	0	164	24	65	111	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	71	71	71	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	0	44	3	75	0	191	28	76	129	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	546	521	150	507	507	225	140	0	0	229	0	0
Stage 1	292	292	-	215	215	-	-	-	-	-	-	-
Stage 2	254	229	-	292	292	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	448	460	896	476	468	814	1443	-	-	1339	-	-
Stage 1	716	671	-	787	725	-	-	-	-	-	-	-
Stage 2	750	715	-	716	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	378	423	879	445	430	799	1429	-	-	1326	-	-
Mov Cap-2 Maneuver	378	423	-	445	430	-	-	-	-	-	-	-
Stage 1	709	623	-	779	718	-	-	-	-	-	-	-
Stage 2	671	708	-	665	623	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	14.6			12.3			0			2.9		
HCM LOS	B			B								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1429	-	-	378	611	1326	-	-
HCM Lane V/C Ratio	-	-	-	0.011	0.198	0.057	-	-
HCM Control Delay (s)	0	-	-	14.6	12.3	7.9	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.7	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	220	25	109	260	330	59	757	142	233	610	159
Future Volume (veh/h)	243	220	25	109	260	330	59	757	142	233	610	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	283	256	29	117	280	355	72	923	173	299	782	204
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	296	1330	578	234	516	424	115	1007	436	337	1124	487
Arrive On Green	0.17	0.37	0.37	0.07	0.28	0.28	0.06	0.28	0.28	0.10	0.32	0.32
Sat Flow, veh/h	1781	3554	1544	3456	1870	1537	1781	3554	1537	3456	3554	1540
Grp Volume(v), veh/h	283	256	29	117	280	355	72	923	173	299	782	204
Grp Sat Flow(s),veh/h/ln	1781	1777	1544	1728	1870	1537	1781	1777	1537	1728	1777	1540
Q Serve(g_s), s	23.1	7.1	1.8	4.8	18.7	31.8	5.8	36.8	13.3	12.5	28.2	15.3
Cycle Q Clear(g_c), s	23.1	7.1	1.8	4.8	18.7	31.8	5.8	36.8	13.3	12.5	28.2	15.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	296	1330	578	234	516	424	115	1007	436	337	1124	487
V/C Ratio(X)	0.96	0.19	0.05	0.50	0.54	0.84	0.63	0.92	0.40	0.89	0.70	0.42
Avail Cap(c_a), veh/h	296	1408	612	243	562	462	122	1007	436	337	1124	487
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.6	30.9	29.2	65.9	45.1	49.9	66.8	50.8	42.4	65.3	43.9	39.4
Incr Delay (d2), s/veh	40.8	0.3	0.1	1.7	3.2	16.1	6.3	14.2	2.7	23.4	3.6	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.7	3.1	0.7	2.2	9.1	14.0	2.8	18.2	5.4	6.6	12.9	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.4	31.1	29.3	67.5	48.3	66.0	73.0	65.0	45.1	88.6	47.4	42.1
LnGrp LOS	F	C	C	E	D	E	E	E	D	F	D	D
Approach Vol, veh/h		568			752			1168			1285	
Approach Delay, s/veh		66.0			59.6			62.6			56.2	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	49.9	15.6	60.9	15.2	54.7	30.0	46.5
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 14	* 42	* 10	58.0	* 10	* 46	* 24	44.0
Max Q Clear Time (g_c+I1), s	14.5	38.8	6.8	9.1	7.8	30.2	25.1	33.8
Green Ext Time (p_c), s	0.0	2.3	0.1	4.8	0.0	10.2	0.0	4.8

Intersection Summary	
HCM 6th Ctrl Delay	60.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	213	169	157	136	1
Future Volume (veh/h)	0	213	169	157	136	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	245	197	183	181	1
Peak Hour Factor	0.87	0.87	0.86	0.86	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	528	528	425	786	4
Arrive On Green	0.00	0.28	0.28	0.28	0.45	0.45
Sat Flow, veh/h	1781	1870	1870	1505	1761	10
Grp Volume(v), veh/h	0	245	197	183	183	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1505	1780	0
Q Serve(g_s), s	0.0	5.6	4.4	5.2	3.3	0.0
Cycle Q Clear(g_c), s	0.0	5.6	4.4	5.2	3.3	0.0
Prop In Lane	1.00			1.00	0.99	0.01
Lane Grp Cap(c), veh/h	3	528	528	425	795	0
V/C Ratio(X)	0.00	0.46	0.37	0.43	0.23	0.00
Avail Cap(c_a), veh/h	274	1537	1044	840	795	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	15.4	15.0	15.2	8.9	0.0
Incr Delay (d2), s/veh	0.0	2.9	2.0	3.2	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	1.7	1.7	1.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.3	17.0	18.4	9.6	0.0
LnGrp LOS	A	B	B	B	A	A
Approach Vol, veh/h		245	380		183	
Approach Delay, s/veh		18.3	17.7		9.6	
Approach LOS		B	B		A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		22.7		29.3	0.0	22.7
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		42.7		23.2	* 8	29.0
Max Q Clear Time (g_c+I1), s		7.6		5.3	0.0	7.2
Green Ext Time (p_c), s		4.8		0.7	0.0	5.2
Intersection Summary						
HCM 6th Ctrl Delay			16.0			
HCM 6th LOS			B			

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱↱	↰	↑	↱	↰↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	37	45	122	22	35	3	62	216	33	8	200	34
Future Volume (veh/h)	37	45	122	22	35	3	62	216	33	8	200	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	69	188	26	41	3	81	281	43	11	286	49
Peak Hour Factor	0.65	0.65	0.65	0.86	0.86	0.86	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	383	780	109	323	262	302	1545	759	47	1328	725
Arrive On Green	0.09	0.20	0.20	0.06	0.17	0.17	0.09	0.43	0.43	0.03	0.37	0.37
Sat Flow, veh/h	1781	1870	2618	1781	1870	1519	3456	3554	1522	1781	3554	1544
Grp Volume(v), veh/h	57	69	188	26	41	3	81	281	43	11	286	49
Grp Sat Flow(s),veh/h/ln	1781	1870	1309	1781	1870	1519	1728	1777	1522	1781	1777	1544
Q Serve(g_s), s	3.1	3.1	5.7	1.4	1.9	0.2	2.3	5.0	1.5	0.6	5.7	1.8
Cycle Q Clear(g_c), s	3.1	3.1	5.7	1.4	1.9	0.2	2.3	5.0	1.5	0.6	5.7	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	383	780	109	323	262	302	1545	759	47	1328	725
V/C Ratio(X)	0.34	0.18	0.24	0.24	0.13	0.01	0.27	0.18	0.06	0.24	0.22	0.07
Avail Cap(c_a), veh/h	212	1007	1653	212	1007	818	345	1545	759	178	1328	725
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	33.9	27.9	46.2	36.2	35.4	44.1	17.9	13.5	49.3	22.0	15.1
Incr Delay (d2), s/veh	1.7	0.2	0.2	1.6	0.2	0.0	0.5	0.3	0.1	3.6	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.4	1.7	0.7	0.8	0.1	0.9	1.9	0.5	0.3	2.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	34.1	28.0	47.8	36.3	35.5	44.5	18.2	13.6	52.9	22.4	15.3
LnGrp LOS	D	C	C	D	D	D	D	B	B	D	C	B
Approach Vol, veh/h		314			70			405			346	
Approach Delay, s/veh		32.6			40.6			23.0			22.4	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	29.6	14.7	47.0	15.4	26.2	8.4	53.3
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 56	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	3.4	7.7	4.3	7.7	5.1	3.9	2.6	7.0
Green Ext Time (p_c), s	0.0	1.1	0.1	1.7	0.1	0.2	0.0	1.7

Intersection Summary		
HCM 6th Ctrl Delay		26.5
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	101	4	5	183	174	7	18	0	79	22	14
Future Volume (veh/h)	20	101	4	5	183	174	7	18	0	79	22	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.93	0.99		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	106	4	5	199	189	8	20	0	101	28	18
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	370	14	12	318	250	667	770	0	699	430	277
Arrive On Green	0.04	0.21	0.21	0.01	0.17	0.17	0.41	0.41	0.00	0.41	0.41	0.41
Sat Flow, veh/h	1781	1789	67	1781	1870	1474	1345	1870	0	1392	1044	671
Grp Volume(v), veh/h	21	0	110	5	199	189	8	20	0	101	0	46
Grp Sat Flow(s),veh/h/ln	1781	0	1856	1781	1870	1474	1345	1870	0	1392	0	1716
Q Serve(g_s), s	0.6	0.0	2.7	0.1	5.3	6.5	0.2	0.3	0.0	2.5	0.0	0.9
Cycle Q Clear(g_c), s	0.6	0.0	2.7	0.1	5.3	6.5	1.1	0.3	0.0	2.8	0.0	0.9
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.00	1.00		0.39
Lane Grp Cap(c), veh/h	71	0	384	12	318	250	667	770	0	699	0	707
V/C Ratio(X)	0.29	0.00	0.29	0.42	0.63	0.76	0.01	0.03	0.00	0.14	0.00	0.07
Avail Cap(c_a), veh/h	267	0	452	167	343	270	742	875	0	699	0	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	17.9	26.4	20.6	21.1	9.8	9.3	0.0	10.2	0.0	9.5
Incr Delay (d2), s/veh	0.8	0.0	1.9	21.7	9.0	18.9	0.0	0.0	0.0	0.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	1.2	0.1	2.8	3.3	0.1	0.1	0.0	0.7	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	0.0	19.7	48.2	29.6	40.1	9.8	9.3	0.0	10.6	0.0	9.7
LnGrp LOS	C	A	B	D	C	D	A	A	A	B	A	A
Approach Vol, veh/h		131			393			28			147	
Approach Delay, s/veh		20.7			34.9			9.5			10.3	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	19.1		29.5	6.8	17.1		29.5				
Change Period (Y+Rc), s	4.5	8.0		7.5	* 4.7	8.0		* 7.5				
Max Green Setting (Gmax), s	5.0	13.0		22.0	* 8	9.8		* 25				
Max Q Clear Time (g_c+I1), s	2.6	4.7		4.8	2.6	8.5		3.1				
Green Ext Time (p_c), s	0.0	0.7		1.2	0.0	0.6		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			26.0									
HCM 6th LOS			C									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	198	15	157	375	250	146	518	101	164	469	124
Future Volume (veh/h)	92	198	15	157	375	250	146	518	101	164	469	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	233	18	187	446	298	168	595	116	180	515	136
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	854	470	240	838	469	221	1341	261	234	1627	709
Arrive On Green	0.07	0.24	0.24	0.07	0.24	0.24	0.06	0.45	0.45	0.07	0.46	0.46
Sat Flow, veh/h	1781	3554	1532	3456	3554	1532	3456	2953	574	3456	3554	1548
Grp Volume(v), veh/h	108	233	18	187	446	298	168	357	354	180	515	136
Grp Sat Flow(s),veh/h/ln	1781	1777	1532	1728	1777	1532	1728	1777	1751	1728	1777	1548
Q Serve(g_s), s	7.8	6.9	1.1	6.9	14.3	21.9	6.2	17.9	18.0	6.7	11.9	6.8
Cycle Q Clear(g_c), s	7.8	6.9	1.1	6.9	14.3	21.9	6.2	17.9	18.0	6.7	11.9	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	132	854	470	240	838	469	221	806	795	234	1627	709
V/C Ratio(X)	0.82	0.27	0.04	0.78	0.53	0.64	0.76	0.44	0.45	0.77	0.32	0.19
Avail Cap(c_a), veh/h	218	1093	573	351	1039	555	327	806	795	388	1627	709
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	40.1	31.8	59.5	43.4	39.1	59.9	24.3	24.3	59.6	22.4	21.0
Incr Delay (d2), s/veh	4.7	0.2	0.0	3.6	0.5	1.8	2.7	1.8	1.8	2.0	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	3.0	0.4	3.2	6.4	8.5	2.8	7.8	7.8	3.0	5.1	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	40.3	31.9	63.1	43.9	41.0	62.6	26.0	26.1	61.6	22.9	21.6
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		359			931			879			831	
Approach Delay, s/veh		47.0			46.8			33.0			31.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	64.6	14.2	37.2	13.5	65.1	14.8	36.6
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 15	40.3	* 13	40.0	* 12	42.6	* 16	* 38
Max Q Clear Time (g_c+I1), s	9.8	20.0	8.9	8.9	8.2	13.9	9.8	23.9
Green Ext Time (p_c), s	0.2	4.3	0.1	1.5	0.1	4.1	0.1	3.5

Intersection Summary		
HCM 6th Ctrl Delay		38.4
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	2.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	0	0	0	0	4
Future Vol, veh/h	2	0	0	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	0	0	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1082	1618	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1082	1618	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1618	-	1021	-	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	28	1	46	0	127	36	133	274	0
Future Vol, veh/h	0	0	0	28	1	46	0	127	36	133	274	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	90	90	90	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	35	1	58	0	141	40	156	322	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	845	835	342	815	815	181	332	0	0	191	0	0
Stage 1	644	644	-	171	171	-	-	-	-	-	-	-
Stage 2	201	191	-	644	644	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	283	304	701	296	312	862	1227	-	-	1383	-	-
Stage 1	461	468	-	831	757	-	-	-	-	-	-	-
Stage 2	801	742	-	461	468	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	230	257	688	259	263	846	1215	-	-	1370	-	-
Mov Cap-2 Maneuver	230	257	-	259	263	-	-	-	-	-	-	-
Stage 1	456	399	-	823	749	-	-	-	-	-	-	-
Stage 2	738	735	-	393	399	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	15.1	0	2.6
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1215	-	-	-	451	1370	-	-
HCM Lane V/C Ratio	-	-	-	-	0.208	0.114	-	-
HCM Control Delay (s)	0	-	-	0	15.1	8	0	-
HCM Lane LOS	A	-	-	A	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	399	94	268	222	290	31	681	240	422	968	238
Future Volume (veh/h)	235	399	94	268	222	290	31	681	240	422	968	238
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	290	493	116	288	239	312	33	724	255	464	1064	262
Peak Hour Factor	0.81	0.81	0.81	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	277	1128	489	345	490	402	91	953	412	464	1249	542
Arrive On Green	0.16	0.32	0.32	0.10	0.26	0.26	0.05	0.27	0.27	0.13	0.35	0.35
Sat Flow, veh/h	1781	3554	1540	3456	1870	1535	1781	3554	1536	3456	3554	1543
Grp Volume(v), veh/h	290	493	116	288	239	312	33	724	255	464	1064	262
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1870	1535	1781	1777	1536	1728	1777	1543
Q Serve(g_s), s	22.3	15.8	8.0	11.8	15.5	27.0	2.6	26.9	20.9	19.3	39.8	19.0
Cycle Q Clear(g_c), s	22.3	15.8	8.0	11.8	15.5	27.0	2.6	26.9	20.9	19.3	39.8	19.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	1128	489	345	490	402	91	953	412	464	1249	542
V/C Ratio(X)	1.05	0.44	0.24	0.84	0.49	0.78	0.36	0.76	0.62	1.00	0.85	0.48
Avail Cap(c_a), veh/h	277	1128	489	503	573	470	124	953	412	464	1249	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.7	38.8	36.2	63.5	44.9	49.1	65.9	48.3	46.1	62.1	43.1	36.4
Incr Delay (d2), s/veh	67.4	1.0	0.9	7.9	2.7	11.9	0.9	5.7	6.8	41.5	7.4	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.2	7.1	3.1	5.5	7.6	11.6	1.2	12.6	8.8	11.1	18.6	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	128.0	39.8	37.1	71.4	47.6	61.0	66.8	54.0	53.0	103.7	50.5	39.4
LnGrp LOS	F	D	D	E	D	E	E	D	D	F	D	D
Approach Vol, veh/h		899			839			1012			1790	
Approach Delay, s/veh		67.9			60.7			54.1			62.7	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	46.9	20.0	51.7	13.0	58.9	28.0	43.7
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 19	* 39	* 21	45.4	* 10	* 48	* 22	44.0
Max Q Clear Time (g_c+I1), s	21.3	28.9	13.8	17.8	4.6	41.8	24.3	29.0
Green Ext Time (p_c), s	0.0	6.8	0.6	9.2	0.0	5.3	0.0	5.4

Intersection Summary	
HCM 6th Ctrl Delay	61.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	197	292	247	205	1
Future Volume (veh/h)	0	197	292	247	205	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	224	298	252	263	1
Peak Hour Factor	0.88	0.88	0.98	0.98	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	637	637	515	710	3
Arrive On Green	0.00	0.34	0.34	0.34	0.40	0.40
Sat Flow, veh/h	1781	1870	1870	1514	1767	7
Grp Volume(v), veh/h	0	224	298	252	265	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1514	1781	0
Q Serve(g_s), s	0.0	4.9	6.8	7.2	5.7	0.0
Cycle Q Clear(g_c), s	0.0	4.9	6.8	7.2	5.7	0.0
Prop In Lane	1.00			1.00	0.99	0.00
Lane Grp Cap(c), veh/h	3	637	637	515	716	0
V/C Ratio(X)	0.00	0.35	0.47	0.49	0.37	0.00
Avail Cap(c_a), veh/h	260	1500	1032	835	716	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.5	14.2	14.3	11.5	0.0
Incr Delay (d2), s/veh	0.0	1.5	2.5	3.3	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	2.6	2.3	2.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.1	16.6	17.6	13.0	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		224	550		265	
Approach Delay, s/veh		15.1	17.1		13.0	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		26.6		28.1	0.0	26.6
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		6.9		7.7	0.0	9.2
Green Ext Time (p_c), s		4.4		1.0	0.0	7.7
Intersection Summary						
HCM 6th Ctrl Delay			15.6			
HCM 6th LOS			B			

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	62	104	56	56	11	125	288	35	3	264	57
Future Volume (veh/h)	39	62	104	56	56	11	125	288	35	3	264	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	78	132	74	74	14	142	327	40	3	300	65
Peak Hour Factor	0.79	0.79	0.79	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	373	776	176	398	325	314	1541	816	14	1246	676
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.09	0.43	0.43	0.01	0.35	0.35
Sat Flow, veh/h	1781	1870	2615	1781	1870	1528	3456	3554	1522	1781	3554	1543
Grp Volume(v), veh/h	49	78	132	74	74	14	142	327	40	3	300	65
Grp Sat Flow(s),veh/h/ln	1781	1870	1307	1781	1870	1528	1728	1777	1522	1781	1777	1543
Q Serve(g_s), s	2.8	3.8	4.1	4.2	3.5	0.8	4.2	6.2	1.4	0.2	6.5	2.7
Cycle Q Clear(g_c), s	2.8	3.8	4.1	4.2	3.5	0.8	4.2	6.2	1.4	0.2	6.5	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	373	776	176	398	325	314	1541	816	14	1246	676
V/C Ratio(X)	0.32	0.21	0.17	0.42	0.19	0.04	0.45	0.21	0.05	0.21	0.24	0.10
Avail Cap(c_a), veh/h	197	952	1585	202	958	782	360	1541	816	164	1246	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	36.2	28.7	45.9	35.0	33.9	46.7	19.2	12.2	53.4	25.0	18.0
Incr Delay (d2), s/veh	1.7	0.3	0.1	2.3	0.2	0.1	1.0	0.3	0.1	10.2	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.7	1.2	1.9	1.5	0.3	1.8	2.4	0.4	0.1	2.6	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	36.5	28.8	48.2	35.2	33.9	47.7	19.5	12.3	63.6	25.4	18.3
LnGrp LOS	D	D	C	D	D	C	D	B	B	E	C	B
Approach Vol, veh/h		259			162			509			368	
Approach Delay, s/veh		34.8			41.0			26.8			24.5	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	30.0	15.6	46.4	15.0	31.5	6.6	55.4
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 55	* 11	* 38	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	6.2	6.1	6.2	8.5	4.8	5.5	2.2	8.2
Green Ext Time (p_c), s	0.1	0.9	0.2	1.9	0.1	0.4	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	255	4	5	111	130	7	18	0	249	21	9
Future Volume (veh/h)	23	255	4	5	111	130	7	18	0	249	21	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.93	0.99		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	304	5	5	121	141	8	20	0	265	22	10
Peak Hour Factor	0.84	0.84	0.84	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	387	6	12	308	242	677	766	0	696	491	223
Arrive On Green	0.05	0.21	0.21	0.01	0.16	0.16	0.41	0.41	0.00	0.41	0.41	0.41
Sat Flow, veh/h	1781	1834	30	1781	1870	1472	1361	1870	0	1392	1200	545
Grp Volume(v), veh/h	27	0	309	5	121	141	8	20	0	265	0	32
Grp Sat Flow(s),veh/h/ln	1781	0	1864	1781	1870	1472	1361	1870	0	1392	0	1745
Q Serve(g_s), s	0.8	0.0	8.4	0.2	3.1	4.8	0.2	0.3	0.0	7.5	0.0	0.6
Cycle Q Clear(g_c), s	0.8	0.0	8.4	0.2	3.1	4.8	0.8	0.3	0.0	7.9	0.0	0.6
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.00	1.00		0.31
Lane Grp Cap(c), veh/h	88	0	394	12	308	242	677	766	0	696	0	715
V/C Ratio(X)	0.31	0.00	0.79	0.42	0.39	0.58	0.01	0.03	0.00	0.38	0.00	0.04
Avail Cap(c_a), veh/h	265	0	451	166	341	269	753	871	0	696	0	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	20.0	26.6	20.0	20.7	9.8	9.5	0.0	11.8	0.0	9.5
Incr Delay (d2), s/veh	0.7	0.0	14.5	21.8	3.7	9.8	0.0	0.0	0.0	1.6	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	4.7	0.1	1.5	2.1	0.1	0.1	0.0	2.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	0.0	34.5	48.3	23.8	30.5	9.8	9.5	0.0	13.4	0.0	9.6
LnGrp LOS	C	A	C	D	C	C	A	A	A	B	A	A
Approach Vol, veh/h		336			267			28			297	
Approach Delay, s/veh		33.8			27.8			9.6			13.0	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	19.3		29.5	7.4	16.8		29.5
Change Period (Y+Rc), s	4.5	8.0		7.5	* 4.7	8.0		* 7.5
Max Green Setting (Gmax), s	5.0	13.0		22.0	* 8	9.8		* 25
Max Q Clear Time (g_c+I1), s	2.8	10.4		9.9	2.8	6.8		2.8
Green Ext Time (p_c), s	0.0	0.9		2.1	0.0	0.8		0.1

Intersection Summary		
HCM 6th Ctrl Delay		24.7
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	208	40	186	265	178	105	685	141	200	911	255
Future Volume (veh/h)	131	208	40	186	265	178	105	685	141	200	911	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	234	45	204	291	196	112	729	150	222	1012	283
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	750	396	258	672	414	161	1363	280	274	1774	774
Arrive On Green	0.10	0.21	0.21	0.07	0.19	0.19	0.05	0.47	0.47	0.08	0.50	0.50
Sat Flow, veh/h	1781	3554	1528	3456	3554	1523	3456	2921	601	3456	3554	1550
Grp Volume(v), veh/h	147	234	45	204	291	196	112	443	436	222	1012	283
Grp Sat Flow(s),veh/h/ln	1781	1777	1528	1728	1777	1523	1728	1777	1745	1728	1777	1550
Q Serve(g_s), s	10.6	7.2	2.9	7.5	9.4	14.0	4.2	23.0	23.1	8.2	25.9	14.5
Cycle Q Clear(g_c), s	10.6	7.2	2.9	7.5	9.4	14.0	4.2	23.0	23.1	8.2	25.9	14.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	172	750	396	258	672	414	161	829	815	274	1774	774
V/C Ratio(X)	0.85	0.31	0.11	0.79	0.43	0.47	0.70	0.53	0.53	0.81	0.57	0.37
Avail Cap(c_a), veh/h	216	1063	531	377	1039	571	183	829	815	324	1774	774
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	43.3	36.9	59.2	46.6	39.9	61.1	24.6	24.6	58.9	22.8	19.9
Incr Delay (d2), s/veh	19.4	0.2	0.1	3.9	0.4	0.8	6.9	2.5	2.5	10.5	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	3.2	1.1	3.5	4.2	5.4	2.0	10.1	9.9	4.0	10.9	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.2	43.5	37.0	63.1	47.0	40.8	68.0	27.1	27.2	69.4	24.1	21.3
LnGrp LOS	E	D	D	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		426			691			991			1517	
Approach Delay, s/veh		54.5			50.0			31.7			30.2	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	66.3	14.9	33.3	11.3	70.5	17.8	30.5
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 12	42.8	* 14	38.9	* 6.9	48.1	* 16	* 38
Max Q Clear Time (g_c+I1), s	10.2	25.1	9.5	9.2	6.2	27.9	12.6	16.0
Green Ext Time (p_c), s	0.1	5.3	0.2	1.6	0.0	8.3	0.1	2.6

Intersection Summary		
HCM 6th Ctrl Delay		37.3
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection						
Int Delay, s/veh	6.1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	0	0	2
Future Vol, veh/h	5	0	0	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	0	0	0	0	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	2	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1620	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1620	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1620	-	1022	-	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	110	5	199	189	8	20	101	46
v/c Ratio	0.08	0.26	0.03	0.50	0.41	0.01	0.02	0.17	0.06
Control Delay	21.4	18.5	23.8	24.8	7.0	8.7	8.6	11.3	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	18.5	23.8	24.8	7.0	8.7	8.6	11.3	7.8
Queue Length 50th (ft)	5	25	1	49	0	1	3	16	4
Queue Length 95th (ft)	24	70	10	#147	47	8	14	46	20
Internal Link Dist (ft)		427		7752			225		505
Turn Bay Length (ft)	325		100		350			50	
Base Capacity (vph)	273	466	170	400	464	679	934	604	774
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.24	0.03	0.50	0.41	0.01	0.02	0.17	0.06

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	309	5	121	141	8	20	265	32
v/c Ratio	0.10	0.61	0.03	0.30	0.31	0.01	0.02	0.48	0.04
Control Delay	23.2	25.3	25.4	22.5	5.7	10.0	9.9	16.7	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	25.3	25.4	22.5	5.7	10.0	9.9	16.7	9.5
Queue Length 50th (ft)	7	81	1	28	0	1	3	51	4
Queue Length 95th (ft)	26	#193	10	83	33	8	14	137	20
Internal Link Dist (ft)		427		7752			225		505
Turn Bay Length (ft)	325		100		350			50	
Base Capacity (vph)	262	507	164	409	450	635	864	555	720
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.61	0.03	0.30	0.31	0.01	0.02	0.48	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

EEC ORIGINAL PKG

PC ORIGINAL PKG

APPENDIX E

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – OPENING YEAR WITHOUT PROJECT

Intersection												
Int Delay, s/veh	3.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	0	9	2	58	0	180	7	72	122	1
Future Vol, veh/h	3	0	0	9	2	58	0	180	7	72	122	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	71	71	71	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	0	13	3	82	0	209	8	84	142	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	587	548	163	544	544	233	153	0	0	227	0	0
Stage 1	321	321	-	223	223	-	-	-	-	-	-	-
Stage 2	266	227	-	321	321	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	421	444	882	450	446	806	1428	-	-	1341	-	-
Stage 1	691	652	-	780	719	-	-	-	-	-	-	-
Stage 2	739	716	-	691	652	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	349	405	865	418	407	791	1414	-	-	1328	-	-
Mov Cap-2 Maneuver	349	405	-	418	407	-	-	-	-	-	-	-
Stage 1	684	601	-	772	712	-	-	-	-	-	-	-
Stage 2	654	709	-	637	601	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	11.1	0	2.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1414	-	-	349	692	1328	-	-
HCM Lane V/C Ratio	-	-	-	0.011	0.14	0.063	-	-
HCM Control Delay (s)	0	-	-	15.4	11.1	7.9	0	-
HCM Lane LOS	A	-	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.2	-	-

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	256	233	28	120	267	363	65	832	156	256	669	168
Future Volume (veh/h)	256	233	28	120	267	363	65	832	156	256	669	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	298	271	33	129	287	390	79	1015	190	328	858	215
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	1357	590	232	533	438	116	995	430	333	1107	480
Arrive On Green	0.16	0.38	0.38	0.07	0.28	0.28	0.06	0.28	0.28	0.10	0.31	0.31
Sat Flow, veh/h	1781	3554	1545	3456	1870	1538	1781	3554	1537	3456	3554	1540
Grp Volume(v), veh/h	298	271	33	129	287	390	79	1015	190	328	858	215
Grp Sat Flow(s),veh/h/ln	1781	1777	1545	1728	1870	1538	1781	1777	1537	1728	1777	1540
Q Serve(g_s), s	24.3	7.6	2.0	5.4	19.2	36.0	6.4	41.5	15.1	14.0	32.5	16.6
Cycle Q Clear(g_c), s	24.3	7.6	2.0	5.4	19.2	36.0	6.4	41.5	15.1	14.0	32.5	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	292	1357	590	232	533	438	116	995	430	333	1107	480
V/C Ratio(X)	1.02	0.20	0.06	0.56	0.54	0.89	0.68	1.02	0.44	0.98	0.77	0.45
Avail Cap(c_a), veh/h	292	1390	604	240	555	456	120	995	430	333	1107	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	30.7	29.0	67.0	44.8	50.8	67.8	53.4	43.8	66.9	46.3	40.8
Incr Delay (d2), s/veh	58.0	0.3	0.1	2.6	3.1	21.7	11.5	33.7	3.3	44.8	5.3	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.6	3.3	0.8	2.4	9.4	16.4	3.3	23.0	6.1	8.3	15.1	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.0	30.9	29.1	69.6	47.9	72.5	79.4	87.1	47.1	111.6	51.6	43.8
LnGrp LOS	F	C	C	E	D	E	E	F	D	F	D	D
Approach Vol, veh/h		602			806			1284			1401	
Approach Delay, s/veh		74.9			63.3			80.7			64.5	
Approach LOS		E			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	49.9	15.7	62.7	15.3	54.6	30.0	48.3
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 14	* 42	* 10	58.0	* 10	* 46	* 24	44.0
Max Q Clear Time (g_c+I1), s	16.0	43.5	7.4	9.6	8.4	34.5	26.3	38.0
Green Ext Time (p_c), s	0.0	0.0	0.1	5.1	0.0	8.4	0.0	3.3

Intersection Summary		
HCM 6th Ctrl Delay		70.9
HCM 6th LOS		E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	234	186	154	141	1
Future Volume (veh/h)	0	234	186	154	141	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	269	216	179	188	1
Peak Hour Factor	0.87	0.87	0.86	0.86	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	4	542	542	437	762	4
Arrive On Green	0.00	0.29	0.29	0.29	0.43	0.43
Sat Flow, veh/h	1781	1870	1870	1507	1762	9
Grp Volume(v), veh/h	0	269	216	179	190	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1507	1780	0
Q Serve(g_s), s	0.0	6.1	4.7	4.9	3.4	0.0
Cycle Q Clear(g_c), s	0.0	6.1	4.7	4.9	3.4	0.0
Prop In Lane	1.00			1.00	0.99	0.01
Lane Grp Cap(c), veh/h	4	542	542	437	770	0
V/C Ratio(X)	0.00	0.50	0.40	0.41	0.25	0.00
Avail Cap(c_a), veh/h	280	1615	1111	895	770	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	15.0	14.5	14.5	9.2	0.0
Incr Delay (d2), s/veh	0.0	3.2	2.2	2.8	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	1.8	1.6	1.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.2	16.7	17.4	9.9	0.0
LnGrp LOS	A	B	B	B	A	A
Approach Vol, veh/h		269	395		190	
Approach Delay, s/veh		18.2	17.0		9.9	
Approach LOS		B	B		A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		22.7		28.1	0.0	22.7
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		8.1		5.4	0.0	6.9
Green Ext Time (p_c), s		5.4		0.7	0.0	5.7

Intersection Summary		
HCM 6th Ctrl Delay		15.8
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	50	125	24	39	3	50	238	36	9	220	37
Future Volume (veh/h)	41	50	125	24	39	3	50	238	36	9	220	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	77	192	28	45	3	65	309	47	13	314	53
Peak Hour Factor	0.65	0.65	0.65	0.86	0.86	0.86	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	384	766	114	322	261	283	1516	751	54	1332	733
Arrive On Green	0.10	0.21	0.21	0.06	0.17	0.17	0.08	0.43	0.43	0.03	0.37	0.37
Sat Flow, veh/h	1781	1870	2618	1781	1870	1519	3456	3554	1522	1781	3554	1544
Grp Volume(v), veh/h	63	77	192	28	45	3	65	309	47	13	314	53
Grp Sat Flow(s),veh/h/ln	1781	1870	1309	1781	1870	1519	1728	1777	1522	1781	1777	1544
Q Serve(g_s), s	3.4	3.5	5.8	1.5	2.1	0.2	1.8	5.6	1.7	0.7	6.2	1.9
Cycle Q Clear(g_c), s	3.4	3.5	5.8	1.5	2.1	0.2	1.8	5.6	1.7	0.7	6.2	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	173	384	766	114	322	261	283	1516	751	54	1332	733
V/C Ratio(X)	0.36	0.20	0.25	0.24	0.14	0.01	0.23	0.20	0.06	0.24	0.24	0.07
Avail Cap(c_a), veh/h	213	1010	1642	213	1010	820	346	1516	751	178	1332	733
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	33.9	28.2	45.8	36.2	35.4	44.2	18.5	13.8	48.8	22.1	14.9
Incr Delay (d2), s/veh	1.8	0.3	0.2	1.6	0.2	0.0	0.4	0.3	0.2	3.3	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	1.7	0.7	0.9	0.1	0.8	2.2	0.5	0.4	2.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.3	34.2	28.4	47.4	36.4	35.4	44.6	18.8	13.9	52.1	22.5	15.1
LnGrp LOS	D	C	C	D	D	D	D	B	B	D	C	B
Approach Vol, veh/h		332			76			421			380	
Approach Delay, s/veh		33.0			40.4			22.3			22.5	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	29.5	14.1	47.0	15.7	26.1	8.8	52.3
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 56	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	3.5	7.8	3.8	8.2	5.4	4.1	2.7	7.6
Green Ext Time (p_c), s	0.0	1.2	0.1	1.9	0.1	0.2	0.0	1.9

Intersection Summary		
HCM 6th Ctrl Delay		26.4
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	111	201	190	86	15
Future Volume (veh/h)	22	111	201	190	86	15
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.93	1.00	0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	117	218	207	110	19
Peak Hour Factor	0.95	0.95	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	77	573	329	260	599	103
Arrive On Green	0.04	0.31	0.18	0.18	0.41	0.41
Sat Flow, veh/h	1781	1870	1870	1477	1471	254
Grp Volume(v), veh/h	23	117	218	207	130	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1477	1738	0
Q Serve(g_s), s	0.7	2.5	5.9	7.3	2.6	0.0
Cycle Q Clear(g_c), s	0.7	2.5	5.9	7.3	2.6	0.0
Prop In Lane	1.00			1.00	0.85	0.15
Lane Grp Cap(c), veh/h	77	573	329	260	707	0
V/C Ratio(X)	0.30	0.20	0.66	0.80	0.18	0.00
Avail Cap(c_a), veh/h	264	779	339	268	707	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.1	13.9	20.8	21.3	10.3	0.0
Incr Delay (d2), s/veh	0.8	0.8	10.0	21.8	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.0	3.1	3.8	0.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.9	14.7	30.8	43.2	10.8	0.0
LnGrp LOS	C	B	C	D	B	A
Approach Vol, veh/h		140	425		130	
Approach Delay, s/veh		16.5	36.8		10.8	
Approach LOS		B	D		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		24.6		29.5	7.0	17.5
Change Period (Y+Rc), s		8.0		7.5	* 4.7	8.0
Max Green Setting (Gmax), s		22.5		22.0	* 8	9.8
Max Q Clear Time (g_c+I1), s		4.5		4.6	2.7	9.3
Green Ext Time (p_c), s		1.3		0.9	0.0	0.3
Intersection Summary						
HCM 6th Ctrl Delay			27.9			
HCM 6th LOS			C			

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	218	17	173	413	275	160	570	111	180	516	134
Future Volume (veh/h)	100	218	17	173	413	275	160	570	111	180	516	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	118	256	20	206	492	327	184	655	128	198	567	147
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	897	496	259	880	495	237	1272	248	252	1548	674
Arrive On Green	0.08	0.25	0.25	0.07	0.25	0.25	0.07	0.43	0.43	0.07	0.44	0.44
Sat Flow, veh/h	1781	3554	1534	3456	3554	1533	3456	2951	576	3456	3554	1547
Grp Volume(v), veh/h	118	256	20	206	492	327	184	394	389	198	567	147
Grp Sat Flow(s),veh/h/ln	1781	1777	1534	1728	1777	1533	1728	1777	1750	1728	1777	1547
Q Serve(g_s), s	8.5	7.5	1.2	7.6	15.7	23.9	6.8	21.1	21.1	7.3	13.9	7.7
Cycle Q Clear(g_c), s	8.5	7.5	1.2	7.6	15.7	23.9	6.8	21.1	21.1	7.3	13.9	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	142	897	496	259	880	495	237	766	755	252	1548	674
V/C Ratio(X)	0.83	0.29	0.04	0.80	0.56	0.66	0.78	0.51	0.52	0.79	0.37	0.22
Avail Cap(c_a), veh/h	218	1093	581	351	1039	564	327	766	755	388	1548	674
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	39.1	30.4	59.1	42.7	38.2	59.6	27.0	27.0	59.3	24.6	22.9
Incr Delay (d2), s/veh	8.6	0.2	0.0	6.1	0.6	2.4	5.0	2.5	2.5	2.5	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	3.3	0.4	3.6	7.0	9.3	3.1	9.3	9.2	3.3	6.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.5	39.3	30.4	65.2	43.3	40.5	64.5	29.5	29.6	61.8	25.3	23.6
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		394			1025			967			912	
Approach Delay, s/veh		47.3			46.8			36.2			33.0	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	61.6	14.9	38.7	14.1	62.2	15.6	38.1
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 15	40.3	* 13	40.0	* 12	42.6	* 16	* 38
Max Q Clear Time (g_c+I1), s	10.3	23.1	9.6	9.5	8.8	15.9	10.5	25.9
Green Ext Time (p_c), s	0.2	4.5	0.1	1.6	0.1	4.5	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	39.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection						
Int Delay, s/veh	0					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	7	1	51	0	140	19	146	301	0
Future Vol, veh/h	0	0	0	7	1	51	0	140	19	146	301	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	90	90	90	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	9	1	64	0	156	21	172	354	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	917	895	374	885	885	187	364	0	0	187	0	0
Stage 1	708	708	-	177	177	-	-	-	-	-	-	-
Stage 2	209	187	-	708	708	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	253	280	672	266	284	855	1195	-	-	1387	-	-
Stage 1	426	438	-	825	753	-	-	-	-	-	-	-
Stage 2	793	745	-	426	438	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	201	232	659	230	235	839	1184	-	-	1374	-	-
Mov Cap-2 Maneuver	201	232	-	230	235	-	-	-	-	-	-	-
Stage 1	422	366	-	817	745	-	-	-	-	-	-	-
Stage 2	725	738	-	356	366	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	11.6	0	2.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1184	-	-	-	618	1374	-	-
HCM Lane V/C Ratio	-	-	-	-	0.119	0.125	-	-
HCM Control Delay (s)	0	-	-	0	11.6	8	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.4	-	-

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰↰	↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Traffic Volume (veh/h)	246	430	103	295	227	319	34	747	264	464	1064	255
Future Volume (veh/h)	246	430	103	295	227	319	34	747	264	464	1064	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	304	531	127	317	244	343	36	795	281	510	1169	280
Peak Hour Factor	0.81	0.81	0.81	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	1127	489	372	508	417	94	940	406	458	1224	531
Arrive On Green	0.15	0.32	0.32	0.11	0.27	0.27	0.05	0.26	0.26	0.13	0.34	0.34
Sat Flow, veh/h	1781	3554	1540	3456	1870	1536	1781	3554	1535	3456	3554	1542
Grp Volume(v), veh/h	304	531	127	317	244	343	36	795	281	510	1169	280
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1870	1536	1781	1777	1535	1728	1777	1542
Q Serve(g_s), s	22.3	17.5	8.9	13.1	15.9	30.5	2.8	30.8	24.0	19.3	46.8	21.2
Cycle Q Clear(g_c), s	22.3	17.5	8.9	13.1	15.9	30.5	2.8	30.8	24.0	19.3	46.8	21.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	1127	489	372	508	417	94	940	406	458	1224	531
V/C Ratio(X)	1.11	0.47	0.26	0.85	0.48	0.82	0.38	0.85	0.69	1.11	0.96	0.53
Avail Cap(c_a), veh/h	273	1127	489	496	565	464	122	940	406	458	1224	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.6	39.9	37.0	63.8	44.4	49.7	66.7	50.7	48.2	63.1	46.6	38.2
Incr Delay (d2), s/veh	88.6	1.1	1.0	10.4	2.5	14.9	1.0	9.3	9.3	76.5	17.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	7.8	3.5	6.3	7.7	13.4	1.3	14.8	10.2	13.3	23.3	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	150.2	41.0	38.0	74.2	46.9	64.6	67.6	60.0	57.5	139.7	63.6	41.9
LnGrp LOS	F	D	D	E	D	E	E	E	E	F	E	D
Approach Vol, veh/h		962			904			1112			1959	
Approach Delay, s/veh		75.1			63.2			59.6			80.3	
Approach LOS		E			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	46.9	21.4	52.3	13.4	58.5	28.0	45.6				
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1				
Max Green Setting (Gmax), s	* 19	* 39	* 21	45.4	* 10	* 48	* 22	44.0				
Max Q Clear Time (g_c+I1), s	21.3	32.8	15.1	19.5	4.8	48.8	24.3	32.5				
Green Ext Time (p_c), s	0.0	4.5	0.6	9.7	0.0	0.0	0.0	4.8				
Intersection Summary												
HCM 6th Ctrl Delay			71.5									
HCM 6th LOS			E									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	217	321	253	217	1
Future Volume (veh/h)	0	217	321	253	217	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	247	328	258	278	1
Peak Hour Factor	0.88	0.88	0.98	0.98	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	655	655	530	700	3
Arrive On Green	0.00	0.35	0.35	0.35	0.40	0.40
Sat Flow, veh/h	1781	1870	1870	1515	1768	6
Grp Volume(v), veh/h	0	247	328	258	280	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1515	1781	0
Q Serve(g_s), s	0.0	5.5	7.7	7.4	6.3	0.0
Cycle Q Clear(g_c), s	0.0	5.5	7.7	7.4	6.3	0.0
Prop In Lane	1.00			1.00	0.99	0.00
Lane Grp Cap(c), veh/h	3	655	655	530	705	0
V/C Ratio(X)	0.00	0.38	0.50	0.49	0.40	0.00
Avail Cap(c_a), veh/h	257	1478	1017	824	705	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.5	14.2	14.1	12.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	2.7	3.2	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	2.9	2.3	2.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.2	17.0	17.3	13.7	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		247	586		280	
Approach Delay, s/veh		15.2	17.1		13.7	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		27.4		28.1	0.0	27.4
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		7.5		8.3	0.0	9.7
Green Ext Time (p_c), s		4.9		1.1	0.0	8.1
Intersection Summary						
HCM 6th Ctrl Delay			15.8			
HCM 6th LOS			B			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	68	105	62	62	12	119	317	39	3	290	63
Future Volume (veh/h)	43	68	105	62	62	12	119	317	39	3	290	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	86	133	82	82	16	135	360	44	3	330	72
Peak Hour Factor	0.79	0.79	0.79	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	373	773	180	396	323	313	1536	818	14	1243	680
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.09	0.43	0.43	0.01	0.35	0.35
Sat Flow, veh/h	1781	1870	2615	1781	1870	1528	3456	3554	1522	1781	3554	1543
Grp Volume(v), veh/h	54	86	133	82	82	16	135	360	44	3	330	72
Grp Sat Flow(s),veh/h/ln	1781	1870	1307	1781	1870	1528	1728	1777	1522	1781	1777	1543
Q Serve(g_s), s	3.1	4.2	4.1	4.7	3.9	0.9	4.0	7.0	1.5	0.2	7.2	3.0
Cycle Q Clear(g_c), s	3.1	4.2	4.1	4.7	3.9	0.9	4.0	7.0	1.5	0.2	7.2	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	373	773	180	396	323	313	1536	818	14	1243	680
V/C Ratio(X)	0.34	0.23	0.17	0.46	0.21	0.05	0.43	0.23	0.05	0.21	0.27	0.11
Avail Cap(c_a), veh/h	197	948	1578	218	971	793	331	1536	818	164	1243	680
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	36.5	28.9	46.0	35.3	34.1	46.8	19.5	12.2	53.6	25.3	18.0
Incr Delay (d2), s/veh	1.8	0.3	0.1	2.5	0.3	0.1	0.9	0.4	0.1	10.2	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.9	1.2	2.1	1.7	0.3	1.7	2.7	0.5	0.1	2.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	36.8	29.0	48.6	35.6	34.2	47.7	19.9	12.3	63.7	25.9	18.3
LnGrp LOS	D	D	C	D	D	C	D	B	B	E	C	B
Approach Vol, veh/h		273			180			539			405	
Approach Delay, s/veh		35.3			41.4			26.2			24.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	30.1	15.5	46.4	15.3	31.4	6.6	55.4
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 13	* 55	* 10	* 38	* 12	* 56	* 10	* 38
Max Q Clear Time (g_c+I1), s	6.7	6.2	6.0	9.2	5.1	5.9	2.2	9.0
Green Ext Time (p_c), s	0.1	1.0	0.1	2.1	0.1	0.4	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	281	122	141	273	10
Future Volume (veh/h)	25	281	122	141	273	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.92	1.00	0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	335	133	153	290	11
Peak Hour Factor	0.84	0.84	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	96	549	282	221	705	27
Arrive On Green	0.05	0.29	0.15	0.15	0.41	0.41
Sat Flow, veh/h	1781	1870	1870	1464	1700	64
Grp Volume(v), veh/h	30	335	133	153	302	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1464	1771	0
Q Serve(g_s), s	0.9	8.2	3.4	5.3	6.4	0.0
Cycle Q Clear(g_c), s	0.9	8.2	3.4	5.3	6.4	0.0
Prop In Lane	1.00			1.00	0.96	0.04
Lane Grp Cap(c), veh/h	96	549	282	221	734	0
V/C Ratio(X)	0.31	0.61	0.47	0.69	0.41	0.00
Avail Cap(c_a), veh/h	268	793	345	270	734	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.2	16.1	20.6	21.4	11.0	0.0
Incr Delay (d2), s/veh	0.7	5.0	5.5	16.4	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.6	1.7	2.6	2.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.8	21.1	26.1	37.7	12.7	0.0
LnGrp LOS	C	C	C	D	B	A
Approach Vol, veh/h		365	286		302	
Approach Delay, s/veh		21.4	32.3		12.7	
Approach LOS		C	C		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		23.6		29.5	7.6	16.0
Change Period (Y+Rc), s		8.0		7.5	* 4.7	8.0
Max Green Setting (Gmax), s		22.5		22.0	* 8	9.8
Max Q Clear Time (g_c+I1), s		10.2		8.4	2.9	7.3
Green Ext Time (p_c), s		3.8		2.3	0.0	0.8
Intersection Summary						
HCM 6th Ctrl Delay			21.9			
HCM 6th LOS			C			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	229	43	205	292	196	116	754	155	220	1002	279
Future Volume (veh/h)	142	229	43	205	292	196	116	754	155	220	1002	279
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	257	48	225	321	215	123	802	165	244	1113	310
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	783	416	278	701	436	172	1301	268	295	1708	745
Arrive On Green	0.10	0.22	0.22	0.08	0.20	0.20	0.05	0.45	0.45	0.09	0.48	0.48
Sat Flow, veh/h	1781	3554	1529	3456	3554	1525	3456	2921	601	3456	3554	1549
Grp Volume(v), veh/h	160	257	48	225	321	215	123	488	479	244	1113	310
Grp Sat Flow(s),veh/h/ln	1781	1777	1529	1728	1777	1525	1728	1777	1745	1728	1777	1549
Q Serve(g_s), s	11.5	7.9	3.1	8.3	10.4	15.3	4.6	27.3	27.3	9.0	30.8	16.9
Cycle Q Clear(g_c), s	11.5	7.9	3.1	8.3	10.4	15.3	4.6	27.3	27.3	9.0	30.8	16.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	185	783	416	278	701	436	172	791	777	295	1708	745
V/C Ratio(X)	0.86	0.33	0.12	0.81	0.46	0.49	0.71	0.62	0.62	0.83	0.65	0.42
Avail Cap(c_a), veh/h	216	1063	537	377	1039	581	183	791	777	324	1708	745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.4	42.6	35.7	58.8	46.1	39.0	60.8	27.6	27.6	58.5	25.5	21.9
Incr Delay (d2), s/veh	23.4	0.2	0.1	6.5	0.5	0.9	9.5	3.6	3.6	13.6	1.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	3.5	1.2	3.9	4.7	5.9	2.2	12.2	12.0	4.5	13.2	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.7	42.8	35.9	65.3	46.5	39.8	70.4	31.2	31.2	72.1	27.5	23.6
LnGrp LOS	F	D	D	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		465			761			1090			1667	
Approach Delay, s/veh		55.2			50.2			35.6			33.3	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	63.5	15.7	34.6	11.7	68.1	18.7	31.5
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 12	42.8	* 14	38.9	* 6.9	48.1	* 16	* 38
Max Q Clear Time (g_c+I1), s	11.0	29.3	10.3	9.9	6.6	32.8	13.5	17.3
Green Ext Time (p_c), s	0.1	5.2	0.2	1.7	0.0	7.9	0.0	2.8

Intersection Summary		
HCM 6th Ctrl Delay		39.7
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection						
Int Delay, s/veh	0					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

EEC ORIGINAL PKG

PC ORIGINAL PKG

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	23	117	218	207	129
v/c Ratio	0.09	0.25	0.55	0.18	0.16
Control Delay	21.5	15.8	27.0	1.0	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	15.8	27.0	1.0	9.7
Queue Length 50th (ft)	6	27	54	0	18
Queue Length 95th (ft)	25	57	#166	16	50
Internal Link Dist (ft)		427	7752		505
Turn Bay Length (ft)	325			350	
Base Capacity (vph)	264	783	393	1124	802
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.15	0.55	0.18	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	30	335	133	153	301
v/c Ratio	0.12	0.55	0.30	0.14	0.43
Control Delay	23.8	19.1	22.0	1.2	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	19.1	22.0	1.2	15.5
Queue Length 50th (ft)	9	90	31	0	69
Queue Length 95th (ft)	28	141	90	14	141
Internal Link Dist (ft)		427	7752		505
Turn Bay Length (ft)	325			350	
Base Capacity (vph)	254	752	450	1061	699
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.45	0.30	0.14	0.43

Intersection Summary

APPENDIX F

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – OPENING YEAR WITH PROJECT

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	0	32	2	58	0	180	25	72	122	1
Future Vol, veh/h	3	0	0	32	2	58	0	180	25	72	122	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	71	71	71	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	0	45	3	82	0	209	29	84	142	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	597	569	163	555	555	244	153	0	0	248	0	0
Stage 1	321	321	-	234	234	-	-	-	-	-	-	-
Stage 2	276	248	-	321	321	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	415	432	882	442	440	795	1428	-	-	1318	-	-
Stage 1	691	652	-	769	711	-	-	-	-	-	-	-
Stage 2	730	701	-	691	652	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	343	394	865	411	401	780	1414	-	-	1305	-	-
Mov Cap-2 Maneuver	343	394	-	411	401	-	-	-	-	-	-	-
Stage 1	684	600	-	761	704	-	-	-	-	-	-	-
Stage 2	645	694	-	637	600	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.6	12.9	0	2.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1414	-	-	343	585	1305	-	-
HCM Lane V/C Ratio	-	-	-	0.012	0.221	0.064	-	-
HCM Control Delay (s)	0	-	-	15.6	12.9	7.9	0	-
HCM Lane LOS	A	-	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.8	0.2	-	-

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	266	241	28	120	284	363	65	833	156	256	671	174
Future Volume (veh/h)	266	241	28	120	284	363	65	833	156	256	671	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	309	280	33	129	305	390	79	1016	190	328	860	223
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	1357	590	232	533	439	115	995	430	333	1107	480
Arrive On Green	0.16	0.38	0.38	0.07	0.29	0.29	0.06	0.28	0.28	0.10	0.31	0.31
Sat Flow, veh/h	1781	3554	1545	3456	1870	1538	1781	3554	1537	3456	3554	1540
Grp Volume(v), veh/h	309	280	33	129	305	390	79	1016	190	328	860	223
Grp Sat Flow(s),veh/h/ln	1781	1777	1545	1728	1870	1538	1781	1777	1537	1728	1777	1540
Q Serve(g_s), s	24.3	7.8	2.0	5.4	20.7	36.0	6.4	41.5	15.1	14.1	32.6	17.3
Cycle Q Clear(g_c), s	24.3	7.8	2.0	5.4	20.7	36.0	6.4	41.5	15.1	14.1	32.6	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	292	1357	590	232	533	439	115	995	430	333	1107	480
V/C Ratio(X)	1.06	0.21	0.06	0.56	0.57	0.89	0.68	1.02	0.44	0.98	0.78	0.46
Avail Cap(c_a), veh/h	292	1390	604	240	555	456	120	995	430	333	1107	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	30.7	28.9	67.0	45.3	50.8	67.9	53.4	43.9	66.9	46.4	41.1
Incr Delay (d2), s/veh	69.0	0.3	0.1	2.6	3.6	21.6	11.6	34.1	3.3	44.9	5.4	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.5	3.4	0.8	2.5	10.1	16.4	3.3	23.0	6.1	8.3	15.2	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	131.0	31.0	29.1	69.7	48.8	72.4	79.4	87.5	47.1	111.8	51.8	44.3
LnGrp LOS	F	C	C	E	D	E	E	F	D	F	D	D
Approach Vol, veh/h		622			824			1285			1411	
Approach Delay, s/veh		80.6			63.2			81.0			64.5	
Approach LOS		F			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	49.9	15.7	62.7	15.3	54.6	30.0	48.4
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 14	* 42	* 10	58.0	* 10	* 46	* 24	44.0
Max Q Clear Time (g_c+I1), s	16.1	43.5	7.4	9.8	8.4	34.6	26.3	38.0
Green Ext Time (p_c), s	0.0	0.0	0.1	5.3	0.0	8.4	0.0	3.4

Intersection Summary			
HCM 6th Ctrl Delay			71.8
HCM 6th LOS			E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	234	186	171	149	1
Future Volume (veh/h)	0	234	186	171	149	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	269	216	199	199	1
Peak Hour Factor	0.87	0.87	0.86	0.86	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	550	550	443	774	4
Arrive On Green	0.00	0.29	0.29	0.29	0.44	0.44
Sat Flow, veh/h	1781	1870	1870	1507	1763	9
Grp Volume(v), veh/h	0	269	216	199	201	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1507	1780	0
Q Serve(g_s), s	0.0	6.3	4.9	5.7	3.8	0.0
Cycle Q Clear(g_c), s	0.0	6.3	4.9	5.7	3.8	0.0
Prop In Lane	1.00			1.00	0.99	0.00
Lane Grp Cap(c), veh/h	3	550	550	443	782	0
V/C Ratio(X)	0.00	0.49	0.39	0.45	0.26	0.00
Avail Cap(c_a), veh/h	270	1511	1026	827	782	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	15.4	14.9	15.2	9.4	0.0
Incr Delay (d2), s/veh	0.0	3.1	2.1	3.3	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	1.9	1.9	1.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.5	17.0	18.4	10.2	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		269	415		201	
Approach Delay, s/veh		18.5	17.7		10.2	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		23.5		29.3	0.0	23.5
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		42.7		23.2	* 8	29.0
Max Q Clear Time (g_c+I1), s		8.3		5.8	0.0	7.7
Green Ext Time (p_c), s		5.3		0.8	0.0	5.7
Intersection Summary						
HCM 6th Ctrl Delay			16.2			
HCM 6th LOS			B			

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	50	133	24	39	3	67	238	36	9	220	37
Future Volume (veh/h)	41	50	133	24	39	3	67	238	36	9	220	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	77	205	28	45	3	87	309	47	13	314	53
Peak Hour Factor	0.65	0.65	0.65	0.86	0.86	0.86	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	382	782	114	321	261	306	1528	756	54	1321	727
Arrive On Green	0.10	0.20	0.20	0.06	0.17	0.17	0.09	0.43	0.43	0.03	0.37	0.37
Sat Flow, veh/h	1781	1870	2618	1781	1870	1519	3456	3554	1522	1781	3554	1544
Grp Volume(v), veh/h	63	77	205	28	45	3	87	309	47	13	314	53
Grp Sat Flow(s),veh/h/ln	1781	1870	1309	1781	1870	1519	1728	1777	1522	1781	1777	1544
Q Serve(g_s), s	3.4	3.5	6.2	1.6	2.1	0.2	2.4	5.6	1.7	0.7	6.3	2.0
Cycle Q Clear(g_c), s	3.4	3.5	6.2	1.6	2.1	0.2	2.4	5.6	1.7	0.7	6.3	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	172	382	782	114	321	261	306	1528	756	54	1321	727
V/C Ratio(X)	0.37	0.20	0.26	0.25	0.14	0.01	0.28	0.20	0.06	0.24	0.24	0.07
Avail Cap(c_a), veh/h	211	1001	1648	211	1001	813	343	1528	756	177	1321	727
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	34.3	28.2	46.2	36.5	35.7	44.3	18.5	13.7	49.2	22.5	15.2
Incr Delay (d2), s/veh	1.8	0.3	0.2	1.6	0.2	0.0	0.5	0.3	0.2	3.3	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	1.8	0.7	0.9	0.1	1.0	2.2	0.5	0.4	2.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	34.5	28.4	47.8	36.7	35.7	44.8	18.8	13.9	52.5	22.9	15.4
LnGrp LOS	D	C	C	D	D	D	D	B	B	D	C	B
Approach Vol, veh/h		345			76			443			380	
Approach Delay, s/veh		32.9			40.8			23.4			22.9	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	29.6	14.9	47.0	15.8	26.2	8.8	53.1
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 56	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	3.6	8.2	4.4	8.3	5.4	4.1	2.7	7.6
Green Ext Time (p_c), s	0.0	1.2	0.1	1.9	0.1	0.2	0.0	1.9

Intersection Summary		
HCM 6th Ctrl Delay		26.9
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	22	111	4	5	201	191	7	18	0	87	22	15
Future Volume (veh/h)	22	111	4	5	201	191	7	18	0	87	22	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.93	0.99		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	117	4	5	218	208	8	20	0	112	28	19
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	389	13	12	330	261	657	761	0	691	415	281
Arrive On Green	0.04	0.22	0.22	0.01	0.18	0.18	0.41	0.41	0.00	0.41	0.41	0.41
Sat Flow, veh/h	1781	1796	61	1781	1870	1477	1343	1870	0	1392	1019	692
Grp Volume(v), veh/h	23	0	121	5	218	208	8	20	0	112	0	47
Grp Sat Flow(s),veh/h/ln	1781	0	1858	1781	1870	1477	1343	1870	0	1392	0	1711
Q Serve(g_s), s	0.7	0.0	3.0	0.2	5.9	7.3	0.2	0.3	0.0	2.8	0.0	0.9
Cycle Q Clear(g_c), s	0.7	0.0	3.0	0.2	5.9	7.3	1.1	0.3	0.0	3.2	0.0	0.9
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.00	1.00		0.40
Lane Grp Cap(c), veh/h	77	0	402	12	330	261	657	761	0	691	0	696
V/C Ratio(X)	0.30	0.00	0.30	0.42	0.66	0.80	0.01	0.03	0.00	0.16	0.00	0.07
Avail Cap(c_a), veh/h	264	0	447	165	339	268	732	865	0	691	0	696
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.1	0.0	17.7	26.8	20.8	21.3	10.1	9.6	0.0	10.6	0.0	9.8
Incr Delay (d2), s/veh	0.8	0.0	1.9	21.8	10.0	22.0	0.0	0.0	0.0	0.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.3	0.1	3.1	3.8	0.1	0.1	0.0	0.8	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	0.0	19.7	48.5	30.7	43.4	10.1	9.6	0.0	11.1	0.0	10.0
LnGrp LOS	C	A	B	D	C	D	B	A	A	B	A	A
Approach Vol, veh/h		144			431			28			159	
Approach Delay, s/veh		20.7			37.0			9.8			10.7	
Approach LOS		C			D			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	19.7		29.5	7.0	17.5		29.5				
Change Period (Y+Rc), s	4.5	8.0		7.5	* 4.7	8.0		* 7.5				
Max Green Setting (Gmax), s	5.0	13.0		22.0	* 8	9.8		* 25				
Max Q Clear Time (g_c+I1), s	2.7	5.0		5.2	2.7	9.3		3.1				
Green Ext Time (p_c), s	0.0	0.8		1.3	0.0	0.2		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		27.5
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	218	17	173	413	275	161	570	111	180	516	136
Future Volume (veh/h)	101	218	17	173	413	275	161	570	111	180	516	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	256	20	206	492	327	185	655	128	198	567	149
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	900	497	259	880	495	238	1271	248	252	1545	673
Arrive On Green	0.08	0.25	0.25	0.07	0.25	0.25	0.07	0.43	0.43	0.07	0.43	0.43
Sat Flow, veh/h	1781	3554	1534	3456	3554	1533	3456	2951	576	3456	3554	1547
Grp Volume(v), veh/h	119	256	20	206	492	327	185	394	389	198	567	149
Grp Sat Flow(s),veh/h/ln	1781	1777	1534	1728	1777	1533	1728	1777	1750	1728	1777	1547
Q Serve(g_s), s	8.6	7.5	1.2	7.6	15.7	23.9	6.8	21.1	21.2	7.3	14.0	7.8
Cycle Q Clear(g_c), s	8.6	7.5	1.2	7.6	15.7	23.9	6.8	21.1	21.2	7.3	14.0	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	143	900	497	259	880	495	238	765	753	252	1545	673
V/C Ratio(X)	0.83	0.28	0.04	0.80	0.56	0.66	0.78	0.52	0.52	0.79	0.37	0.22
Avail Cap(c_a), veh/h	218	1093	581	351	1039	564	327	765	753	388	1545	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	39.1	30.3	59.1	42.7	38.2	59.6	27.1	27.1	59.3	24.7	23.0
Incr Delay (d2), s/veh	9.0	0.2	0.0	6.1	0.6	2.4	5.1	2.5	2.5	2.5	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	3.3	0.4	3.6	7.0	9.3	3.2	9.4	9.3	3.3	6.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	39.2	30.3	65.2	43.3	40.5	64.7	29.6	29.6	61.8	25.4	23.7
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		395			1025			968			914	
Approach Delay, s/veh		47.4			46.8			36.3			33.0	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	61.6	14.9	38.8	14.1	62.1	15.7	38.1
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 15	40.3	* 13	40.0	* 12	42.6	* 16	* 38
Max Q Clear Time (g_c+I1), s	9.3	23.2	9.6	9.5	8.8	16.0	10.6	25.9
Green Ext Time (p_c), s	0.2	4.5	0.1	1.6	0.1	4.5	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

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Intersection						
Int Delay, s/veh	2.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	0	0	0	0	4
Future Vol, veh/h	2	0	0	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	0	0	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1082	1618	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1082	1618	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1618	-	1021	-	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	29	1	51	0	140	38	146	301	0
Future Vol, veh/h	0	0	0	29	1	51	0	140	38	146	301	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	90	90	90	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	36	1	64	0	156	42	172	354	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	928	916	374	895	895	197	364	0	0	208	0	0
Stage 1	708	708	-	187	187	-	-	-	-	-	-	-
Stage 2	220	208	-	708	708	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	248	272	672	261	280	844	1195	-	-	1363	-	-
Stage 1	426	438	-	815	745	-	-	-	-	-	-	-
Stage 2	782	730	-	426	438	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	196	224	659	225	231	828	1184	-	-	1350	-	-
Mov Cap-2 Maneuver	196	224	-	225	231	-	-	-	-	-	-	-
Stage 1	422	365	-	807	738	-	-	-	-	-	-	-
Stage 2	714	723	-	355	365	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	16.4	0	2.6
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1184	-	-	-	416	1350	-	-
HCM Lane V/C Ratio	-	-	-	-	0.243	0.127	-	-
HCM Control Delay (s)	0	-	-	0	16.4	8.1	0	-
HCM Lane LOS	A	-	-	A	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰↰	↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Traffic Volume (veh/h)	257	438	103	295	243	319	34	749	264	464	1065	261
Future Volume (veh/h)	257	438	103	295	243	319	34	749	264	464	1065	261
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	317	541	127	317	261	343	36	797	281	510	1170	287
Peak Hour Factor	0.81	0.81	0.81	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	1129	489	372	509	418	94	939	406	458	1223	531
Arrive On Green	0.15	0.32	0.32	0.11	0.27	0.27	0.05	0.26	0.26	0.13	0.34	0.34
Sat Flow, veh/h	1781	3554	1540	3456	1870	1536	1781	3554	1535	3456	3554	1542
Grp Volume(v), veh/h	317	541	127	317	261	343	36	797	281	510	1170	287
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1870	1536	1781	1777	1535	1728	1777	1542
Q Serve(g_s), s	22.3	17.8	8.9	13.1	17.2	30.5	2.8	31.0	24.0	19.3	46.9	21.8
Cycle Q Clear(g_c), s	22.3	17.8	8.9	13.1	17.2	30.5	2.8	31.0	24.0	19.3	46.9	21.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	1129	489	372	509	418	94	939	406	458	1223	531
V/C Ratio(X)	1.16	0.48	0.26	0.85	0.51	0.82	0.38	0.85	0.69	1.11	0.96	0.54
Avail Cap(c_a), veh/h	273	1129	489	496	565	464	122	939	406	458	1223	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.7	40.0	37.0	63.8	44.8	49.7	66.7	50.8	48.2	63.2	46.7	38.5
Incr Delay (d2), s/veh	105.7	1.1	1.0	10.5	2.9	14.8	1.0	9.4	9.4	76.8	17.2	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.0	8.0	3.5	6.3	8.4	13.3	1.3	14.9	10.2	13.3	23.4	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	167.4	41.1	38.0	74.3	47.7	64.4	67.7	60.2	57.6	140.0	63.9	42.4
LnGrp LOS	F	D	D	E	D	E	E	E	E	F	E	D
Approach Vol, veh/h		985			921			1114			1967	
Approach Delay, s/veh		81.4			63.1			59.8			80.5	
Approach LOS		F			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	46.9	21.4	52.4	13.4	58.5	28.0	45.7				
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1				
Max Green Setting (Gmax), s	* 19	* 39	* 21	45.4	* 10	* 48	* 22	44.0				
Max Q Clear Time (g_c+I1), s	21.3	33.0	15.1	19.8	4.8	48.9	24.3	32.5				
Green Ext Time (p_c), s	0.0	4.4	0.6	9.8	0.0	0.0	0.0	5.0				
Intersection Summary												
HCM 6th Ctrl Delay			72.8									
HCM 6th LOS			E									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	217	321	270	225	1
Future Volume (veh/h)	0	217	321	270	225	1
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	247	328	276	288	1
Peak Hour Factor	0.88	0.88	0.98	0.98	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	664	664	538	695	2
Arrive On Green	0.00	0.36	0.36	0.36	0.39	0.39
Sat Flow, veh/h	1781	1870	1870	1515	1768	6
Grp Volume(v), veh/h	0	247	328	276	290	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1515	1781	0
Q Serve(g_s), s	0.0	5.5	7.7	8.0	6.6	0.0
Cycle Q Clear(g_c), s	0.0	5.5	7.7	8.0	6.6	0.0
Prop In Lane	1.00			1.00	0.99	0.00
Lane Grp Cap(c), veh/h	3	664	664	538	700	0
V/C Ratio(X)	0.00	0.37	0.49	0.51	0.41	0.00
Avail Cap(c_a), veh/h	255	1467	1009	817	700	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.4	14.1	14.2	12.3	0.0
Incr Delay (d2), s/veh	0.0	1.6	2.6	3.5	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	2.9	2.5	2.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.0	16.7	17.7	14.1	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		247	604		290	
Approach Delay, s/veh		15.0	17.2		14.1	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		27.9		28.1	0.0	27.9
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		7.5		8.6	0.0	10.0
Green Ext Time (p_c), s		4.9		1.1	0.0	8.3
Intersection Summary						
HCM 6th Ctrl Delay			15.9			
HCM 6th LOS			B			

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱↱	↰	↑	↱	↰↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	43	68	114	62	62	12	136	317	39	3	290	63
Future Volume (veh/h)	43	68	114	62	62	12	136	317	39	3	290	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	86	144	82	82	16	155	360	44	3	330	72
Peak Hour Factor	0.79	0.79	0.79	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	373	775	180	396	323	315	1537	818	14	1242	680
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.09	0.43	0.43	0.01	0.35	0.35
Sat Flow, veh/h	1781	1870	2615	1781	1870	1528	3456	3554	1522	1781	3554	1543
Grp Volume(v), veh/h	54	86	144	82	82	16	155	360	44	3	330	72
Grp Sat Flow(s),veh/h/ln	1781	1870	1307	1781	1870	1528	1728	1777	1522	1781	1777	1543
Q Serve(g_s), s	3.1	4.2	4.5	4.7	3.9	0.9	4.6	7.0	1.5	0.2	7.2	3.0
Cycle Q Clear(g_c), s	3.1	4.2	4.5	4.7	3.9	0.9	4.6	7.0	1.5	0.2	7.2	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	373	775	180	396	323	315	1537	818	14	1242	680
V/C Ratio(X)	0.34	0.23	0.19	0.46	0.21	0.05	0.49	0.23	0.05	0.21	0.27	0.11
Avail Cap(c_a), veh/h	197	949	1581	201	954	780	359	1537	818	164	1242	680
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	36.6	29.0	46.1	35.4	34.2	47.0	19.5	12.2	53.6	25.4	18.0
Incr Delay (d2), s/veh	1.8	0.3	0.1	2.5	0.3	0.1	1.2	0.4	0.1	10.2	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.9	1.3	2.1	1.7	0.3	2.0	2.7	0.5	0.1	2.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	36.9	29.1	48.6	35.6	34.2	48.2	19.8	12.3	63.8	25.9	18.3
LnGrp LOS	D	D	C	D	D	C	D	B	B	E	C	B
Approach Vol, veh/h		284			180			559			405	
Approach Delay, s/veh		35.1			41.4			27.1			24.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	30.1	15.6	46.4	15.4	31.4	6.6	55.4
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 55	* 11	* 38	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	6.7	6.5	6.6	9.2	5.1	5.9	2.2	9.0
Green Ext Time (p_c), s	0.1	1.0	0.2	2.1	0.1	0.4	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	281	4	5	122	143	7	18	0	274	21	10
Future Volume (veh/h)	25	281	4	5	122	143	7	18	0	274	21	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.93	0.99		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	335	5	5	133	155	8	20	0	291	22	11
Peak Hour Factor	0.84	0.84	0.84	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	408	6	12	320	253	666	756	0	686	468	234
Arrive On Green	0.05	0.22	0.22	0.01	0.17	0.17	0.40	0.40	0.00	0.40	0.40	0.40
Sat Flow, veh/h	1781	1837	27	1781	1870	1475	1360	1870	0	1392	1158	579
Grp Volume(v), veh/h	30	0	340	5	133	155	8	20	0	291	0	33
Grp Sat Flow(s),veh/h/ln	1781	0	1865	1781	1870	1475	1360	1870	0	1392	0	1737
Q Serve(g_s), s	0.9	0.0	9.4	0.2	3.5	5.3	0.2	0.4	0.0	8.7	0.0	0.6
Cycle Q Clear(g_c), s	0.9	0.0	9.4	0.2	3.5	5.3	0.8	0.4	0.0	9.0	0.0	0.6
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.00	1.00		0.33
Lane Grp Cap(c), veh/h	95	0	414	12	320	253	666	756	0	686	0	702
V/C Ratio(X)	0.31	0.00	0.82	0.42	0.42	0.61	0.01	0.03	0.00	0.42	0.00	0.05
Avail Cap(c_a), veh/h	262	0	445	164	337	265	741	859	0	686	0	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.8	0.0	20.2	26.9	20.1	20.9	10.1	9.8	0.0	12.5	0.0	9.9
Incr Delay (d2), s/veh	0.7	0.0	16.6	21.8	3.9	10.7	0.0	0.0	0.0	1.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	5.4	0.1	1.7	2.3	0.1	0.1	0.0	2.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	0.0	36.8	48.7	24.1	31.6	10.1	9.8	0.0	14.4	0.0	10.0
LnGrp LOS	C	A	D	D	C	C	B	A	A	B	A	A
Approach Vol, veh/h		370			293			28			324	
Approach Delay, s/veh		35.9			28.4			9.9			14.0	
Approach LOS		D			C			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	20.1		29.5	7.6	17.3		29.5				
Change Period (Y+Rc), s	4.5	8.0		7.5	* 4.7	8.0		* 7.5				
Max Green Setting (Gmax), s	5.0	13.0		22.0	* 8	9.8		* 25				
Max Q Clear Time (g_c+I1), s	2.9	11.4		11.0	2.9	7.3		2.8				
Green Ext Time (p_c), s	0.0	0.6		2.2	0.0	0.8		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		26.0
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	229	44	205	292	196	116	754	155	220	1002	280
Future Volume (veh/h)	144	229	44	205	292	196	116	754	155	220	1002	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	162	257	49	225	321	215	123	802	165	244	1113	311
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	787	418	278	701	436	172	1297	267	295	1704	743
Arrive On Green	0.10	0.22	0.22	0.08	0.20	0.20	0.05	0.44	0.44	0.09	0.48	0.48
Sat Flow, veh/h	1781	3554	1529	3456	3554	1525	3456	2921	601	3456	3554	1549
Grp Volume(v), veh/h	162	257	49	225	321	215	123	488	479	244	1113	311
Grp Sat Flow(s),veh/h/ln	1781	1777	1529	1728	1777	1525	1728	1777	1745	1728	1777	1549
Q Serve(g_s), s	11.6	7.9	3.1	8.3	10.4	15.3	4.6	27.4	27.4	9.0	30.9	17.0
Cycle Q Clear(g_c), s	11.6	7.9	3.1	8.3	10.4	15.3	4.6	27.4	27.4	9.0	30.9	17.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	187	787	418	278	701	436	172	789	775	295	1704	743
V/C Ratio(X)	0.87	0.33	0.12	0.81	0.46	0.49	0.71	0.62	0.62	0.83	0.65	0.42
Avail Cap(c_a), veh/h	216	1063	537	377	1039	581	183	789	775	324	1704	743
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.3	42.5	35.6	58.8	46.1	39.0	60.8	27.7	27.7	58.5	25.6	22.0
Incr Delay (d2), s/veh	24.0	0.2	0.1	6.5	0.5	0.9	9.5	3.6	3.7	13.6	2.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	3.5	1.2	3.9	4.7	5.9	2.2	12.2	12.0	4.5	13.2	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.3	42.7	35.8	65.3	46.5	39.8	70.4	31.3	31.4	72.1	27.6	23.8
LnGrp LOS	F	D	D	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		468			761			1090			1668	
Approach Delay, s/veh		55.3			50.2			35.7			33.4	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.3	63.3	15.7	34.7	11.7	67.9	18.8	31.5
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 13	42.8	* 14	38.9	* 6.9	48.1	* 16	* 38
Max Q Clear Time (g_c+I1), s	11.0	29.4	10.3	9.9	6.6	32.9	13.6	17.3
Green Ext Time (p_c), s	0.1	5.2	0.2	1.7	0.0	7.9	0.0	2.8

Intersection Summary		
HCM 6th Ctrl Delay		39.8
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	0	0	2
Future Vol, veh/h	5	0	0	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	0	0	0	0	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	2	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1620	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1620	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1620	-	1022	-	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	23	121	5	218	208	8	20	112	47
v/c Ratio	0.08	0.28	0.03	0.53	0.43	0.01	0.02	0.19	0.06
Control Delay	21.4	18.7	23.8	26.0	7.0	8.7	8.6	11.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	18.7	23.8	26.0	7.0	8.7	8.6	11.5	7.7
Queue Length 50th (ft)	6	28	1	54	0	1	3	18	4
Queue Length 95th (ft)	25	76	10	#166	49	8	14	50	20
Internal Link Dist (ft)		427		7752			225		505
Turn Bay Length (ft)	325		100		350			50	
Base Capacity (vph)	277	474	173	409	485	666	918	591	756
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.26	0.03	0.53	0.43	0.01	0.02	0.19	0.06

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	30	340	5	133	155	8	20	291	33
v/c Ratio	0.11	0.67	0.03	0.33	0.34	0.01	0.02	0.52	0.05
Control Delay	23.2	27.7	25.4	22.8	6.8	10.0	9.9	17.6	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	27.7	25.4	22.8	6.8	10.0	9.9	17.6	9.4
Queue Length 50th (ft)	8	91	1	31	0	1	3	58	4
Queue Length 95th (ft)	28	#221	10	90	40	8	14	153	20
Internal Link Dist (ft)		427		7752			225		505
Turn Bay Length (ft)	325		100		350			50	
Base Capacity (vph)	262	507	164	409	450	635	864	555	717
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.67	0.03	0.33	0.34	0.01	0.02	0.52	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

CIRCULATION AND SCENIC HIGHWAYS ELEMENT

Prepared by:
Imperial County Planning & Development Services Department
801 Main Street
El Centro, CA 92243

in collaboration with the

Imperial County Public Works Department
155 South 11th Street
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WILLIAM S. BRUNET, P.E.
Director of Public Works

JURG HEUBERGER, AICP
Planning & Development Services Director

Approved by:
Board of Supervisors
January 29, 2008

APPENDIX G

IMPERIAL COUNTY CIRCULATION AND SCENIC HIGHWAYS ELEMENT EXCERPT

CIRCULATION AND SCENIC HIGHWAYS ELEMENT

Prepared by:
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Approved by:
Board of Supervisors
January 29, 2008

C. Future Traffic Volume Forecast

Forecast Model

A modification of SCAG's 2025 Regional Model was used to forecast Year 2025 traffic volumes on the various street segments. Minor modifications were made to both the land use and network data to improve accuracy. The following key roadway network and land use parameters were verified and/or assumed:

The Socio-Economic and Land Use data was reviewed for the 2025 Imperial County Transportation Model (ICTM). The 2025 ICTM contained two different socio-economic and land use data, one is the Calexico General Plan (CalexGP) version and the other is the Imperial Mall (ImpMall4a) version. After a review of the demographic information for both versions and consultation with Caltrans staff, it was determined that the CalexGP model provided the most accurate traffic forecast.

The Calexico General Plan (CalexGP) version of the ICTM was updated based on comments from the City of Calexico and is called the CalexGP+ version. The CalexGP+ version is considered a land use alternative to the CalexGP and ImpMall4a versions of the model.

The transportation network in the 2025 Imperial County Transportation Model was modified to include a link for Kloke Road from SR 98 to Cole Road and minor adjustments to some key connections.

I-8 interchanges are assumed in 2050 at Drew Road, Forrester Road, Austin Road, Imperial Avenue, SR-86, Dogwood Road, SR-111, Bowker Road, and SR-7.

Year 2050 Traffic Volumes

Once the land use and network data were modified in the 2025 CalexGP+ Model, Year 2025 ADT volumes were forecasted. The Year 2025 forecasted ADT volumes were reviewed for validity and consistency with existing ADT volumes and the surrounding land use and network data. A review of all 2025 model traffic volumes was conducted and revisions to these forecast volumes were made as deemed appropriate, especially when forecast volumes appeared lower than expected.

Annual growth rates were calculated at the nearby road segments from the existing ADT volumes and Year 2025 ADT volumes. The average annual growth rates were calculated for all the segments in the study area. After a review of the annual growth rates, the following annual growth rates were applied to the segments in the circulation element plan to forecast Year 2050 volumes:

Year 2025 ADT volumes < 20,000 - two percent (2.0%) annual growth was applied to the Year 2025 ADT volumes to determine Year 2050 ADT volumes.

Year 2025 ADT volumes between 20,001 and 27,000 - one percent (1.0%) annual growth was applied to the Year 2025 ADT volumes to estimate Year 2050 ADT volumes.

Year 2025 ADT volumes > 27,000 - half percent (0.5%) annual growth was applied to the Year 2025 ADT volumes to determine Year 2050 ADT volumes.

The 2025 CalexGP+ Model did not contain volumes for all of the roadway segments in the Imperial County Circulation Element Plan. For those segments, the Year 2050 segment volumes were calculated by applying a reasonable annual growth rate. The resultant Year 2050 forecast traffic volumes for the roadway segments are summarized in Table 3.

As shown in Table 3, all unincorporated area street segments are forecast to operate at LOS C or better on a daily basis. For the purpose of this analysis, LOS C will be targeted as the minimum acceptable level of service. Most roadway segments are forecast to operate at LOS A and B with their proposed Circulation Element classification. Level of service on State Highways, in some cases, deteriorates to LOS D, however the County of Imperial has no jurisdiction over State Highways and planning for these facilities is undertaken by the State of California. County roads that do intersect with State routes should be given special consideration because delays at intersections tend to deteriorate operating conditions along street segments.

For the purposes of this analysis, a table (see Table 5, Section IV) to compare daily traffic levels of service has been utilized. This is a broad base approach which is used to size roadways to accommodate long term volumes.

D. Roadway Classification Recommendations

The circulation plan is developed to create an efficient transportation system on a countywide basis. Roadway classifications will provide for the effective flow of goods and people with minimum delays in a cost effective and well-maintained system.

The recommended roadway classifications for the key roadways were determined based on Year 2050 volumes. The goal of the recommended roadway classification is to ensure key roadway segments operate at LOS C or better for the forecasted Year 2050 traffic volumes. The recommended roadway classifications were then reviewed for consistency and countywide infrastructure goals based on the future land use and network data. Table 3 shows the recommended roadway classifications for selected road segments.

Dual left–turn lanes and dedicated right-turn lanes should be planned at the intersection of major roadways. Appendix A1 contains guidelines for the provision of left-turn lanes and right-turn lanes at the intersection of various types of roadways. It is recommended that grade-separated railroad crossings be planned at roadways classified as Prime Arterial or Expressway. Appendix A2 contains the typical intersection layouts for the different roadway classifications.

A review of Table 3 shows that some of the classifications are potentially larger than necessary based on the forecasted traffic volumes. However, based on discussions with County staff and the desire to be slightly conservative in terms of setting aside right-of-way, the classifications shown in Table 3 were recommended.

E. Financial Recommendations

There is no single source nor single method of financing that will achieve the goals and objectives. The County will need to apply consistent efforts to secure the necessary financing.

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TABLE 3
IMPERIAL COUNTY PROJECTED STREET SEGMENT CONFIGURATIONS AND VOLUMES (continued)

Segment Location	2003 Classification	Year 2002 ADT Volume[a]	Year 2005 ADT Volume[a]	Year 2025 ADT Volume[c]	25 Year Total Growth Factor[d]	Year 2050 ADT Volume	Year 2050 Recommended Classification (# of Lanes)	2050 LOS[e]
Diehl Road								
Westside/Drew	Minor Collector						Minor Collector (2)	
Drew/Harrigan	Major Collector						Prime Arterial (6)	
Proposed Harrigan/Silsbee	Major Collector						Prime Arterial (6)	
Dietrich Road								
Rutherford/Shank	Minor Collector						Major Collector (4)	
Proposed Shank/SR-78	None						Major Collector (4)	
Doetsch Road								
Elder/SR-86	Minor Collector						Minor Collector (2)	
Dogwood Road (S31)*								
Proposed Lindsey/Hovley	None						Prime Arterial (6-divided)	
Brawley/SR-98	Prime Arterial						Prime Arterial (6-divided)	
Dowden Road								
Proposed Forrester/Gentry	None						Local Collector (2)	
Gentry/Kershaw	None						Prime Arterial (6)	
Kershaw/Butters	Minor Collector						Prime Arterial (6)	
Drew Road (S29)								
Evan Hewes/SR-98	Prime Arterial						Prime Arterial (6-divided)	
Dunaway Road								
I-8/Evan Hewes Hwy	Major Collector	900	1,040	2,756	1.64	4,500	Major Collector (4)	A
Eady Road								
Willoughby/Cole	Minor Collector						Minor Collector (2)	
Eddins Road (S30)								
Gentry/SR-111(Calipatria City Limits)	Major Collector						Major Collector (4)	
Edgar Road								
Pierle/Forrester	Minor Collector						Minor Collector (2)	
Elder Road								
Doetsch/Cady	Minor Collector						Minor Collector (2)	
English Road								
Sinclair/Wilkins	Minor Collector						Minor Collector (2)	
Erskine Road								
Wheeler/Payne	Minor Collector						Minor Collector	
Evan Hewes Hwy (S80)								
Imperial Hwy/El Centro	Prime Arterial						Prime Arterial (6-divided)	
El Centro/SR-115	Prime Arterial						Prime Arterial (6-divided)	
SR-115/End	Prime Arterial						Prime Arterial (6-divided)	
Fawcett Road								
Dogwood/Meadows	Minor Collector						Major Collector (4)	
Ferrell Road								
Kubler/SR-98	Major Collector						Major Collector (4)	
SR-98/Anza	Minor Collector						Minor Collector (2)	
Fifield Road								
SR-78/Streiby	Minor Collector						Minor Collector (2)	
Fisher Road								
Drew/Pulliam	Minor Collector						Minor Collector (2)	
Flett Road								
Wilkinson/Wirt	Minor Collector						Minor Collector (2)	
Forrester Road (S30)								
Proposed Sinclair/Walker	None						Prime Arterial (6-divided)	
Walker/Westmorland	Major Collector						Prime Arterial (6-divided)	
Westmorland/McCabe	Prime Arterial						Prime Arterial (6-divided)	
McCabe/Hime	Minor Collector						Prime Arterial (6-divided)	
Proposed Hime/River	Minor Collector						Prime Arterial (6-divided)	
North Westmorland City Limits/Gentry	Major Collector	1,200	1,390	9,000	1.64	15,000	Prime Arterial (6-divided)	A
Foulds Road								
Pellett/Lack	Minor Collector						Minor Collector (2)	
Fredericks Road								
Loveland/SR-111	Minor Collector						Minor Collector (2)	
Frontage Road								
Ross/Brawley (City)	Major Collector						Major Collector (4)	
Garst Road								
Sinclair/McDonald	Minor Collector						Minor Collector (2)	
Garvey Road								
Baughman/Andre	Minor Collector						Minor Collector (2)	

APPENDIX H

HISTORICAL TRAFFIC COMPARISON

INTERSECTION	DIRECTION	MARCH 2018						2022 + 10% SUMMER FACTOR						% CHANGE					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
2. SR-111 / Cole Blvd	Sb	64	130	626	993	171	427	153	232	608	967	233	422	139%	78%	-3%	-3%	36%	-1%
	Wb	416	288	428	319	123	292	330	290	243	206	109	268	-21%	1%	-43%	-35%	-11%	-8%
	Nb	149	281	645	716	89	104	142	240	756	679	59	31	-5%	-15%	17%	-5%	-34%	-70%
	Eb	103	121	325	462	142	123	25	94	212	391	233	224	-76%	-22%	-35%	-15%	64%	82%
3. SR-98 / Cole Blvd	Sb	0	0	0	0	134	245	1	1	0	0	128	197					-4%	-20%
	Wb	149	303	283	466	0	0	140	230	169	292	0	0	-6%	-24%	-40%	-37%		
	Nb	0	0	0	0	0	0	0	0	0	0	0	0						
	Eb	0	0	264	386	1	0	0	0	213	197	0	0			-19%	-49%	-100%	
AVERAGE CHANGE														-9%					
ANNUAL CHANGE														-2%					

SEGMENT	2018 CALTRANS CENSUS	2021 CALTRANS CENSUS	% CHANGE
SR-111			
North of Cole Road	37,500	29,500	-21%
South of Cole Road	34,000	27,000	-21%
North of Dogwood Rd	34,000	27,000	-21%
South of Dogwood Rd	34,000	34,000	0%
SR-98			
West of Dogwood Rd	4,200	4,900	17%
East of Dogwood Rd	9,300	10,800	16%
West of SR-111	20,300	23,600	16%
East of SR-111	24,600	20,600	-16%
West of SR-7	14,500	7,100	-51%
East of SR-7	3,150	3,050	-3%
SR-7			
North of SR-98	7,100	7,600	7%
South of SR-98	7,100	6,200	-13%
AVERAGE CHANGE			-7%
ANNUAL CHANGE			-1%

SEGMENT	2021 CALTRANS CENSUS	2025 IMPERIAL CE FORECAST	% CHANGE
SR-98			
West of Dogwood Rd	4,900	8,800	80%
East of Dogwood Rd	10,800	24,180	124%
West of SR-111	23,600	24,180	2%
East of SR-111	20,600	26,000	26%
West of SR-7	7,100	26,000	266%
East of SR-7	3,050	26,000	752%
AVERAGE CHANGE			208%
ANNUAL CHANGE			52%

SEGMENT	2021 CALTRANS CENSUS	2050 IMPERIAL CE FORECAST	% CHANGE
SR-98			
West of Dogwood Rd	4,900	14,500	196%
East of Dogwood Rd	10,800	31,500	192%
West of SR-111	23,600	31,500	33%
East of SR-111	20,600	33,500	63%
West of SR-7	7,100	33,500	372%
East of SR-7	3,050	33,500	998%
AVERAGE CHANGE			309%
ANNUAL CHANGE			8%

EEC ORIGINAL PKG

PC ORIGINAL PKG

APPENDIX I

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – HORIZON YEAR 2050 WITHOUT PROJECT

Intersection												
Int Delay, s/veh	3.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	0	60	0	190	10	70	130	0
Future Vol, veh/h	0	0	0	10	0	60	0	190	10	70	130	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	71	71	71	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	0	85	0	221	12	81	151	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	603	566	171	560	560	247	161	0	0	243	0	0
Stage 1	323	323	-	237	237	-	-	-	-	-	-	-
Stage 2	280	243	-	323	323	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	411	434	873	439	437	792	1418	-	-	1323	-	-
Stage 1	689	650	-	766	709	-	-	-	-	-	-	-
Stage 2	727	705	-	689	650	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	341	396	856	408	399	777	1404	-	-	1310	-	-
Mov Cap-2 Maneuver	341	396	-	408	399	-	-	-	-	-	-	-
Stage 1	682	600	-	758	702	-	-	-	-	-	-	-
Stage 2	642	698	-	636	600	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	11.1	0	2.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1404	-	-	-	688	1310	-	-
HCM Lane V/C Ratio	-	-	-	-	0.143	0.062	-	-
HCM Control Delay (s)	0	-	-	0	11.1	7.9	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.2	-	-

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	240	30	120	280	380	70	860	160	270	690	170
Future Volume (veh/h)	270	240	30	120	280	380	70	860	160	270	690	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	314	279	35	129	301	409	85	1049	195	346	885	218
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	1369	595	231	540	444	116	989	428	331	1099	476
Arrive On Green	0.16	0.39	0.39	0.07	0.29	0.29	0.07	0.28	0.28	0.10	0.31	0.31
Sat Flow, veh/h	1781	3554	1545	3456	1870	1538	1781	3554	1537	3456	3554	1540
Grp Volume(v), veh/h	314	279	35	129	301	409	85	1049	195	346	885	218
Grp Sat Flow(s),veh/h/ln	1781	1777	1545	1728	1870	1538	1781	1777	1537	1728	1777	1540
Q Serve(g_s), s	24.3	7.8	2.1	5.4	20.3	38.4	7.0	41.5	15.6	14.3	34.2	17.0
Cycle Q Clear(g_c), s	24.3	7.8	2.1	5.4	20.3	38.4	7.0	41.5	15.6	14.3	34.2	17.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	290	1369	595	231	540	444	116	989	428	331	1099	476
V/C Ratio(X)	1.08	0.20	0.06	0.56	0.56	0.92	0.73	1.06	0.46	1.04	0.81	0.46
Avail Cap(c_a), veh/h	290	1383	601	239	552	454	119	989	428	331	1099	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.4	30.6	28.8	67.4	44.9	51.3	68.4	53.8	44.5	67.4	47.4	41.4
Incr Delay (d2), s/veh	76.2	0.3	0.1	2.7	3.3	26.0	17.5	46.0	3.5	61.3	6.3	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.1	3.4	0.8	2.5	10.0	17.9	3.7	24.7	6.4	9.1	16.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	138.6	30.8	29.0	70.2	48.2	77.3	85.9	99.8	47.9	128.7	53.7	44.6
LnGrp LOS	F	C	C	E	D	E	F	F	D	F	D	D
Approach Vol, veh/h		628			839			1329			1449	
Approach Delay, s/veh		84.6			65.8			91.3			70.2	
Approach LOS		F			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	49.9	15.7	63.5	15.4	54.5	30.0	49.2
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 14	* 42	* 10	58.0	* 10	* 46	* 24	44.0
Max Q Clear Time (g_c+I1), s	16.3	43.5	7.4	9.8	9.0	36.2	26.3	40.4
Green Ext Time (p_c), s	0.0	0.0	0.1	5.3	0.0	7.4	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	78.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑	↱	Y	
Traffic Volume (veh/h)	0	240	190	160	150	0
Future Volume (veh/h)	0	240	190	160	150	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	276	221	186	276	1
Peak Hour Factor	0.87	0.87	0.86	0.86	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	546	546	1124	9999	9999
Arrive On Green	0.00	0.29	0.29	0.29	0.43	0.43
Sat Flow, veh/h	1781	1870	1870	[illegible]	[illegible]	109760
Grp Volume(v), veh/h	0	276	221	186	276	1
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1507	1781	1585
Q Serve(g_s), s	0.0	6.2	4.8	2.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.2	4.8	2.0	0.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	3	546	546	[illegible]	[illegible]	610368
V/C Ratio(X)	0.00	0.51	0.40	0.17	0.00	0.00
Avail Cap(c_a), veh/h	280	1610	1108	[illegible]	[illegible]	593984
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	15.0	14.5	2.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.3	2.2	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	1.8	1.4	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.3	16.7	2.5	0.0	0.0
LnGrp LOS	A	B	B	A	A	A
Approach Vol, veh/h		276	407		277	
Approach Delay, s/veh		18.3	10.2		0.0	
Approach LOS		B	B		A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		22.9		28.1	0.0	22.9
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		8.2		2.0	0.0	6.8
Green Ext Time (p_c), s		5.6		1.4	0.0	5.9
Intersection Summary						
HCM 6th Ctrl Delay			9.6			
HCM 6th LOS			A			

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	50	130	30	40	0	50	250	40	10	230	40
Future Volume (veh/h)	40	50	130	30	40	0	50	250	40	10	230	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		1.00	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	77	200	35	47	0	65	325	52	14	329	57
Peak Hour Factor	0.65	0.65	0.65	0.86	0.86	0.86	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	381	761	131	339	287	281	1492	755	57	1317	724
Arrive On Green	0.10	0.20	0.20	0.07	0.18	0.00	0.08	0.42	0.42	0.03	0.37	0.37
Sat Flow, veh/h	1781	1870	2617	1781	1870	1585	3456	3554	1521	1781	3554	1544
Grp Volume(v), veh/h	62	77	200	35	47	0	65	325	52	14	329	57
Grp Sat Flow(s),veh/h/ln	1781	1870	1309	1781	1870	1585	1728	1777	1521	1781	1777	1544
Q Serve(g_s), s	3.4	3.6	6.2	1.9	2.2	0.0	1.8	6.1	1.9	0.8	6.7	2.1
Cycle Q Clear(g_c), s	3.4	3.6	6.2	1.9	2.2	0.0	1.8	6.1	1.9	0.8	6.7	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	381	761	131	339	287	281	1492	755	57	1317	724
V/C Ratio(X)	0.36	0.20	0.26	0.27	0.14	0.00	0.23	0.22	0.07	0.25	0.25	0.08
Avail Cap(c_a), veh/h	210	998	1624	210	998	846	342	1492	755	176	1317	724
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	34.4	28.8	45.6	35.8	0.0	44.8	19.3	13.8	49.2	22.7	15.4
Incr Delay (d2), s/veh	1.8	0.3	0.2	1.5	0.2	0.0	0.4	0.3	0.2	3.1	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.6	1.8	0.9	1.0	0.0	0.8	2.4	0.6	0.4	2.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	34.7	29.0	47.2	36.0	0.0	45.2	19.6	14.0	52.3	23.2	15.6
LnGrp LOS	D	C	C	D	D	A	D	B	B	D	C	B
Approach Vol, veh/h		339			82			442			400	
Approach Delay, s/veh		33.4			40.8			22.7			23.1	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	29.6	14.2	47.0	15.7	27.3	9.0	52.1
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 56	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	3.9	8.2	3.8	8.7	5.4	4.2	2.8	8.1
Green Ext Time (p_c), s	0.0	1.2	0.1	2.0	0.1	0.2	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	26.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	120	210	200	90	20
Future Volume (veh/h)	20	120	210	200	90	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.93	1.00	0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	126	228	217	115	26
Peak Hour Factor	0.95	0.95	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	71	573	336	266	569	129
Arrive On Green	0.04	0.31	0.18	0.18	0.41	0.41
Sat Flow, veh/h	1781	1870	1870	1478	1399	316
Grp Volume(v), veh/h	21	126	228	217	142	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1478	1728	0
Q Serve(g_s), s	0.6	2.7	6.2	7.6	2.9	0.0
Cycle Q Clear(g_c), s	0.6	2.7	6.2	7.6	2.9	0.0
Prop In Lane	1.00			1.00	0.81	0.18
Lane Grp Cap(c), veh/h	71	573	336	266	703	0
V/C Ratio(X)	0.29	0.22	0.68	0.82	0.20	0.00
Avail Cap(c_a), veh/h	264	778	339	268	703	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.2	13.9	20.7	21.3	10.4	0.0
Incr Delay (d2), s/veh	0.8	0.9	10.5	23.5	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.1	3.3	4.0	1.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.1	14.8	31.3	44.9	11.0	0.0
LnGrp LOS	C	B	C	D	B	A
Approach Vol, veh/h		147	445		142	
Approach Delay, s/veh		16.4	37.9		11.0	
Approach LOS		B	D		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		24.6		29.5	6.9	17.7
Change Period (Y+Rc), s		8.0		7.5	* 4.7	8.0
Max Green Setting (Gmax), s		22.5		22.0	* 8	9.8
Max Q Clear Time (g_c+I1), s		4.7		4.9	2.6	9.6
Green Ext Time (p_c), s		1.5		1.0	0.0	0.1
Intersection Summary						
HCM 6th Ctrl Delay			28.4			
HCM 6th LOS			C			
Notes						

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	230	20	180	430	290	170	590	120	190	530	140
Future Volume (veh/h)	100	230	20	180	430	290	170	590	120	190	530	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	118	271	24	214	512	345	195	678	138	209	582	154
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	913	508	267	903	511	248	1233	251	263	1513	659
Arrive On Green	0.08	0.26	0.26	0.08	0.25	0.25	0.07	0.42	0.42	0.08	0.43	0.43
Sat Flow, veh/h	1781	3554	1534	3456	3554	1534	3456	2927	595	3456	3554	1547
Grp Volume(v), veh/h	118	271	24	214	512	345	195	411	405	209	582	154
Grp Sat Flow(s),veh/h/ln	1781	1777	1534	1728	1777	1534	1728	1777	1746	1728	1777	1547
Q Serve(g_s), s	8.5	8.0	1.4	7.9	16.3	25.3	7.2	22.7	22.7	7.7	14.6	8.3
Cycle Q Clear(g_c), s	8.5	8.0	1.4	7.9	16.3	25.3	7.2	22.7	22.7	7.7	14.6	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	142	913	508	267	903	511	248	749	735	263	1513	659
V/C Ratio(X)	0.83	0.30	0.05	0.80	0.57	0.68	0.79	0.55	0.55	0.80	0.38	0.23
Avail Cap(c_a), veh/h	218	1093	586	351	1039	569	327	749	735	388	1513	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	38.9	29.8	59.0	42.2	37.6	59.4	28.3	28.3	59.1	25.6	23.8
Incr Delay (d2), s/veh	8.6	0.2	0.0	7.1	0.6	2.8	6.5	2.9	3.0	3.9	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	3.5	0.5	3.7	7.3	9.9	3.4	10.1	10.0	3.5	6.3	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.5	39.0	29.8	66.1	42.8	40.4	65.9	31.2	31.3	62.9	26.4	24.6
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		413			1071			1011			945	
Approach Delay, s/veh		46.6			46.7			37.9			34.2	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	60.4	15.2	39.3	14.5	60.9	15.6	38.9
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 15	40.3	* 13	40.0	* 12	42.6	* 16	* 38
Max Q Clear Time (g_c+I1), s	9.7	24.7	9.9	10.0	9.2	16.6	10.5	27.3
Green Ext Time (p_c), s	0.2	4.6	0.1	1.7	0.1	4.6	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	10	0	50	0	140	20	150	310	0
Future Vol, veh/h	0	0	0	10	0	50	0	140	20	150	310	0
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	90	90	90	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	13	0	63	0	156	22	176	365	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	936	915	385	904	904	187	375	0	0	188	0	0
Stage 1	727	727	-	177	177	-	-	-	-	-	-	-
Stage 2	209	188	-	727	727	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	245	273	663	258	277	855	1183	-	-	1386	-	-
Stage 1	415	429	-	825	753	-	-	-	-	-	-	-
Stage 2	793	745	-	415	429	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	195	224	650	222	228	839	1172	-	-	1373	-	-
Mov Cap-2 Maneuver	195	224	-	222	228	-	-	-	-	-	-	-
Stage 1	411	356	-	817	745	-	-	-	-	-	-	-
Stage 2	727	738	-	345	356	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	12.2	0	2.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1172	-	-	-	573	1373	-	-
HCM Lane V/C Ratio	-	-	-	-	0.131	0.129	-	-
HCM Control Delay (s)	0	-	-	0	12.2	8	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	450	110	310	230	330	40	770	270	480	1100	260
Future Volume (veh/h)	260	450	110	310	230	330	40	770	270	480	1100	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	321	556	136	333	247	355	43	819	287	527	1209	286
Peak Hour Factor	0.81	0.81	0.81	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	272	1122	486	387	515	423	101	935	404	456	1204	522
Arrive On Green	0.15	0.32	0.32	0.11	0.28	0.28	0.06	0.26	0.26	0.13	0.34	0.34
Sat Flow, veh/h	1781	3554	1540	3456	1870	1537	1781	3554	1535	3456	3554	1542
Grp Volume(v), veh/h	321	556	136	333	247	355	43	819	287	527	1209	286
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1870	1537	1781	1777	1535	1728	1777	1542
Q Serve(g_s), s	22.3	18.6	9.7	13.8	16.1	31.8	3.4	32.3	24.8	19.3	49.5	22.0
Cycle Q Clear(g_c), s	22.3	18.6	9.7	13.8	16.1	31.8	3.4	32.3	24.8	19.3	49.5	22.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	1122	486	387	515	423	101	935	404	456	1204	522
V/C Ratio(X)	1.18	0.50	0.28	0.86	0.48	0.84	0.43	0.88	0.71	1.16	1.00	0.55
Avail Cap(c_a), veh/h	272	1122	486	494	563	462	122	935	404	456	1204	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	40.6	37.6	63.8	44.3	50.0	66.7	51.6	48.8	63.5	48.4	39.3
Incr Delay (d2), s/veh	113.1	1.2	1.1	11.8	2.5	16.3	1.1	11.3	10.1	92.3	27.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.6	8.3	3.8	6.7	7.9	14.1	1.6	15.7	10.6	14.3	26.1	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	175.0	41.8	38.7	75.6	46.8	66.3	67.8	62.9	59.0	155.8	75.4	43.3
LnGrp LOS	F	D	D	E	D	E	E	E	E	F	F	D
Approach Vol, veh/h		1013			935			1149			2022	
Approach Delay, s/veh		83.6			64.4			62.1			91.8	
Approach LOS		F			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	46.9	22.1	52.3	14.0	57.9	28.0	46.4				
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1				
Max Green Setting (Gmax), s	* 19	* 39	* 21	45.4	* 10	* 48	* 22	44.0				
Max Q Clear Time (g_c+I1), s	21.3	34.3	15.8	20.6	5.4	51.5	24.3	33.8				
Green Ext Time (p_c), s	0.0	3.5	0.5	10.0	0.0	0.0	0.0	4.5				
Intersection Summary												
HCM 6th Ctrl Delay			78.5									
HCM 6th LOS			E									
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	220	330	260	220	0
Future Volume (veh/h)	0	220	330	260	220	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	250	337	265	250	1
Peak Hour Factor	0.88	0.88	0.98	0.98	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	663	663	1161	9999	9999
Arrive On Green	0.00	0.35	0.35	0.35	0.39	0.39
Sat Flow, veh/h	1781	1870	1870[illegible]23232			
Grp Volume(v), veh/h	0	250	337	265	250	1
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1515	1781	1585
Q Serve(g_s), s	0.0	5.6	7.9	3.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	5.6	7.9	3.0	0.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	3	663	663[illegible]86208			
V/C Ratio(X)	0.00	0.38	0.51	0.23	0.00	0.00
Avail Cap(c_a), veh/h	255	1468	1010[illegible]869824			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	13.5	14.2	2.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	2.8	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	3.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.1	17.0	2.6	0.0	0.0
LnGrp LOS	A	B	B	A	A	A
Approach Vol, veh/h		250	602		251	
Approach Delay, s/veh		15.1	10.7		0.0	
Approach LOS		B	B		A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		27.8		28.1	0.0	27.8
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		7.6		2.0	0.0	9.9
Green Ext Time (p_c), s		5.0		1.3	0.0	8.3

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	70	110	60	60	10	120	330	40	0	300	60
Future Volume (veh/h)	40	70	110	60	60	10	120	330	40	0	300	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	89	139	79	79	13	136	375	45	0	341	68
Peak Hour Factor	0.79	0.79	0.79	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	373	774	179	398	325	313	1752	911	2	1244	677
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.09	0.49	0.49	0.00	0.35	0.35
Sat Flow, veh/h	1781	1870	2615	1781	1870	1528	3456	3554	1526	1781	3554	1543
Grp Volume(v), veh/h	51	89	139	79	79	13	136	375	45	0	341	68
Grp Sat Flow(s),veh/h/ln	1781	1870	1307	1781	1870	1528	1728	1777	1526	1781	1777	1543
Q Serve(g_s), s	2.9	4.3	4.3	4.5	3.8	0.7	4.0	6.5	1.3	0.0	7.5	2.8
Cycle Q Clear(g_c), s	2.9	4.3	4.3	4.5	3.8	0.7	4.0	6.5	1.3	0.0	7.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	373	774	179	398	325	313	1752	911	2	1244	677
V/C Ratio(X)	0.33	0.24	0.18	0.44	0.20	0.04	0.43	0.21	0.05	0.00	0.27	0.10
Avail Cap(c_a), veh/h	197	949	1580	218	972	794	331	1752	911	164	1244	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	36.5	28.9	46.0	35.1	33.9	46.7	15.6	9.2	0.0	25.4	18.0
Incr Delay (d2), s/veh	1.8	0.3	0.1	2.4	0.2	0.0	1.0	0.3	0.1	0.0	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.9	1.3	2.0	1.7	0.3	1.7	2.4	0.4	0.0	3.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	36.9	29.0	48.4	35.4	34.0	47.7	15.9	9.4	0.0	25.9	18.3
LnGrp LOS	D	D	C	D	D	C	D	B	A	A	C	B
Approach Vol, veh/h		279			171			556			409	
Approach Delay, s/veh		35.1			41.3			23.1			24.7	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	30.1	15.5	46.4	15.1	31.5	0.0	61.9
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 13	* 55	* 10	* 38	* 12	* 56	* 10	* 38
Max Q Clear Time (g_c+I1), s	6.5	6.3	6.0	9.5	4.9	5.8	0.0	8.5
Green Ext Time (p_c), s	0.1	1.0	0.1	2.1	0.1	0.4	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	290	130	150	280	10
Future Volume (veh/h)	30	290	130	150	280	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.93	1.00	0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	345	141	163	298	11
Peak Hour Factor	0.84	0.84	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	110	569	291	228	695	26
Arrive On Green	0.06	0.30	0.16	0.16	0.41	0.41
Sat Flow, veh/h	1781	1870	1870	1467	1702	63
Grp Volume(v), veh/h	36	345	141	163	310	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1467	1771	0
Q Serve(g_s), s	1.0	8.5	3.7	5.7	6.8	0.0
Cycle Q Clear(g_c), s	1.0	8.5	3.7	5.7	6.8	0.0
Prop In Lane	1.00			1.00	0.96	0.04
Lane Grp Cap(c), veh/h	110	569	291	228	723	0
V/C Ratio(X)	0.33	0.61	0.49	0.72	0.43	0.00
Avail Cap(c_a), veh/h	264	781	340	267	723	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.2	16.0	20.8	21.6	11.4	0.0
Incr Delay (d2), s/veh	0.6	4.7	5.7	17.5	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	1.9	2.8	2.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.8	20.7	26.5	39.1	13.3	0.0
LnGrp LOS	C	C	C	D	B	A
Approach Vol, veh/h		381	304		310	
Approach Delay, s/veh		21.1	33.3		13.3	
Approach LOS		C	C		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		24.4		29.5	8.0	16.4
Change Period (Y+Rc), s		8.0		7.5	* 4.7	8.0
Max Green Setting (Gmax), s		22.5		22.0	* 8	9.8
Max Q Clear Time (g_c+I1), s		10.5		8.8	3.0	7.7
Green Ext Time (p_c), s		3.8		2.3	0.0	0.7

Intersection Summary			
HCM 6th Ctrl Delay			22.4
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	240	40	210	300	200	120	780	160	230	1040	290
Future Volume (veh/h)	150	240	40	210	300	200	120	780	160	230	1040	290
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	169	270	45	231	330	220	128	830	170	256	1156	322
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	802	427	284	708	444	178	1272	260	306	1678	731
Arrive On Green	0.11	0.23	0.23	0.08	0.20	0.20	0.05	0.43	0.43	0.09	0.47	0.47
Sat Flow, veh/h	1781	3554	1530	3456	3554	1525	3456	2923	599	3456	3554	1549
Grp Volume(v), veh/h	169	270	45	231	330	220	128	504	496	256	1156	322
Grp Sat Flow(s),veh/h/ln	1781	1777	1530	1728	1777	1525	1728	1777	1745	1728	1777	1549
Q Serve(g_s), s	12.1	8.3	2.8	8.5	10.7	15.6	4.7	29.1	29.1	9.5	33.1	18.0
Cycle Q Clear(g_c), s	12.1	8.3	2.8	8.5	10.7	15.6	4.7	29.1	29.1	9.5	33.1	18.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	194	802	427	284	708	444	178	773	759	306	1678	731
V/C Ratio(X)	0.87	0.34	0.11	0.81	0.47	0.50	0.72	0.65	0.65	0.84	0.69	0.44
Avail Cap(c_a), veh/h	216	1063	539	377	1039	586	183	773	759	324	1678	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	42.2	35.0	58.7	46.0	38.5	60.7	29.0	29.0	58.3	26.8	22.9
Incr Delay (d2), s/veh	26.0	0.2	0.1	7.2	0.5	0.9	10.7	4.3	4.3	15.2	2.3	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	3.6	1.1	4.0	4.8	6.0	2.3	13.1	12.9	4.8	14.2	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.0	42.4	35.1	65.9	46.4	39.4	71.5	33.2	33.3	73.5	29.2	24.8
LnGrp LOS	F	D	D	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		484			781			1128			1734	
Approach Delay, s/veh		55.9			50.2			37.6			34.9	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	62.1	15.9	35.2	11.9	67.0	19.3	31.8
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 12	42.8	* 14	38.9	* 6.9	48.1	* 16	* 38
Max Q Clear Time (g_c+I1), s	14.5	31.1	10.5	10.3	6.7	35.1	14.1	17.6
Green Ext Time (p_c), s	0.0	4.9	0.2	1.8	0.0	7.4	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	41.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

APPENDIX J

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – HORIZON YEAR 2050 WITH PROJECT

Intersection												
Int Delay, s/veh	4.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	0	33	5	60	0	190	28	70	130	5
Future Vol, veh/h	5	0	0	33	5	60	0	190	28	70	130	5
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	71	71	71	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	0	46	7	85	0	221	33	81	151	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	620	590	174	574	577	258	167	0	0	264	0	0
Stage 1	326	326	-	248	248	-	-	-	-	-	-	-
Stage 2	294	264	-	326	329	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	400	420	869	430	427	781	1411	-	-	1300	-	-
Stage 1	687	648	-	756	701	-	-	-	-	-	-	-
Stage 2	714	690	-	687	646	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	326	383	853	399	389	766	1398	-	-	1288	-	-
Mov Cap-2 Maneuver	326	383	-	399	389	-	-	-	-	-	-	-
Stage 1	680	597	-	748	694	-	-	-	-	-	-	-
Stage 2	623	683	-	634	596	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.3	13.4	0	2.7
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1398	-	-	326	564	1288	-	-
HCM Lane V/C Ratio	-	-	-	0.02	0.245	0.063	-	-
HCM Control Delay (s)	0	-	-	16.3	13.4	8	0	-
HCM Lane LOS	A	-	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	248	30	120	297	380	70	861	160	270	692	176
Future Volume (veh/h)	280	248	30	120	297	380	70	861	160	270	692	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	326	288	35	129	319	409	85	1050	195	346	887	226
Peak Hour Factor	0.86	0.86	0.86	0.93	0.93	0.93	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	1369	595	231	541	445	116	989	428	331	1099	476
Arrive On Green	0.16	0.39	0.39	0.07	0.29	0.29	0.07	0.28	0.28	0.10	0.31	0.31
Sat Flow, veh/h	1781	3554	1545	3456	1870	1538	1781	3554	1537	3456	3554	1540
Grp Volume(v), veh/h	326	288	35	129	319	409	85	1050	195	346	887	226
Grp Sat Flow(s),veh/h/ln	1781	1777	1545	1728	1870	1538	1781	1777	1537	1728	1777	1540
Q Serve(g_s), s	24.3	8.1	2.1	5.4	21.8	38.4	7.0	41.5	15.6	14.3	34.3	17.7
Cycle Q Clear(g_c), s	24.3	8.1	2.1	5.4	21.8	38.4	7.0	41.5	15.6	14.3	34.3	17.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	290	1369	595	231	541	445	116	989	428	331	1099	476
V/C Ratio(X)	1.12	0.21	0.06	0.56	0.59	0.92	0.73	1.06	0.46	1.04	0.81	0.47
Avail Cap(c_a), veh/h	290	1382	601	239	552	454	119	989	428	331	1099	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.4	30.7	28.8	67.5	45.4	51.3	68.4	53.8	44.5	67.4	47.4	41.7
Incr Delay (d2), s/veh	90.1	0.3	0.1	2.7	3.8	25.9	17.5	46.4	3.5	61.4	6.4	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.2	3.6	0.8	2.5	10.7	17.9	3.7	24.7	6.4	9.1	16.1	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	152.5	30.9	29.0	70.2	49.3	77.2	85.9	100.3	47.9	128.8	53.8	45.1
LnGrp LOS	F	C	C	E	D	E	F	F	D	F	D	D
Approach Vol, veh/h		649			857			1330			1459	
Approach Delay, s/veh		91.9			65.8			91.7			70.2	
Approach LOS		F			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	49.9	15.7	63.6	15.4	54.5	30.0	49.2
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1
Max Green Setting (Gmax), s	* 14	* 42	* 10	58.0	* 10	* 46	* 24	44.0
Max Q Clear Time (g_c+I1), s	16.3	43.5	7.4	10.1	9.0	36.3	26.3	40.4
Green Ext Time (p_c), s	0.0	0.0	0.1	5.5	0.0	7.4	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	79.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	240	190	177	158	5
Future Volume (veh/h)	0	240	190	177	158	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	276	221	206	211	7
Peak Hour Factor	0.87	0.87	0.86	0.86	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	558	558	450	745	25
Arrive On Green	0.00	0.30	0.30	0.30	0.44	0.44
Sat Flow, veh/h	1781	1870	1870	1508	1708	57
Grp Volume(v), veh/h	0	276	221	206	219	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1508	1773	0
Q Serve(g_s), s	0.0	6.5	5.0	5.9	4.2	0.0
Cycle Q Clear(g_c), s	0.0	6.5	5.0	5.9	4.2	0.0
Prop In Lane	1.00			1.00	0.96	0.03
Lane Grp Cap(c), veh/h	3	558	558	450	774	0
V/C Ratio(X)	0.00	0.49	0.40	0.46	0.28	0.00
Avail Cap(c_a), veh/h	268	1502	1020	822	774	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	15.3	14.8	15.2	9.6	0.0
Incr Delay (d2), s/veh	0.0	3.1	2.1	3.3	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.9	1.9	1.9	1.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	18.5	16.9	18.5	10.6	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		276	427		219	
Approach Delay, s/veh		18.5	17.7		10.6	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		23.9		29.3	0.0	23.9
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		42.7		23.2	* 8	29.0
Max Q Clear Time (g_c+I1), s		8.5		6.2	0.0	7.9
Green Ext Time (p_c), s		5.5		0.9	0.0	5.8
Intersection Summary						
HCM 6th Ctrl Delay			16.2			
HCM 6th LOS			B			

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	50	138	30	40	0	67	250	40	10	230	40
Future Volume (veh/h)	40	50	138	30	40	0	67	250	40	10	230	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		1.00	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	77	212	35	47	0	87	325	52	14	329	57
Peak Hour Factor	0.65	0.65	0.65	0.86	0.86	0.86	0.77	0.77	0.77	0.70	0.70	0.70
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	380	776	130	338	286	303	1504	760	57	1306	719
Arrive On Green	0.10	0.20	0.20	0.07	0.18	0.00	0.09	0.42	0.42	0.03	0.37	0.37
Sat Flow, veh/h	1781	1870	2617	1781	1870	1585	3456	3554	1521	1781	3554	1544
Grp Volume(v), veh/h	62	77	212	35	47	0	87	325	52	14	329	57
Grp Sat Flow(s),veh/h/ln	1781	1870	1308	1781	1870	1585	1728	1777	1521	1781	1777	1544
Q Serve(g_s), s	3.4	3.6	6.6	2.0	2.2	0.0	2.5	6.1	1.9	0.8	6.8	2.2
Cycle Q Clear(g_c), s	3.4	3.6	6.6	2.0	2.2	0.0	2.5	6.1	1.9	0.8	6.8	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	380	776	130	338	286	303	1504	760	57	1306	719
V/C Ratio(X)	0.36	0.20	0.27	0.27	0.14	0.00	0.29	0.22	0.07	0.25	0.25	0.08
Avail Cap(c_a), veh/h	209	990	1630	209	990	839	339	1504	760	175	1306	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	34.8	28.7	46.0	36.2	0.0	44.8	19.2	13.8	49.6	23.1	15.7
Incr Delay (d2), s/veh	1.9	0.3	0.2	1.6	0.2	0.0	0.5	0.3	0.2	3.2	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.6	1.9	0.9	1.0	0.0	1.0	2.4	0.6	0.4	2.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	35.0	28.9	47.6	36.3	0.0	45.3	19.5	14.0	52.7	23.6	15.9
LnGrp LOS	D	D	C	D	D	A	D	B	B	D	C	B
Approach Vol, veh/h		351			82			464			400	
Approach Delay, s/veh		33.3			41.1			23.8			23.5	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	29.7	14.9	47.0	15.7	27.4	9.1	52.9
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4
Max Green Setting (Gmax), s	* 12	* 56	* 10	* 39	* 12	* 56	* 10	* 39
Max Q Clear Time (g_c+I1), s	4.0	8.6	4.5	8.8	5.4	4.2	2.8	8.1
Green Ext Time (p_c), s	0.0	1.2	0.1	2.0	0.1	0.2	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	120	4	5	210	201	7	18	0	91	22	20
Future Volume (veh/h)	20	120	4	5	210	201	7	18	0	91	22	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.93	0.99		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	126	4	5	228	218	8	20	0	117	28	26
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	391	12	12	337	266	650	761	0	690	355	330
Arrive On Green	0.04	0.22	0.22	0.01	0.18	0.18	0.41	0.41	0.00	0.41	0.41	0.41
Sat Flow, veh/h	1781	1801	57	1781	1870	1478	1335	1870	0	1392	873	811
Grp Volume(v), veh/h	21	0	130	5	228	218	8	20	0	117	0	54
Grp Sat Flow(s),veh/h/ln	1781	0	1858	1781	1870	1478	1335	1870	0	1392	0	1684
Q Serve(g_s), s	0.6	0.0	3.2	0.2	6.2	7.7	0.2	0.3	0.0	3.0	0.0	1.1
Cycle Q Clear(g_c), s	0.6	0.0	3.2	0.2	6.2	7.7	1.3	0.3	0.0	3.3	0.0	1.1
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.00	1.00		0.48
Lane Grp Cap(c), veh/h	71	0	403	12	337	266	650	761	0	690	0	685
V/C Ratio(X)	0.29	0.00	0.32	0.42	0.68	0.82	0.01	0.03	0.00	0.17	0.00	0.08
Avail Cap(c_a), veh/h	263	0	447	165	339	268	724	864	0	690	0	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.2	0.0	17.8	26.8	20.7	21.3	10.2	9.6	0.0	10.6	0.0	9.8
Incr Delay (d2), s/veh	0.8	0.0	2.1	21.8	10.5	23.7	0.0	0.0	0.0	0.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.4	0.1	3.3	4.1	0.1	0.1	0.0	0.9	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	0.0	19.9	48.5	31.2	45.1	10.2	9.6	0.0	11.2	0.0	10.1
LnGrp LOS	C	A	B	D	C	D	B	A	A	B	A	B
Approach Vol, veh/h		151			451			28			171	
Approach Delay, s/veh		20.8			38.1			9.8			10.8	
Approach LOS		C			D			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	19.7		29.5	6.9	17.7		29.5				
Change Period (Y+Rc), s	4.5	8.0		7.5	* 4.7	8.0		* 7.5				
Max Green Setting (Gmax), s	5.0	13.0		22.0	* 8	9.8		* 25				
Max Q Clear Time (g_c+I1), s	2.2	5.2		5.3	2.6	9.7		3.3				
Green Ext Time (p_c), s	0.0	0.8		1.4	0.0	0.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			C									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	230	20	180	430	290	171	590	120	190	530	142
Future Volume (veh/h)	101	230	20	180	430	290	171	590	120	190	530	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	271	24	214	512	345	197	678	138	209	582	156
Peak Hour Factor	0.85	0.85	0.85	0.84	0.84	0.84	0.87	0.87	0.87	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	915	510	267	903	511	249	1232	250	263	1509	657
Arrive On Green	0.08	0.26	0.26	0.08	0.25	0.25	0.07	0.42	0.42	0.08	0.42	0.42
Sat Flow, veh/h	1781	3554	1535	3456	3554	1534	3456	2927	595	3456	3554	1547
Grp Volume(v), veh/h	119	271	24	214	512	345	197	411	405	209	582	156
Grp Sat Flow(s),veh/h/ln	1781	1777	1535	1728	1777	1534	1728	1777	1746	1728	1777	1547
Q Serve(g_s), s	8.6	8.0	1.4	7.9	16.3	25.3	7.3	22.7	22.7	7.7	14.7	8.4
Cycle Q Clear(g_c), s	8.6	8.0	1.4	7.9	16.3	25.3	7.3	22.7	22.7	7.7	14.7	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	143	915	510	267	903	511	249	748	734	263	1509	657
V/C Ratio(X)	0.83	0.30	0.05	0.80	0.57	0.68	0.79	0.55	0.55	0.80	0.39	0.24
Avail Cap(c_a), veh/h	218	1093	587	351	1039	569	327	748	734	388	1509	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	38.8	29.7	59.0	42.2	37.6	59.3	28.4	28.4	59.1	25.7	23.9
Incr Delay (d2), s/veh	9.0	0.2	0.0	7.1	0.6	2.8	6.8	2.9	3.0	3.9	0.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	3.5	0.5	3.7	7.3	9.9	3.4	10.1	10.0	3.5	6.3	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	39.0	29.7	66.1	42.8	40.4	66.1	31.3	31.4	62.9	26.5	24.8
LnGrp LOS	E	D	C	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		414			1071			1013			947	
Approach Delay, s/veh		46.8			46.7			38.1			34.2	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	60.3	15.2	39.4	14.6	60.8	15.7	38.9
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 15	40.3	* 13	40.0	* 12	42.6	* 16	* 38
Max Q Clear Time (g_c+I1), s	9.7	24.7	9.9	10.0	9.3	16.7	10.6	27.3
Green Ext Time (p_c), s	0.2	4.6	0.1	1.7	0.1	4.6	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection						
Int Delay, s/veh	2.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	0	0	0	0	4
Future Vol, veh/h	2	0	0	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	0	0	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1021	1082	1618	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1021	1082	1618	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1618	-	1021	-	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	5	0	0	32	5	50	0	140	39	150	310	5
Future Vol, veh/h	5	0	0	32	5	50	0	140	39	150	310	5
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	90	90	90	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	0	40	6	63	0	156	43	176	365	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	952	939	388	918	921	198	381	0	0	209	0	0
Stage 1	730	730	-	188	188	-	-	-	-	-	-	-
Stage 2	222	209	-	730	733	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	239	264	660	252	270	843	1177	-	-	1362	-	-
Stage 1	414	428	-	814	745	-	-	-	-	-	-	-
Stage 2	780	729	-	414	426	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	185	216	647	216	221	827	1166	-	-	1349	-	-
Mov Cap-2 Maneuver	185	216	-	216	221	-	-	-	-	-	-	-
Stage 1	410	354	-	806	738	-	-	-	-	-	-	-
Stage 2	708	722	-	343	353	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25	18.4	0	2.6
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1166	-	-	185	376	1349	-	-
HCM Lane V/C Ratio	-	-	-	0.029	0.289	0.131	-	-
HCM Control Delay (s)	0	-	-	25	18.4	8.1	0	-
HCM Lane LOS	A	-	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.2	0.5	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰↰	↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Traffic Volume (veh/h)	271	458	110	310	246	330	40	772	270	480	1101	266
Future Volume (veh/h)	271	458	110	310	246	330	40	772	270	480	1101	266
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	335	565	136	333	265	355	43	821	287	527	1210	292
Peak Hour Factor	0.81	0.81	0.81	0.93	0.93	0.93	0.94	0.94	0.94	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	1123	487	387	516	424	101	935	404	456	1203	522
Arrive On Green	0.15	0.32	0.32	0.11	0.28	0.28	0.06	0.26	0.26	0.13	0.34	0.34
Sat Flow, veh/h	1781	3554	1540	3456	1870	1537	1781	3554	1535	3456	3554	1542
Grp Volume(v), veh/h	335	565	136	333	265	355	43	821	287	527	1210	292
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1728	1870	1537	1781	1777	1535	1728	1777	1542
Q Serve(g_s), s	22.3	18.9	9.7	13.9	17.5	31.8	3.4	32.4	24.8	19.3	49.5	22.6
Cycle Q Clear(g_c), s	22.3	18.9	9.7	13.9	17.5	31.8	3.4	32.4	24.8	19.3	49.5	22.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	271	1123	487	387	516	424	101	935	404	456	1203	522
V/C Ratio(X)	1.23	0.50	0.28	0.86	0.51	0.84	0.43	0.88	0.71	1.16	1.01	0.56
Avail Cap(c_a), veh/h	271	1123	487	493	562	462	122	935	404	456	1203	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	40.7	37.5	63.9	44.7	49.9	66.8	51.7	48.9	63.5	48.4	39.5
Incr Delay (d2), s/veh	133.1	1.3	1.1	11.8	2.9	16.2	1.1	11.5	10.2	92.6	27.4	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.1	8.5	3.8	6.7	8.5	14.1	1.6	15.8	10.6	14.3	26.2	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	195.1	42.0	38.7	75.7	47.6	66.1	67.8	63.2	59.0	156.1	75.8	43.8
LnGrp LOS	F	D	D	E	D	E	E	E	E	F	F	D
Approach Vol, veh/h		1036			953			1151			2029	
Approach Delay, s/veh		91.1			64.3			62.3			92.1	
Approach LOS		F			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	46.9	22.1	52.4	14.0	57.9	28.0	46.5				
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	6.1	* 5.7	* 8.4	* 5.7	6.1				
Max Green Setting (Gmax), s	* 19	* 39	* 21	45.4	* 10	* 48	* 22	44.0				
Max Q Clear Time (g_c+I1), s	21.3	34.4	15.9	20.9	5.4	51.5	24.3	33.8				
Green Ext Time (p_c), s	0.0	3.4	0.5	10.1	0.0	0.0	0.0	4.6				
Intersection Summary												
HCM 6th Ctrl Delay			80.1									
HCM 6th LOS			F									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	220	330	277	228	5
Future Volume (veh/h)	0	220	330	277	228	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	250	337	283	292	6
Peak Hour Factor	0.88	0.88	0.98	0.98	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3	672	672	545	677	14
Arrive On Green	0.00	0.36	0.36	0.36	0.39	0.39
Sat Flow, veh/h	1781	1870	1870	1516	1735	36
Grp Volume(v), veh/h	0	250	337	283	299	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1870	1516	1776	0
Q Serve(g_s), s	0.0	5.6	7.9	8.3	7.0	0.0
Cycle Q Clear(g_c), s	0.0	5.6	7.9	8.3	7.0	0.0
Prop In Lane	1.00			1.00	0.98	0.02
Lane Grp Cap(c), veh/h	3	672	672	545	693	0
V/C Ratio(X)	0.00	0.37	0.50	0.52	0.43	0.00
Avail Cap(c_a), veh/h	253	1457	1002	812	693	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.3	14.1	14.2	12.6	0.0
Incr Delay (d2), s/veh	0.0	1.6	2.7	3.5	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	3.0	2.6	2.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	14.9	16.8	17.7	14.5	0.0
LnGrp LOS	A	B	B	B	B	A
Approach Vol, veh/h		250	620		299	
Approach Delay, s/veh		14.9	17.2		14.5	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		28.3		28.1	0.0	28.3
Change Period (Y+Rc), s		8.0		6.1	* 5.7	8.0
Max Green Setting (Gmax), s		43.9		22.0	* 8	30.2
Max Q Clear Time (g_c+I1), s		7.6		9.0	0.0	10.3
Green Ext Time (p_c), s		5.0		1.2	0.0	8.4
Intersection Summary						
HCM 6th Ctrl Delay			16.0			
HCM 6th LOS			B			

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱↱	↰	↑	↱	↰↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	40	70	119	60	60	10	137	330	40	0	300	60
Future Volume (veh/h)	40	70	119	60	60	10	137	330	40	0	300	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	89	151	79	79	13	156	375	45	0	341	68
Peak Hour Factor	0.79	0.79	0.79	0.76	0.76	0.76	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	373	776	179	398	325	315	1753	912	2	1243	677
Arrive On Green	0.09	0.20	0.20	0.10	0.21	0.21	0.09	0.49	0.49	0.00	0.35	0.35
Sat Flow, veh/h	1781	1870	2615	1781	1870	1528	3456	3554	1526	1781	3554	1543
Grp Volume(v), veh/h	51	89	151	79	79	13	156	375	45	0	341	68
Grp Sat Flow(s),veh/h/ln	1781	1870	1307	1781	1870	1528	1728	1777	1526	1781	1777	1543
Q Serve(g_s), s	2.9	4.3	4.7	4.5	3.8	0.7	4.7	6.5	1.3	0.0	7.5	2.8
Cycle Q Clear(g_c), s	2.9	4.3	4.7	4.5	3.8	0.7	4.7	6.5	1.3	0.0	7.5	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	373	776	179	398	325	315	1753	912	2	1243	677
V/C Ratio(X)	0.33	0.24	0.19	0.44	0.20	0.04	0.50	0.21	0.05	0.00	0.27	0.10
Avail Cap(c_a), veh/h	197	950	1583	202	955	780	359	1753	912	164	1243	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	36.6	29.0	46.0	35.1	34.0	47.0	15.6	9.2	0.0	25.4	18.1
Incr Delay (d2), s/veh	1.8	0.3	0.1	2.4	0.2	0.0	1.2	0.3	0.1	0.0	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.9	1.4	2.0	1.7	0.3	2.0	2.4	0.4	0.0	3.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	36.9	29.1	48.5	35.4	34.0	48.2	15.9	9.3	0.0	26.0	18.3
LnGrp LOS	D	D	C	D	D	C	D	B	A	A	C	B
Approach Vol, veh/h		291			171			576			409	
Approach Delay, s/veh		34.9			41.3			24.1			24.7	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.6	30.1	15.6	46.4	15.1	31.5	0.0	62.0				
Change Period (Y+Rc), s	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4	* 5.7	* 8.4				
Max Green Setting (Gmax), s	* 12	* 55	* 11	* 38	* 12	* 56	* 10	* 39				
Max Q Clear Time (g_c+I1), s	6.5	6.7	6.7	9.5	4.9	5.8	0.0	8.5				
Green Ext Time (p_c), s	0.1	1.0	0.2	2.1	0.1	0.4	0.0	2.3				

Intersection Summary			
HCM 6th Ctrl Delay			28.5
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	290	4	5	130	152	7	18	0	281	21	10
Future Volume (veh/h)	30	290	4	5	130	152	7	18	0	281	21	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.93	0.99		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	345	5	5	141	165	8	20	0	299	22	11
Peak Hour Factor	0.84	0.84	0.84	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	414	6	12	311	245	663	753	0	683	466	233
Arrive On Green	0.06	0.23	0.23	0.01	0.17	0.17	0.40	0.40	0.00	0.40	0.40	0.40
Sat Flow, veh/h	1781	1838	27	1781	1870	1472	1360	1870	0	1392	1158	579
Grp Volume(v), veh/h	36	0	350	5	141	165	8	20	0	299	0	33
Grp Sat Flow(s),veh/h/ln	1781	0	1865	1781	1870	1472	1360	1870	0	1392	0	1737
Q Serve(g_s), s	1.1	0.0	9.8	0.2	3.7	5.8	0.2	0.4	0.0	9.0	0.0	0.6
Cycle Q Clear(g_c), s	1.1	0.0	9.8	0.2	3.7	5.8	0.8	0.4	0.0	9.4	0.0	0.6
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.00	1.00		0.33
Lane Grp Cap(c), veh/h	110	0	420	12	311	245	663	753	0	683	0	699
V/C Ratio(X)	0.33	0.00	0.83	0.42	0.45	0.67	0.01	0.03	0.00	0.44	0.00	0.05
Avail Cap(c_a), veh/h	261	0	443	163	335	264	738	855	0	683	0	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.6	0.0	20.2	27.0	20.5	21.4	10.2	9.9	0.0	12.7	0.0	9.9
Incr Delay (d2), s/veh	0.6	0.0	17.5	21.8	4.7	13.8	0.0	0.0	0.0	2.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	5.7	0.1	1.8	2.7	0.1	0.1	0.0	2.7	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	0.0	37.7	48.8	25.2	35.2	10.2	9.9	0.0	14.7	0.0	10.1
LnGrp LOS	C	A	D	D	C	D	B	A	A	B	A	B
Approach Vol, veh/h		386			311			28			332	
Approach Delay, s/veh		36.5			30.9			10.0			14.3	
Approach LOS		D			C			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	20.3		29.5	8.1	17.1		29.5
Change Period (Y+Rc), s	4.5	8.0		7.5	* 4.7	8.0		* 7.5
Max Green Setting (Gmax), s	5.0	13.0		22.0	* 8	9.8		* 25
Max Q Clear Time (g_c+I1), s	2.2	11.8		11.4	3.1	7.8		2.8
Green Ext Time (p_c), s	0.0	0.5		2.2	0.0	0.7		0.1

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	240	41	210	300	200	120	780	160	230	1040	291
Future Volume (veh/h)	152	240	41	210	300	200	120	780	160	230	1040	291
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	171	270	46	231	330	220	128	830	170	256	1156	323
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.94	0.94	0.94	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	806	428	284	708	444	178	1268	260	306	1674	730
Arrive On Green	0.11	0.23	0.23	0.08	0.20	0.20	0.05	0.43	0.43	0.09	0.47	0.47
Sat Flow, veh/h	1781	3554	1530	3456	3554	1525	3456	2923	599	3456	3554	1549
Grp Volume(v), veh/h	171	270	46	231	330	220	128	504	496	256	1156	323
Grp Sat Flow(s),veh/h/ln	1781	1777	1530	1728	1777	1525	1728	1777	1745	1728	1777	1549
Q Serve(g_s), s	12.3	8.3	2.9	8.5	10.7	15.6	4.7	29.2	29.2	9.5	33.1	18.1
Cycle Q Clear(g_c), s	12.3	8.3	2.9	8.5	10.7	15.6	4.7	29.2	29.2	9.5	33.1	18.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	196	806	428	284	708	444	178	771	757	306	1674	730
V/C Ratio(X)	0.87	0.34	0.11	0.81	0.47	0.50	0.72	0.65	0.65	0.84	0.69	0.44
Avail Cap(c_a), veh/h	216	1063	539	377	1039	586	183	771	757	324	1674	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	42.1	34.9	58.7	46.0	38.5	60.7	29.1	29.1	58.3	26.9	23.0
Incr Delay (d2), s/veh	26.5	0.2	0.1	7.2	0.5	0.9	10.7	4.3	4.4	15.2	2.4	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	3.6	1.1	4.0	4.8	6.0	2.3	13.1	12.9	4.8	14.2	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.5	42.3	35.0	65.9	46.4	39.4	71.5	33.4	33.5	73.5	29.3	24.9
LnGrp LOS	F	D	D	E	D	D	E	C	C	E	C	C
Approach Vol, veh/h		487			781			1128			1735	
Approach Delay, s/veh		56.1			50.2			37.7			35.0	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	62.0	15.9	35.4	11.9	66.8	19.5	31.8
Change Period (Y+Rc), s	* 5.2	5.6	* 5.2	5.9	* 5.2	5.6	* 5.2	* 5.9
Max Green Setting (Gmax), s	* 12	42.8	* 14	38.9	* 6.9	48.1	* 16	* 38
Max Q Clear Time (g_c+I1), s	[illegible]	31.2	10.5	10.3	6.7	35.1	14.3	17.6
Green Ext Time (p_c), s	0.0	4.9	0.2	1.8	0.0	7.4	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	0	0	2
Future Vol, veh/h	5	0	0	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	0	0	0	0	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	2	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1620	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1620	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1620	-	1022	-	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	130	5	228	218	8	20	117	54
v/c Ratio	0.08	0.30	0.03	0.55	0.44	0.01	0.02	0.20	0.07
Control Delay	21.4	19.0	23.8	26.7	7.0	8.7	8.6	11.7	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	19.0	23.8	26.7	7.0	8.7	8.6	11.7	7.2
Queue Length 50th (ft)	5	30	1	57	0	1	3	20	4
Queue Length 95th (ft)	24	81	10	#176	50	8	14	52	21
Internal Link Dist (ft)		427		7752			225		505
Turn Bay Length (ft)	325		100		350			50	
Base Capacity (vph)	278	474	173	412	495	659	914	588	745
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.27	0.03	0.55	0.44	0.01	0.02	0.20	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	350	5	141	165	8	20	299	33
v/c Ratio	0.14	0.69	0.03	0.34	0.37	0.01	0.02	0.54	0.05
Control Delay	23.5	28.6	25.4	23.1	7.4	10.0	9.9	17.9	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	28.6	25.4	23.1	7.4	10.0	9.9	17.9	9.4
Queue Length 50th (ft)	9	94	1	33	0	1	3	60	4
Queue Length 95th (ft)	32	#230	10	94	44	8	14	158	20
Internal Link Dist (ft)		427		7752			225		505
Turn Bay Length (ft)	325		100		350			50	
Base Capacity (vph)	262	507	164	409	451	635	864	555	717
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.69	0.03	0.34	0.37	0.01	0.02	0.54	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

APPENDIX K

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH (OPR) GUIDELINES FROM THE TECHNICAL ADVISORY ON EVALUATING TRANSPORTATION IMPACTS IN CEQA, DECEMBER 2018 EXCERPT

TECHNICAL ADVISORY

ON EVALUATING TRANSPORTATION IMPACTS IN CEQA

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH
STATE OF CALIFORNIA

December 2018

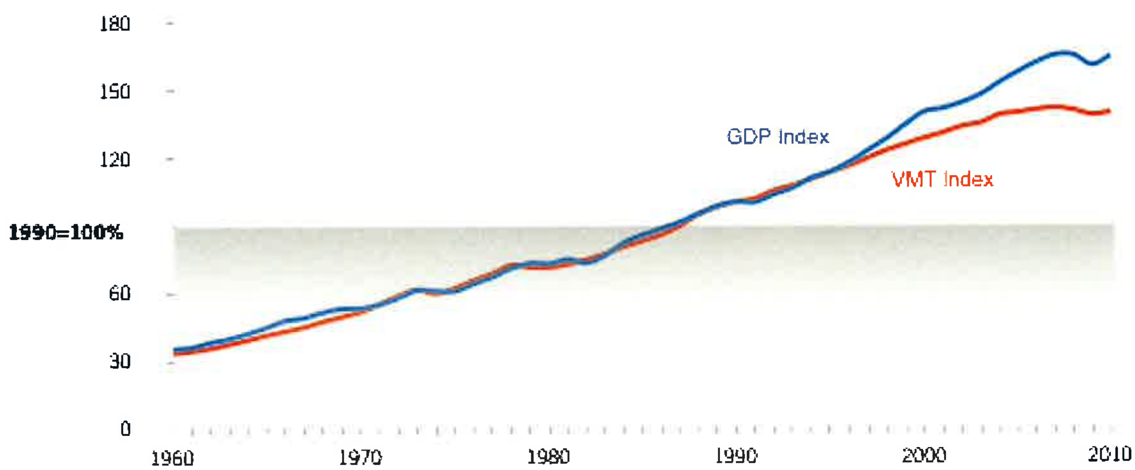

Figure 1. Kooshian and Winkelman (2011) *VMT and Gross Domestic Product (GDP), 1960-2010.*

C. Technical Considerations in Assessing Vehicle Miles Traveled

Many practitioners are familiar with accounting for VMT in connection with long-range planning, or as part of the CEQA analysis of a project's greenhouse gas emissions or energy impacts. This document provides technical information on how to assess VMT as part of a transportation impacts analysis under CEQA. Appendix 1 provides a description of which VMT to count and options on how to count it. Appendix 2 provides information on induced travel resulting from roadway capacity projects, including the mechanisms giving rise to induced travel, the research quantifying it, and information on additional approaches for assessing it.

1. Recommendations Regarding Methodology

Proposed Section 15064.3 explains that a "lead agency may use models to estimate a project's vehicle miles traveled . . . ." CEQA generally defers to lead agencies on the choice of methodology to analyze impacts. (*Santa Monica Baykeeper v. City of Malibu* (2011) 193 Cal.App.4th 1538, 1546; see *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 409 ["the issue is not whether the studies are irrefutable or whether they could have been better" ... rather, the "relevant issue is only whether the studies are sufficiently credible to be considered" as part of the lead agency's overall evaluation].) This section provides suggestions to lead agencies regarding methodologies to analyze VMT associated with a project.

Vehicle Types. Proposed Section 15064.3, subdivision (a), states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT). For an apples-to-apples comparison, vehicle types considered should be consistent across project assessment, significance thresholds, and mitigation.

Residential and Office Projects. Tour- and trip-based approaches[10] offer the best methods for assessing VMT from residential/office projects and for comparing those assessments to VMT thresholds. These approaches also offer the most straightforward methods for assessing VMT reductions from mitigation measures for residential/office projects. When available, tour-based assessment is ideal because it captures travel behavior more comprehensively. But where tour-based tools or data are not available for all components of an analysis, a trip-based assessment of VMT serves as a reasonable proxy.

Models and methodologies used to calculate thresholds, estimate project VMT, and estimate VMT reduction due to mitigation should be comparable. For example:

- A tour-based assessment of project VMT should be compared to a tour-based threshold, or a trip-based assessment to a trip-based VMT threshold.
- Where a travel demand model is used to determine thresholds, the same model should also be used to provide trip lengths as part of assessing project VMT.
- Where only trip-based estimates of VMT reduction from mitigation are available, a trip-based threshold should be used, and project VMT should be assessed in a trip-based manner.

When a trip-based method is used to analyze a residential project, the focus can be on home-based trips. Similarly, when a trip-based method is used to analyze an office project, the focus can be on home-based work trips.

When tour-based models are used to analyze an office project, either employee work tour VMT or VMT from all employee tours may be attributed to the project. This is because workplace location influences overall travel. For consistency, the significance threshold should be based on the same metric: either employee work tour VMT or VMT from all employee tours.

For office projects that feature a customer component, such as a government office that serves the public, a lead agency can analyze the customer VMT component of the project using the methodology for retail development (see below).

Retail Projects. Generally, lead agencies should analyze the effects of a retail project by assessing the change in total VMT[11] because retail projects typically re-route travel from other retail destinations. A retail project might lead to increases or decreases in VMT, depending on previously existing retail travel patterns.

---

[10] See Appendix 1, *Considerations About Which VMT to Count,* for a description of these approaches.
[11] See Appendix 1, *Considerations About Which VMT to Count,* "Assessing Change in Total VMT" section, for a description of this approach.

APPENDIX L

CALTRANS TRANSPORTATION ANALYSIS FRAMEWORK, 1ST EDITION (SEPTEMBER 2020) EXCERPT

Transportation Analysis Framework

First Edition

Evaluating Transportation Impacts of State Highway System Projects

California Department of Transportation
Sacramento, California
September 2020

Trip-Based Model	Trip-based travel models use the individual person trip as the fundamental unit of analysis. Trip-based models are often referred to as "4-step" models because they split the trip making decision process into 4 discrete steps: trip generation by time of day, destination choice, mode choice, and route choice (traffic assignment).
Trucks	Trucks are a subtype of the heavy vehicles category which includes trucks, intercity buses, and recreational vehicles. This Framework follows the Highway Capacity Manual definition of what constitutes a heavy vehicle: "A vehicle with more than four wheels touching the pavement during normal operation." This is consistent with the Caltrans Traffic Census definition of a truck: "The two-axle (truck) class includes 1-1/2-ton trucks with dual rear tires and excludes pickups and vans with only four tires."
Vehicle Miles Traveled	The number of miles traveled by motor vehicles on roadways in a given area over a given time period. VMT may be subdivided for reporting and analysis purposes into single occupant passenger vehicles (SOVs), high occupancy vehicles (HOV's), buses, trains, light duty trucks, and heavy-duty trucks. For example, an air quality analysis may require daily VMT by vehicle class and average speed or vehicle operating mode (idle, acceleration, cruise, deceleration, etc.). For a CEQA compliant transportation impact analysis, automobile VMT (cars and light trucks) may be evaluated.
VMT Attributable to a Project	In the context of a CEQA analysis, the VMT attributable to a transportation project, or induced travel, is the difference in passenger VMT between the with project and without project alternatives. VMT attributable to a project is equivalent to induced travel in this context.

END OF APPENDICES

AIR QUALITY AND GREENHOUSE GAS EMISSIONS STUDY
FOR
CAL98 CHARGER LOGISTICS PROJECT
CALEXICO, CALIFORNIA

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Irvine, California 92618-4355

Project No. 7189

February 2024

This analysis was prepared in accordance with § 15063(d)(3) and Appendix G of the State CEQA Guidelines to determine the potential significant air quality effects on the physical environment that could result from the implementation of the project.

Report Preparers:

Name & Title: MICHAEL ROGOZEN, Senior Principal Engineer

Signature: Michael Rogozen Date: February 26, 2024

Name & Title: ISHA SHAH, Environmental Engineer

Signature: Isha Shah Date: February 26, 2024

Name and Title PATRICIA HAIGH, Staff Scientist

Signature: Patricia Haigh Date: February 26, 2024

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ATTACHMENTS

1.0 INTRODUCTION

Cal98 RE Holdings Inc., the applicant, proposes to build a project that includes 91,881 square feet (SF) of warehousing, 16,460 square feet of service space and 11,904 square feet of office space. Additionally, the project proposes to provide 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces.

The proposed project is located on the southwest corner of the SR-98 and Kemp Road intersection in the Imperial County. The project proposes to provide warehousing, order fulfillment, logistics and transportation services. Trucks will travel to and from Mexico, San Diego, and Imperial County. Refer to **Figure 1.0-1**, **Figure 1.0-2** and **Figure 1.0-3**.

The County of Imperial has determined that an air quality and greenhouse gas (GHG) emission study is needed as part of California Environmental Quality Act (CEQA) documentation for an Initial Study/Mitigated Negative Declaration.

This air quality analysis was conducted within the context of CEQA (California Public Resources Code §§ 21000 et seq.). The methodology follows the CEQA Air Quality Handbook[1] prepared by the Imperial County Air Pollution Control District (ICAPCD) for quantification of emissions and evaluation of potential impacts on air resources.

1 CEQA Air Quality Handbook: Guidelines for the Implementation of the California Air Quality Act of 1970 as amended. Imperial County Air Pollution Control District. Final - December 12, 2017.

Figure 1.0-1
REGIONAL LOCATION MAP

Path: \\Gissvr\GIS\Projects\7189_Dubose_Calexico_AQ_GHG_HRA\MXDs\7189_Calexico_2_0_Regional_Location_2022_08_31.mxd
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community; UltraSystems Environmental, Inc., 2022

August 31, 2022

Scale: 1:950,400

N

0 7.5 15 Miles

0 8 16 Kilometers

Legend

Project Location

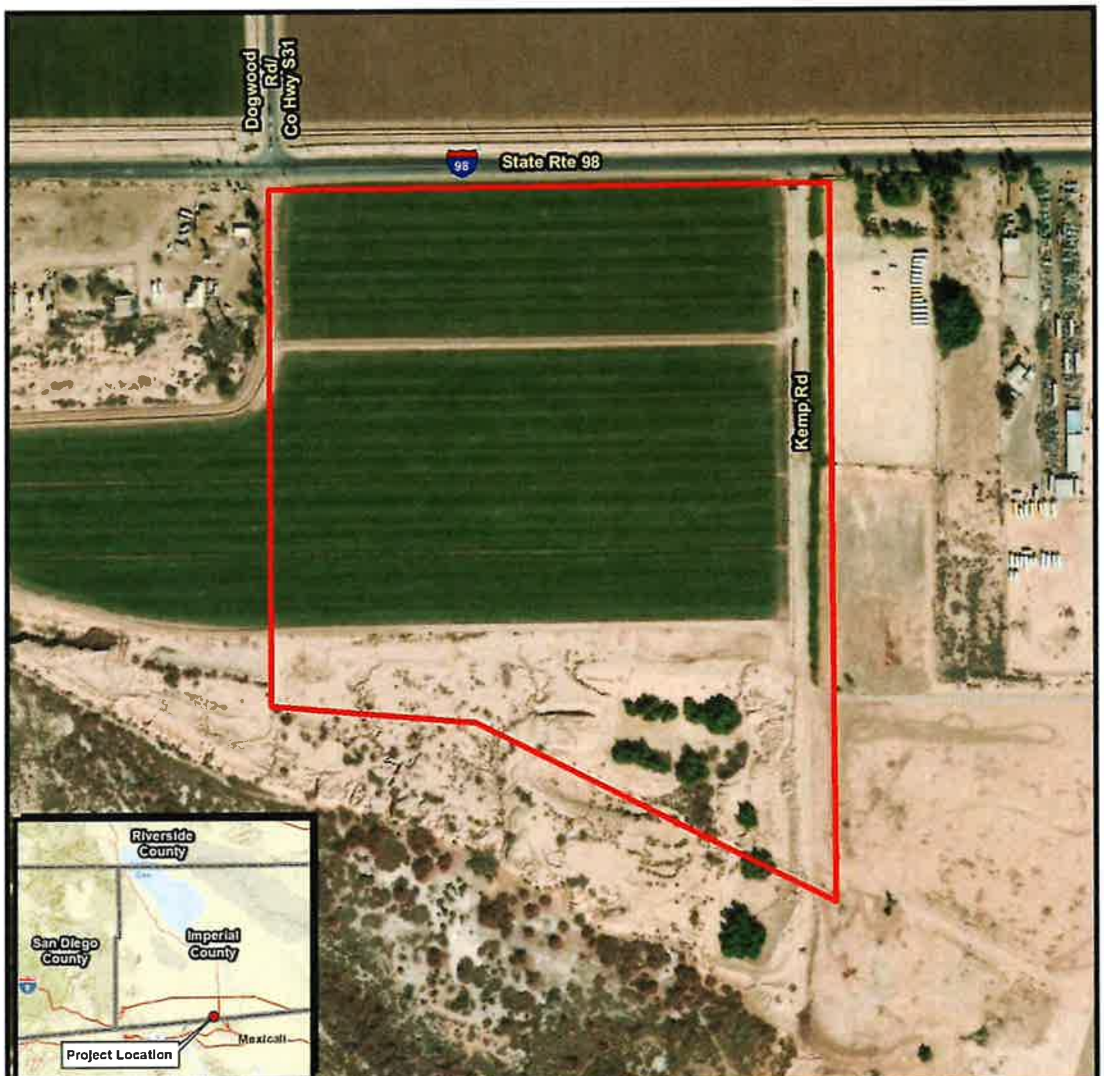
County Boundary

Cal98 Charger Logistics

Regional Location

UltraSystems

Figure 1.0-2
PROJECT LOCATION MAP



Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

Path: \\Gissvr\GIS\Projects\7189_Dubose_Calexico_AQ_GHG_HRA\MXDs\7189_Calexico_3_0_Project_Location_2022_08_31.mxd
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community; Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community. Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community; UltraSystems Environmental, Inc., 2022

August 31, 2022

Scale: 1:4,200

N

0 175 350 Feet

0 40 80 Meters

Legend

Project Boundary

Cal98 Charger Logistics

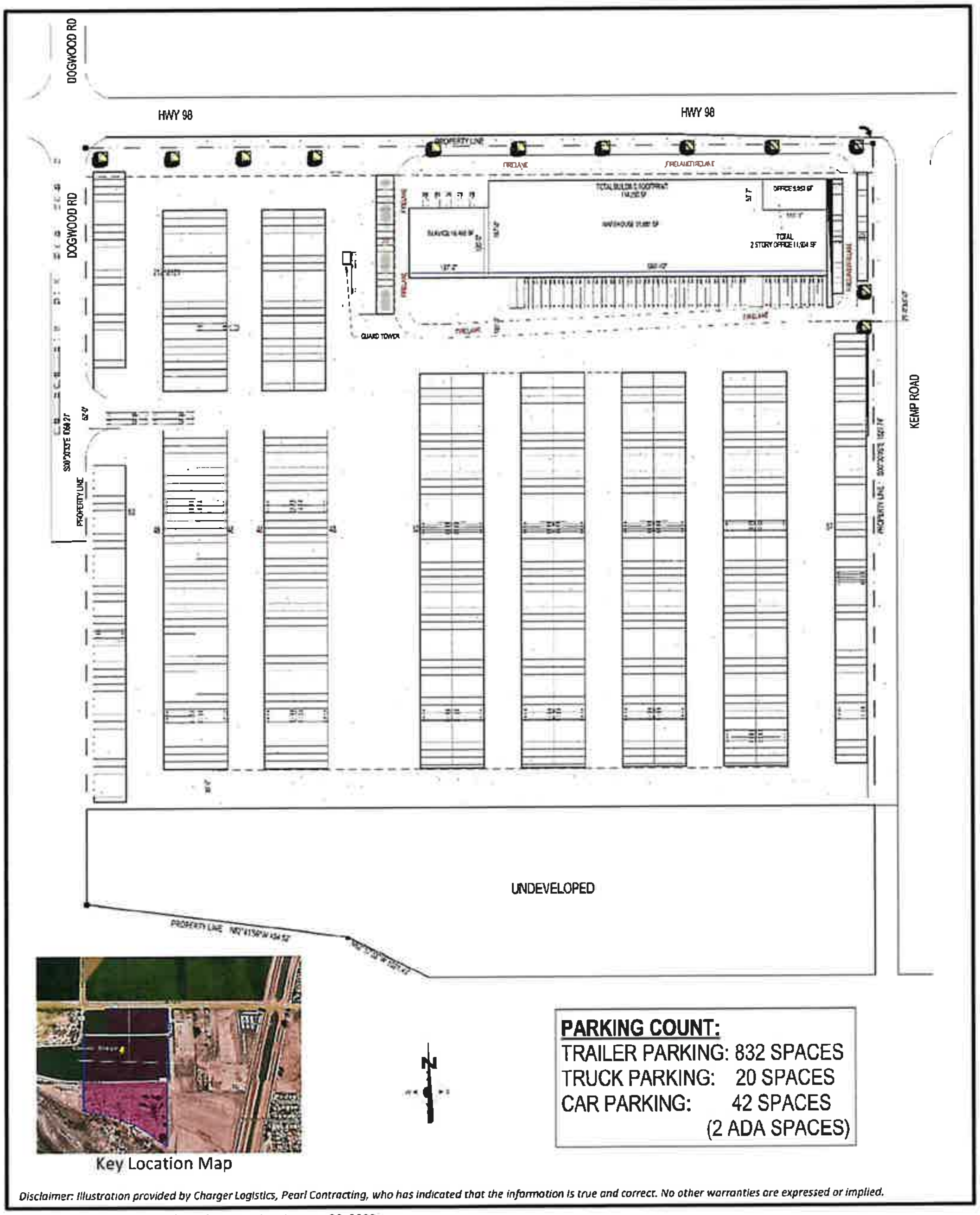
Project Location

UltraSystems

EEC ORIGINAL PKG

PC ORIGINAL PKG

Figure 1.0-3
PROJECT SITE PLAN



Source: Charger Logistics and Pearl Contracting, January 30, 2023.

Cal98 Charger Logistics

Site Plan

UltraSystems

EEC ORIGINAL PKG

PC ORIGINAL PKG

2.0 PROJECT DESCRIPTION

2.1 General Description

The project will begin construction in October 2024 and end in September 2025. The total construction duration will be 11 months. The construction phases include site preparation, grading, building construction, paving and architectural coating.

2.2 Construction Activities and Schedule

Project components are summarized in **Table 2.2-1**.

Table 2.2-1
CONSTRUCTION CHARACTERISTICS

Site Element	Area
Warehouse	91,881 square feet
Two Story Office	11,904 square feet
Service Area	16,460 square feet
Total Building Footprint	**114,293 square feet**
Parking	894 spaces
Landscaping	0.37 acre

Table 2.2-2 shows the project implementation schedule. No phases will overlap.

Table 2.2-2
PROJECT IMPLEMENTATION SCHEDULE

Phase	Construction	
	Start	End
Site Preparation	October 1, 2024	October 28,2024
Grading	October 29, 2024	November 25, 2024
Building Construction	November 26, 2024	July 21, 2025
Paving	July 22, 2025	August 18, 2025
Architectural Coating	August 19, 2025	September 15, 2025

2.3 Existing Sensitive Land Uses

The Imperial County General Plan land use for the project site and its immediate surroundings is "Urban Area." The land northwest, west and southwest of the site is designated for agricultural land uses. Large residential neighborhoods are about 2,000 feet northeast and 1,500 feet southeast of the site. Scattered individual residences are nearer the site. The nearest one is about 32 feet due west.

3.0 EXISTING CONDITIONS

The project site is located in an unincorporated area of Imperial County, which is in the Salton Sea Air Basin (SSAB). The SSAB includes the Imperial Valley and the central part of Riverside County, including the Coachella Valley. The Imperial Valley is bordered by the Salton Sea to the north, the Anza-Borrego Desert State Park to the west, the Chocolate Mountains to the northeast, and the U.S./Mexican Border to the south. The proposed site is located approximately 0.4 mile west of the city of Calexico.

3.1 Regional Climate/Meteorology

Meteorology is the study of weather and climate. Weather refers to the state of the atmosphere at a given time and place regarding temperature, air pressure, humidity, cloudiness, and precipitation. The term "weather" refers to conditions over short periods; conditions over prolonged periods, generally at least 30 to 50 years, are referred to as climate. Climate, in a narrow sense, is usually defined as the "average weather," or more rigorously as the statistical description in terms of the mean and variability of relevant quantities over a period ranging from months to thousands or millions of years. These quantities are most often surface variables such as temperature, precipitation, and wind.

Climatic conditions in Imperial County are governed by the large-scale sinking and warming of air in the semi-permanent tropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks out most mid-latitude storms except in winter when the high is weakest and farthest south. The coastal mountains prevent the intrusion of any cool, damp air found in California coastal environs. Because of the weakened storms and barrier, Imperial County experiences clear skies, extremely hot summers, mild winters, and little rainfall. The flat terrain of the valley and the strong temperature differentials created by intense solar heating, produce moderate winds and deep thermal convection.

The combination of subsiding air, protective mountains, and distance from the ocean all combine to limit precipitation severely. Rainfall is highly variable with precipitation from a single heavy storm sometimes exceeding the entire annual total during a later drought condition.

Imperial County enjoys a year-round climate characterized by a temperate fall, winter, and spring and a harsh summer. Humidity often combines with the valley's normal elevated temperatures to produce a moist, tropical atmosphere that frequently seems hotter than the thermometer suggests. The sun shines, on the average, more in the Imperial County that anywhere else in the United States.

3.1.1 Temperature and Precipitation

The annual average high and low temperatures, as recorded at the Calexico meteorological station (#041288; latitude 32.66667°, longitude -115.4833°), which is approximately 2.76 miles southeast of the project site,[2] are 86.2°F and 55.9°F, respectively. Average winter (December, January, and February) high and low temperatures are approximately 69.10°F and 40.73°F and average summer (June, July, and August) high and low temperatures are approximately 102.87°F and 72.70°F. The annual average of total precipitation is approximately 2.69 inches, which occurs mostly during the winter and relatively infrequently during the summer. Monthly precipitation averages

2 Meteorological station location information from National Oceanographic and Atmospheric Administration, National Climate Data Center https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca1288, Accessed September 14, 2022.

approximately 0.40 inch during the winter (December, January, and February), approximately 0.11 inch during the spring (March, April, and May), approximately 0.23 inch during the fall (September, October, and November), and approximately 0.17 inch during the summer (June, July, and August).

3.1.2 Humidity

Humidity in Imperial County is typically low throughout the year, ranging from 28% in summer to 52 % in winter. The large daily oscillation of temperature produces a corresponding large variation in the relative humidity. Nocturnal humidity rises to 50-60% but drop to about 10% during the day. Summer weather patterns are dominated by intense heat-induced low-pressure areas that form over the interior desert.

3.1.3 Wind

The wind direction follows two general patterns. The first occurs from fall through spring, where prevailing winds are from the west and northwest. Most of these winds originate in the Los Angeles Basin. The second pattern consists of occasional periods of high winds. Wind speeds exceeding 31 miles per hour (mph) occur most frequently in April and May. On an annual basis, high winds, those exceeding 31 mph, are observed 0.6% of the time, where speeds of less than 6.8 miles per hour account for more than one-half of the observed winds. Wind statistics indicate that prevailing winds are from the west-northwest through southwest; however, a secondary flow pattern from the southeast is also evident.

3.1.4 Inversions

Air pollutant concentrations are primarily determined by the amount of pollutant emissions in an area and the degree to which these pollutants are dispersed in the atmosphere. The stability of the atmosphere is one of the key factors affecting pollutant dispersion. Atmospheric stability regulates the amount of vertical and horizontal air exchange, or mixing, that can occur within a given air basin. Horizontal mixing is a result of winds, as discussed above, but vertical mixing also affects the degree of stability in the atmosphere. An interruption of vertical mixing is called an inversion.

In the atmosphere, air temperatures normally decrease as altitude increases. At varying distances above the earth's surface, however, a reversal of this gradient can occur. This condition, termed an inversion, is simply a warm layer of air above a layer of cooler air, and it has the effect of limiting the vertical dispersion of pollutants. The height of the inversion determines the size of the vertical mixing volume trapped below. Inversion strength or intensity is measured by the thickness of the layer and the difference in temperature between the base and the top of the inversion. The strength of the inversion determines how easily it can be broken by winds or solar heating.

Imperial County experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken allowing pollutants to disperse more easily. Weak, surface inversions are caused by radiational cooling of air in contact with the cold surface of the earth at night. In valleys and low-lying areas, this condition is intensified by the addition of chilly air flowing down slope from the hills and pooling on the valley floor.

The presence of the Pacific High-Pressure Cell can cause the air to warm to a temperature higher than the air below. This highly stable atmospheric condition, termed a subsidence inversion can act as a nearly impenetrable lid to the vertical mixing of pollutants. The strength of these inversions makes them difficult to disrupt. Consequently, they can persist for one or more days, causing air stagnation and the buildup of pollutants. Highest or worst-case ozone levels are often associated with the presence of this type of inversion.

3.2 Regulatory Setting

Federal, state, and local agencies have set ambient air quality standards for certain air pollutants through statutory requirements and have established regulations and various plans and policies to maintain and improve air quality, as described below.

3.2.1 Air Pollutants of Concern[3]

3.2.1.1 Criteria Pollutants

As required by the Federal Clean Air Act (FCAA), the U. S. Environmental Protection Agency (USEPA) has identified criteria pollutants and established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide, suspended particulate matter (PM), and lead. Suspended PM includes both PM with an aerodynamic diameter of 10 micrometers or less (respirable PM, or PM_{10}) and PM with an aerodynamic diameter of 2.5 micrometers or less (fine PM, or $PM_{2.5}$). The California Air Resources Board (ARB) has established separate standards for the state, i.e., the California Ambient Air Quality Standards (CAAQS). The ARB established CAAQS for all the federal pollutants and sulfates, hydrogen sulfide, and visibility-reducing particles.

For some of the pollutants, the identified air quality standards are expressed in more than one averaging time to address the typical exposures found in the environment. For example, CO is expressed as a one-hour averaging time and an eight-hour averaging time. Regulations have set NAAQS and CAAQS limits in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). **Table 3.2-1** summarizes the state and federal ambient air quality standards for all criteria pollutants. Criteria pollutants of concern in Imperial County are ozone and PM, since the standards for other criteria pollutants are either being met or are unclassified in the Basin, and the latest pollutant trends suggest that these standards will not be exceeded in the foreseeable future.

Ozone (O_3) is not emitted directly to the atmosphere but is formed by photochemical reactions between reactive organic gases (ROG), or volatile organic compounds[4] (VOC), and oxides of nitrogen (NO_X) in the presence of sunlight. The long, hot, humid days of summer are particularly conducive to ozone formation; thus, ozone levels are of concern primarily during May through September. Ozone is a strong chemical oxidant that adversely impacts human health through effects on respiratory function. It can also damage forests and crops. Tropospheric[5] ozone is formed by a complex series of chemical reactions involving NO_X, the result of combustion processes and evaporative ROGs such as industrial solvents, toluene, xylene, and hexane as well as the various hydrocarbons that are evaporated from the gasoline used by motor vehicles or emitted through the tailpipe following combustion. Additionally, ROGs are emitted by natural sources such as trees and crops. Ozone

3 This section discusses only criteria pollutants and air toxics. Greenhouse gases are defined and discussed in **Section 5.**

4 Emissions of organic gases are typically reported only as aggregate organics, either as Volatile Organic Compounds (VOC) or as Reactive Organic Gases (ROG). These terms are meant to reflect what specific compounds have been included or excluded from the aggregate estimate. Although EPA defines VOC to exclude both methane and ethane, and CARB defines ROG to exclude only methane, in practice it is assumed that VOC and ROG are essentially synonymous.

5 The troposphere is the atmospheric layer closest to the Earth's surface. Ozone produced here is an air pollutant that is harmful to breathe, and it damages crops, trees and other vegetation.

formation is promoted by strong sunlight, warm temperatures, and winds. High concentrations tend to be a problem in the Imperial County only during the hot summer months when these conditions frequently occur.

Reactive Organic Gases (ROG) are defined as any compound of carbon, excluding CO, carbon dioxide (CO_2), carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participate in atmospheric photochemical reactions. It should be noted that there is no state or national ambient air quality standard for ROG because ROGs are not classified as criteria pollutants. They are regulated, however, because a reduction in ROG emissions reduces certain chemical reactions that contribute to the formulation of ozone. ROGs are also transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility.

Nitrogen Oxides (NO_x) serve as integral participants in the process of photochemical smog production. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO_2).[6] NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown irritating gas formed by the combination of NO and oxygen. NO_X is an ozone precursor. A precursor is a directly emitted air contaminant that, when released into the atmosphere, forms, causes to be formed, or contributes to the formation of a secondary air contaminant for which an Ambient Air Quality Standard (AAQS) has been adopted, or whose presence in the atmosphere will contribute to the violation of one or more AAQSs. When NO_X and ROG are released in the atmosphere, they can chemically react with one another in the presence of sunlight to form ozone.

Particulate Matter (PM) is a general term used to describe a complex group of airborne solid, liquid, or semi-volatile materials of various size and composition. Primary PM is emitted directly into the atmosphere from both human activities (including agricultural operations, industrial processes, construction and demolition activities, and entrainment of road dust into the air) and non-anthropogenic activities (such as windblown dust and ash resulting from forest fires). Secondary PM is formed in the atmosphere from predominantly gaseous combustion by-product precursors, such as sulfur oxides and NO_X, and ROGs. The overwhelming majority of airborne PM in Imperial County is primary PM. The major source of primary PM is fugitive windblown dust, with other contributions from entrained road dust, farming, and construction activities.

Particle size is a critical characteristic of PM that primarily determines the location of PM deposition along the respiratory system (and associated health effects) as well as the degradation of visibility through light scattering. In the United States, federal and state agencies have established two types of PM air quality standards, as shown in **Table 3.2-1**. PM_{10} corresponds to the fraction of PM no greater than 10 micrometers in aerodynamic diameter and is commonly called respirable particulate matter, while $PM_{2.5}$ refers to the subset of PM_{10} of aerodynamic diameter smaller than 2.5 micrometers, which is commonly called fine particulate matter.

PM air pollution has undesirable and detrimental environmental effects. PM affects vegetation, both directly (e.g., deposition of nitrates and sulfates may cause direct foliar damage) and indirectly (e.g., coating of plants upon gravitational settling reduces light absorption). PM also accumulates to form regional haze, which reduces visibility due to scattering of light.

6 Another form of NO_X, nitrous oxide (N_2O), is a greenhouse gas and is discussed below.

PM_{10} is respirable, with fine and ultrafine particles[7] reaching the alveoli deep in the lungs, and larger particles depositing principally in the nose and throat area. PM_{10} deposition in the lungs results in irritation that triggers a range of inflammation responses, such as mucus secretion and bronchoconstriction, and exacerbates pulmonary dysfunctions, such as asthma, emphysema, and chronic bronchitis. Sufficiently small particles ($PM_{2.5}$ and ultrafines) may penetrate the bloodstream and impact functions such as blood coagulation, cardiac autonomic control, and mobilization of inflammatory cells from the bone marrow. Individuals susceptible to higher health risks from exposure to PM_{10} airborne pollution include children, the elderly, smokers, and people of all ages with low pulmonary/cardiovascular function. For these individuals in particular, adverse health effects of PM_{10} pollution include coughing, wheezing, shortness of breath, phlegm, bronchitis, and aggravation of lung or heart disease, leading for example to increased risks of hospitalization and mortality from asthma attacks and heart attacks.

Pollutant Transport

As stated above, ozone is a "secondary" pollutant, formed in the atmosphere by reactions between NO_X and ROG. These reactions are driven by sunlight and proceed at varying rates. Transport is the movement of ozone or the pollutants that form ozone from one area (known as the upwind area) to another area (known as the downwind area). Pollutant transport is a very complex phenomenon. Sometimes transport is a straightforward matter of wind blowing from one area to another at ground level, carrying ozone with it, but usually it is not that simple. Transport is three-dimensional; it can take place at the surface, or high above the ground. Meteorologists use the terms "surface" and "aloft" to distinguish these two cases. Often, winds can blow in different directions at different heights above the ground. To complicate matters further, winds can shift during the day, pushing a polluted air mass first one way, then another. Finally, because ozone and ozone forming emissions from an upwind area can mix with locally generated ozone and locally generated emissions, it is often difficult to determine the origin of the emission causing high pollution levels. Political boundaries do not prevent transport of pollutants. Transport over distances of several hundred miles has often been documented in California.

The accurate determination of the impacts of transport requires detailed technical analyses in conjunction with modeling studies. The Imperial County Air Quality Management Plan[8] (AQMP) identifies how the transport of emissions and pollutants from Mexico and other areas (South Coast and San Diego) influences ozone violations within Imperial County. Although Imperial County is currently in attainment of the 1997 8-hour ozone NAAQS, it is important to note that any future analysis of air emissions impacting Imperial County must take into consideration the influence of transport from three distinct sources: the South Coast Air Basin via the Coachella Valley to the north, the San Diego Air Basin to the west and the international city of Mexicali, Mexico to the south.

3.2.1.2 Air Toxics

Air toxics, also called toxic air contaminants (TAC), are substances that are airborne and that can cause serious, and sometimes lethal, adverse health effects at relatively low ambient concentrations. The main exposure route for most TACs is through the respiratory tract, although people can also be

7 Ultrafine particles (UFPs) are nanoscale, less than 100 nanometers. Regulations do not currently exist for this size class of ambient air pollution particles, which are far smaller than the regulated PM_{10} and $PM_{2.5}$ particle classes and are believed to have several more aggressive health implications than those classes of larger particles.

8 Final 2009 1997 8-Hour Modified Air Quality Management Plan. Imperial County Air Pollution Control District. July 13, 2010.

exposed through contact with soil or food upon which airborne contaminants have settled. The ARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified 24 TACs,[9] as individual substances or classes of substances, and have compiled health effects data for them. Except for special studies, TAC concentrations in ambient air are not monitored routinely.

3.2.2 Applicable Regulations

3.2.2.1 Federal Regulations

The federal Clean Air Act (FCAA), passed in 1970, established the national air pollution control program. The basic elements of the CAA are the National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutants standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

NAAQS are the maximum allowable concentrations of criteria pollutants, over specified averaging periods, to protect human health. The FCAA requires that the U.S. Environmental Protection Agency (USEPA) establish NAAQS and reassess, at least every five years, whether they are adequate to protect public health, based on current scientific evidence. The NAAQS are divided into primary and secondary standards; the former standards are set to protect human health within an adequate margin of safety, and the latter to protect environmental values, such as plant and animal life.

The USEPA has identified nonattainment and attainment areas for each NAAQS. Under amendments to the FCAA, EPA has designated air basins or portions thereof as attainment, nonattainment, or unclassifiable, based on whether the national standards have been achieved.

In addition, the FCAA uses a classification system to design clean-up requirements appropriate for the severity of the pollution and set realistic deadlines for reaching clean-up goals. If an air basin is not in federal attainment for a particular pollutant, the Basin is classified as a marginal, moderate, serious, severe, or extreme nonattainment area, based on the estimated time it would take to reach attainment. Nonattainment areas must take steps towards attainment by a specific timeline. **Table 3.3-1** shows the federal and state attainment designations and federal classifications for the Basin.

Data collected at permanent monitoring stations are used by the USEPA to classify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas are subject to additional restrictions, as required by the USEPA.

The FCAA Amendments in 1990 substantially revised the planning provisions for those areas not currently meeting NAAQS. The Amendments identify specific emission reduction goals, require both a demonstration of reasonable further progress and attainment, and incorporate more stringent sanctions for failure to attain the NAAQS or to meet interim attainment milestones.

9 Toxic Air Contaminant List with Staff Reports/Executive Summaries. Office of Environmental Health Hazard Assessment, July 17, 2008. URL: https://oehha.ca.gov/air/general-info/toxic-air-contaminant-list-staff-reportsexecutive-summaries.

The USEPA does not set ambient standards for toxic air contaminants. Its regulatory approach is to set emissions limits and/or work practice standards for TACs in specific industrial categories.

3.2.2.2 State Regulations

The State of California began to set California ambient air quality standards (CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. There were no attainment deadlines for the CAAQS originally. However, the State Legislature passed the California Clean Air Act (CCAA) in 1988 to establish air quality goals, planning mechanisms, regulatory strategies, and standards of progress to promote their attainment. The ARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for ensuring implementation of the CCAA, responding to the FCAA, and for regulating emissions from motor vehicles and consumer products.

The CCAA requires attainment of CAAQS by the earliest practicable date. The state standards are generally more stringent than the corresponding federal standards. Attainment plans are required for air basins in violation of the State ozone, PM_{10}, CO, SO_2, or NO_2 standards. Responsibility for achieving state standards is placed on the ARB and local air pollution control districts. District plans for nonattainment areas must be designed to achieve a 5% annual reduction in emissions. Preparation of and adherence to attainment plans are the responsibility of the local air pollution districts or air quality management districts. **Table 3.2-1** illustrates NAAQS and CAAQS for criteria pollutants.[10]

The ARB regulates TACs in several ways. First, it has adopted air toxics control measures (ATCMs) based – in large part – on USEPA regulations, but sometimes more stringent. Many air pollution control districts have incorporated ATCMs into their rules.[11] The ARB also requires, through AB 2588, large emitters to create and maintain TAC emission inventories and, in some cases, to prepare air toxics health risk assessments (HRAs). The main categories of health risk defined by the ARB and the Office of Environmental Health Hazard Assessment (OEHHA) are cancer, chronic non-cancer, and acute non-cancer. The cancer and chronic non-cancer assessments are based upon 70 years exposure, while the acute noncancer assessments are based upon one-hour exposures.

Table 3.2-1
AMBIENT AIR QUALITY STANDARDS FOR CRITERIA AIR POLLUTANTS

Air Pollutant	Averaging Time	California Standard	National Standard
Ozone (O_3)	1 hour 8 hours	0.09 ppm 0.070 ppm	— 0.070 ppm *
Respirable particulate matter (PM_{10})	24-hour Annual Arithmetic Mean	50 µg/m^3 20 µg/m^3	150 µg/m^3 —
Fine particulate matter ($PM_{2.5}$)	24-hour Annual Arithmetic Mean	— 12 µg/m^3	35 µg/m^3 12.0 µg/m^3 **

10 Ambient Air Quality Standards. California Air Resources Board. https://www.arb.ca.gov/research/aaqs/aaqs2.pdf. May 4, 2016. Accessed July 2018.

11 For example, ICAPCD Rule 1002 incorporates by reference seven ATCMs.

Air Pollutant	Averaging Time	California Standard	National Standard
Carbon monoxide (CO)	1 hour 8 hours	20 ppm 9.0 ppm	35 ppm 9 ppm
Nitrogen dioxide (NO_2)	1 hour Annual Arithmetic Mean	0.18 ppm 0.030 ppm	100 ppb 0.053 ppm
Sulfur dioxide (SO_2)	1 hour 24 hours	0.25 ppm 0.04 ppm	75 ppb —
Lead	30-day Rolling 3-month	1.5 µg/m3 —	— 0.15 µg/m³
Sulfates	24 hours	25 µg/m³	**No National Standards**
Hydrogen sulfide	1 hour	0.03 ppm	
Vinyl chloride	24 hours	0.01 ppm	
Visibility-reducing particles	8 hours	Extinction coefficient of 0.23 per kilometer, visibility of ten miles or more due to particles when relative humidity is less than 70%.	

* On October 1, 2015, the national 8-hour ozone standard was lowered from 0.075 to 0.070 ppm.
** On December 14, 2012, the national $PM_{2.5}$ standard was lowered from 15 µg/m³ to 12.0 µg/m³.

Abbreviations:
ppm = parts per million
µg/m³ = micrograms per cubic meter
ppb = parts per billion
Mean = Annual Arithmetic Mean
30-day = 30-day average

3.2.3 Air Quality Plans

3.2.3.1 Ozone Plan

After Imperial County failed to meet the 2008 8-hour standard of 0.075 parts per million (ppm), the USEPA reclassified it from "marginal" nonattainment to "moderate" nonattainment. This reclassification required development and submittal of a 2008 8-Hr Ozone state implementation plan (SIP)[12] and a reasonable available control technology (RACT) SIP by January 1, 2017.[13] The final 2017 Ozone SIP demonstrated that a part of the reason why Imperial County has elevated ozone concentrations is because of transport of emissions from Mexico. Therefore, the SIP relies on the provisions in CAA §179B to demonstrate that Imperial County is in attainment of the 2008 8-hour ozone standard but for emissions emanating across the international border.[14] A weight-of-evidence

12 California's State Implementation Plan (SIP) is a collection of regional and local plans and regulations for achieving compliance with national ambient air quality standards.

13 State Implementation Plans. Ozone (O3), Imperial County Air Pollution Control District. URL: https://apcd.imperialcounty.org/planning/#stateplan. Accessed October 24, 2021.

14 Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard. Prepared by Ramboll Environ US Corporation, Los Angeles, CA for the Imperial County Air Pollution Control District, El Centro, CA. September 12,

analysis was included to show that Imperial County will maintain this status of attainment through the July 2018 attainment date.

3.2.3.2 PM_{10} Plan

2009 Plan

The ICAPCD District Board of Directors adopted the PM_{10} SIP for Imperial County on August 11, 2009.[15] The PM_{10} SIP meets USEPA requirements to demonstrate that the County will attain the PM_{10} standard as expeditiously as practicable. The PM_{10} SIP was required to address and meet the following elements, required under the FCAA of areas classified to be in serious nonattainment of the NAAQS:

- Best available emission inventories.
- A plan that enables attainment of the PM_{10} federal air quality standards.
- Annual reductions in PM_{10} or PM_{10} precursor emissions that are of not less than 5% from the date of SIP submission until attainment.
- Best available control measures and best available control technologies for significant sources and major stationary sources of PM_{10}, to be implemented no later than four years after reclassification of the area as serious.
- Transportation conformity and motor vehicle emission budgets in accord with the attainment plan.
- Reasonable further progress and quantitative milestones.
- Contingency measures to be implemented (without the need for additional rulemaking actions) if the control measure regulations incorporated in the plan cannot be successfully implemented or fail to give the expected emission reductions.

The PM_{10} SIP updated the emission inventory to incorporate revised cattle emissions, revised windblown dust model results, revised Southern California Association of Governments (SCAG) activity data, and updated entrained and windblown unpaved road dust estimates. The adjustments made to the emission inventory fell in two categories: (1) adjustments to incorporate new methodology and updated information (e.g., throughputs, activity data, etc.), and (2) adjustments to incorporate emission reductions arising from the implementation of new control measures.

Additionally, the PM_{10} SIP demonstrates that Imperial County attained the Federal PM_{10} NAAQS, but for international emissions from Mexico, based on 2006-2008 monitoring data. Attainment was due, in part, to ICAPCD's November 2005 adoption and subsequent implementation of Regulation VIII fugitive dust rules; those rules were based on the related 2005 Best Available Control Measure (BACM) analysis.

2017. URL: https://apcd.imperialcounty.org/wp-content/uploads/2020/01/OzoneSIP.pdf. Accessed September 16, 2022.

15 2009 Imperial County State Implementation Plan for Particulate Matter Less Than 10 Microns in Aerodynamic Diameter. Imperial County Air Pollution Control District. July 10, 2009.

Since the reclassification of Imperial County to serious nonattainment for PM_{10} occurred on August 2004, control of fugitive PM_{10} emissions from the significant source categories that meets BACM stringency identified in the PM_{10} SIP began in January 2006.

Major stationary sources are required to implement Best Available Control Technology (BACT) to control PM_{10} emissions (Rule 207) and they are required to comply with the 20% opacity (Rule 403). In addition, stationary sources will be required to mitigate fugitive dust emissions from access roads, construction activities, handling and transferring of bulk materials, and track-out/carry-out according to the requirements of Regulation VIII.

Because the Imperial County is shown in the PM_{10} SIP to have attained the 24-hour PM_{10} NAAQS but for international transport of Mexicali emissions in 2006-2008, reasonable further progress and milestone requirements are unnecessary, and specifically the 5% yearly emission reductions requirement does not apply to future years. As documented in the PM_{10} SIP, all remaining SIP requirements applicable to the 2009 Imperial County PM_{10} Plan have been successfully addressed.

2018 Redesignation Request and Maintenance Plan

In 2018, the ICAPCD prepared a PM_{10} Request for Redesignation and Maintenance Plan, which was approved by the District Board on October 23, 2018.[16] The document requested that the Imperial Valley Planning Area's PM_{10} attainment status be changed from serious nonattainment to attainment, and included a maintenance plan. The request was approved by the California Air Resources Board on December 13, 2018 after a public hearing.[17] The USEPA approved the SIP revision and the redesignation, effective October 19, 2020.[18]

3.2.3.3 $PM_{2.5}$ Plan

The ICAPCD District Board of Directors adopted the Imperial County 2013 State Implementation Plan for the 2006 24-hour $PM_{2.5}$ Moderate Nonattainment Area on December 2, 2014.[19] The $PM_{2.5}$ SIP fulfills the requirements of the CAA for those areas classified as "moderate" nonattainment for $PM_{2.5}$. It incorporates updated emission inventories, and analysis of Reasonable Available Control Measures (RACM), an assessment of Reasonable Further Progress (RFP), and a discussion of contingency measures. Analyses in the $PM_{2.5}$ SIP included assessing emission inventories from Imperial County and Mexicali; evaluating the composition and elemental makeup of samples collected on Calexico violation days; reviewing the meteorology associated with high concentration measurements; and performing directional analysis of the sources potentially impacting the Calexico $PM_{2.5}$ monitor. As is demonstrated in the $PM_{2.5}$ SIP, the primary reason for elevated $PM_{2.5}$ levels in Imperial County is transport from Mexico. Essentially, the $PM_{2.5}$ SIP demonstrated attainment of the 2006 $PM_{2.5}$ NAAQS "but for" transport of international emissions from Mexicali, Mexico. The ARB approved this SIP on December 18, 2014.

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16 State Implementation Plans. Particulate Matter 10 (PM10), Imperial County Air Pollution Control District. URL: https://apcd.imperialcounty.org/planning/#stateplan. Accessed October 24, 2021.

17 2018 Imperial County PM10 State Implementation Plan. California Air Resources Board, Sacramento, CA. URL: https://ww2.arb.ca.gov/resources/documents/2018-imperial-county-pm10-state-implementation-plan. Accessed October 24, 2022.

18 85 Federal Register 58286-58294. September 18, 2020. URL: https://www.govinfo.gov/content/pkg/FR-2020-09-18/pdf/2020-18427.pdf. Accessed October 24, 2022.

19 Imperial County 2013 SIP for the 2006 24-hr PM2.5 Moderate Nonattainment Area. Imperial County Air Pollution Control District. December 2, 2014.

Between 2013 and 2016, the USEPA implemented a new, lower, annual $PM_{2.5}$ standard and designated the previously determined non-attainment area in Imperial County as a "moderate" non-attainment area. The County was required to prepare a new $PM_{2.5}$ SIP and did so on April 24, 2018. The new SIP was approved by the ARB on May 25, 2018.[20] Elements of the 2018 $PM_{2.5}$ SIP include:[21]

- Base year emission inventories and future year forecasts for manmade sources of directly emitted $PM_{2.5}$ and $PM_{2.5}$ precursors.
- A comprehensive precursor demonstration.
- An attainment demonstration;
- Demonstration that control measures meet Reasonably Available Control Technology (RACT), Reasonably Available Control Measures (RACM), and Additional Reasonable Measures (ARM) requirements, as applicable.
- Requirements for Reasonable Further Progress (RFP).
- Contingency measures for RFP
- Quantitative milestones.
- Transportation conformity emission budgets to ensure transportation projects are consistent with the SIP.

3.2.4 Local Regulations

3.2.4.1 Air Quality

The ICAPCD also has the authority to adopt and enforce regulations dealing with controls for specific types of sources, emissions of hazardous air pollutants, and New Source Review. The ICAPCD Rules and Regulations are part of the SIP and are separately enforceable by the EPA. The following ICAPCD rules potentially apply to the Project.

Rules 800 (General Requirements for Control of Fine Particulate Matter), **801** (Construction and Earthmoving Activities), **802** (Bulk Materials), **803** (Carry-out and Track-out), **804** (Open Areas), and **805** (Paved and Unpaved Roads) are intended to reduce the amount of PM_{10} entrained in the ambient air as a result of emissions generated by anthropogenic fugitive dust sources by requiring actions to prevent, reduce, or mitigate PM_{10} emissions. These rules include opacity limits, control measure requirements, and dust control plan requirements that apply to activities at the facility.

The 2017 Ozone SIP (see **Section 3.2.3.1**) strengthened new source review (NSR) requirements for facilities with potential to emit NO_x and ROG emissions above certain thresholds. Some of these requirements, which are in **Rule 207** (New and Modified Stationary Source Review), may come into play during the permitting process.

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20 State Implementation Plans. 2012 Annual Particulate Matter 2.5 (PM2.5), Imperial County Air Pollution Control District. URL: https://apcd.imperialcounty.org/planning/#stateplan. Accessed October 24, 2022

21 2018 Imperial County Annual Particulate Matter Less Than 2.5 Microns in Diameter State Implementation Plan. Prepared by Ramboll Environ US Corporation, Los Angeles, CA for the Imperial County Air Pollution Control District, El Centro, CA. April, 2018. URL: https://apcd.imperialcounty.org/wp-content/uploads/2020/01/2018-IC-PM25SIP.pdf. Accessed October 24, 2022.

3.2.4.2 Right-to-Farm Ordinance

In recognition of the role of agriculture in the county, Imperial County has adopted a right-to-farm ordinance. A "right-to-farm" ordinance creates a legal presumption that ongoing, standard farming practices are not a nuisance to adjoining residences. It requires a disclosure to owners and purchasers of property near agricultural land operations, or areas zoned for agricultural purposes. The disclosure advises persons that discomfort and inconvenience from odors, fumes, dust, smoke, and chemicals resulting from conforming and accepted agricultural operations are normal and necessary aspects of living in the agricultural areas of the county.

3.3 REGIONAL AIR QUALITY

Table 3.3-1 shows the area designation status of Imperial County for each criteria pollutant for both the NAAQS and the CAAQS.

Table 3.3-1
FEDERAL AND STATE ATTAINMENT STATUS FOR IMPERIAL COUNTY

Pollutant	State Designation	Federal Designation (Classification)
Ozone	Nonattainment	Nonattainment
Fine PM ($PM_{2.5}$)	Attainment	Nonattainment (Moderate)
Respirable PM (PM_{10})	Nonattainment	Maintenance (Serious)
Carbon Monoxide (CO)	Attainment	Unclassified/ Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Sulfates	Attainment	No Federal Standards
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	No Federal Standards
Visibility reducing Particles	Unclassified	No Federal Standards

Source: Maps of State and Federal Area Designations. California Air Resources Board. Accessed online at https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations, on September 14, 2022.

3.4 LOCAL AIR QUALITY

Existing levels of ambient air concentrations and historical trends and projections in the project area are best documented by measurements made by the ICAPCD and the ARB. Monitoring has been performed by the ICAPCD, ARB, and private industry. There are six monitoring sites in Imperial County from Niland to Calexico.

The nearest monitoring stations to the project site is Calexico-Ethel Street station, approximately 2.69 miles east of the site. The station monitors ozone, PM_{10} and $PM_{2.5}$. **Table 3.4-1** summarizes 2020 through 2022 published monitoring data from the ARB's Aerometric Data Analysis and Management System (ADAM).

Table 3.4-1
AMBIENT CRITERIA POLLUTANT CONCENTRATION DATA FOR PROJECT VICINITY

Air Pollutant	Standard/Exceedance	2020	2021	2022
Ozone (O_3)	Max. 1-hour Concentration (ppm)	0.107	0.122	0.097
	Max. 8-hour Concentration (ppm)	0.088	0.091	0.083
	Days > Federal 8-hour Std. of 0.070 ppm	16	13	6
	# Days > California 1-hour Std. of 0.09 ppm	6	4	1
	# Days > California 8-hour Std. of 0.07 ppm	19	14	7
Respirable Particulate Matter (PM_{10})	Max. Federal 24-hour Concentration ($\mu g/m^3$)	194.5	291.7	184.8
	Max. State 24-hour Concentration ($\mu g/m3$)	188	301.1	182.8
	#Days > Fed. 24-hour Std. of 150 $\mu g/m^3$	4	3	2
	#Days > California 24-hour Std. of 50 $\mu g/m^3$	166.3	150.7	163.9
	Federal Annual Average($\mu g/m^3$)	54.4	52.1	52.6
	State Annual Average($\mu g/m^3$)	54.1	52.5	54.0
Fine Particulate Matter ($PM_{2.5}$)	Max. Federal 24-hour Concentration ($\mu g/m^3$)	46.1	60.8	41.9
	#Days > Fed. 24-hour Std. of 150 $\mu g/m^3$	5.4	2.1	5.1
	Federal Annual Average($\mu g/m^3$)	11.9	10.2	10.9
	State Annual Average($\mu g/m^3$)	ND	10.2	10.9

Source: California Air Resources Board, "iADAM Air Quality Data Statistics." Accessed online at https://www.arb.ca.gov/adam/select8/sc8start.php, on September 14, 2022.

ND There were insufficient (or no) data available to determine the value.

4.0 AIR QUALITY IMPACTS ANALYSIS

This analysis was prepared in accordance with the ICAPCD CEQA Air Quality Handbook and with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Air quality impacts are typically divided into short-term and long-term impacts. Short-term impacts are associated with construction activities, such as site grading, excavation and building construction of a project. Long-term impacts are associated with the operation of a project upon its completion.

4.1 CEQA IMPACT REVIEW CRITERIA

In accordance with *State CEQA Guidelines* Appendix G, implementation of the project would result in a potentially significant impact if it were to:

- 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.

Where available, the significance criteria established by the applicable air quality management district (AQMD) or air pollution control district (APCD) may be relied upon to make the significance determinations. As will be discussed in the next section, the ICAPCD has developed a CEQA Air Quality Handbook to provide a protocol for air quality analyses that are prepared under the requirements of CEQA.

4.2 IMPERIAL COUNTY APCD THRESHOLDS OF SIGNIFICANCE

Under the ICAPCD guidelines, an air quality evaluation must address the following:

- Comparison of calculated project emissions with ICAPCD emission thresholds.

- Consistency with the most recent Clean Air Plan for Imperial County.

- Comparison of predicted ambient pollutant concentrations resulting from the project to state and federal health standards, when applicable.

- The evaluation of special conditions that apply to certain projects.

4.2.1 Construction Impacts

As will be discussed in **Section 4.5.2**, this is a "Tier I" project. In general, projects whose *operational* emissions qualify them as Tier I do not need to quantify their construction emissions; instead, they adopt the standard mitigation measures for construction (See **Section 5.0**). The ICAPCD CEQA Guidelines states the "approach of the CEQA analyses for construction particulate matter impacts should be qualitative as opposed to quantitative." However, this analysis quantifies construction emissions. The quantification serves the purpose of determining which construction-related mitigation measures, if any, to prescribe. The ICAPCD's thresholds for significance are shown in **Table 4.2-1**.

Table 4.2-1
THRESHOLDS OF SIGNIFICANCE FOR CONSTRUCTION ACTIVITIES[22]

Pollutant	Threshold
PM_{10}	150 lbs/day
ROG	75 lbs/day
NO_x	100 lbs/day
CO	550 lbs/day

4.2.2 Operational Impacts

To evaluate long-term air quality impacts due to operation of a project, the ICAPCD recommends the significance criteria shown in **Table 4.2-2.**

Table 4.2-2
THRESHOLDS OF SIGNIFICANCE FOR PROJECT OPERATIONS[23]

Pollutant	Emissions (lbs/day)	
	Tier I	Tier II
Carbon Monoxide (CO)	< 550	≥ 550
Reactive Organic Gases (ROG)	< 137	≥ 137
Nitrogen Oxides (NO_X)	< 137	≥ 137
Sulfur Oxides (SO_X)	< 150	≥ 150
Particulate Matter (PM_{10})	< 150	≥ 150
Particulate Matter ($PM_{2.5}$)	< 550	≥ 550
Level of Significance	Less Than Significant	Significant Impact
Level of Analysis	Initial Study	Comprehensive Air Quality Report
Environmental Document	Negative Declaration	Mitigated Negative Declaration or Environmental Impact Report

4.3 CO "HOTSPOTS" THRESHOLDS

Exhaust emissions from motor vehicles can potentially cause a direct, localized hotspot impact at or near proposed developments or sensitive receptors. The optimum condition for the occurrence of a CO hotspot would be cool and calm weather at a congested major roadway intersection with sensitive receptors nearby, and where vehicles are idling or moving at a stop-and-go pace.

The significance of localized project impacts depends on whether project-related emissions result in a violation of state and/or federal CO standards. A significant impact would occur if the CO hotspot analysis of vehicular intersection emissions exposes sensitive receptors to concentrations that are in excess of the following thresholds:

- 20 parts per million (ppm) for a 1-hour average, and/or
- 9 ppm for 8-hour average.

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22 Imperial County Air Pollution Control District. 2017. CEQA Air Quality Handbook. November, p. 20.
23 Imperial County Air Pollution Control District. 2017. CEQA Air Quality Handbook. November, p. 10.

The ICAPCD *CEQA Air Quality* Handbook does not specify criteria for significance when ambient CO levels already exceed a state or federal standard. For that case, we used the South Coast Air Quality Management District's specification that project impacts are considered significant if they increase 1-hour CO concentrations by 1.0 ppm or more or 8-hour CO concentrations by 0.45 ppm or more.[24]

4.4 METHODOLOGY

Regional emissions of criteria air pollutants and precursors, and toxic air contaminants during project construction and operations were assessed in accordance with the methodologies described below. ICAPCD suggests that the "approach of the CEQA analyses for construction PM_{10} impacts should be qualitative as opposed to quantitative"[25] but that any projects which are greater than the level of significance for construction may have a significant impact on local and, under certain circumstances, regional air quality. For full disclosure purposes, construction emissions were quantified.

Details of our assumptions and calculations are presented in **Attachment 1** to this report. In this section, we give an overview of our approach.

Construction and operating emissions were estimated with the California Emission Estimator Model (CalEEMod), Version 2022.1.1.21[26] Construction phase definitions and schedules, warehouse area, landscaping area, parking spaces and other site element data were obtained from the applicant. CalEEMod's default assumptions were used for other modeling parameters. Equipment deployment and phasing are shown in **Table 4.4-1**.

Table 4.4-1
CONSTRUCTION PHASING AND EQUIPMENT DETAILS[a]

Phase	Number of Pieces of Equipment	Equipment	Usage Hours	Horsepower[a]	Load Factor[a]
Site Preparation	3	Rubber Tired Dozers	8.00	367	0.40
	4	Tractors/Loaders/Backhoes	8.00	84	0.37
Grading	2	Excavators	8.00	36	0.38
	1	Graders	8.00	148	0.41
	1	Rubber Tired Dozers	8.00	367	0.40
	2	Scrapers	8.00	423	0.48
	2	Tractors/Loaders/Backhoes	8.00	84	0.37
Building Construction	1	Cranes	7.00	367	0.29
	3	Forklifts	8.00	82	0.20
	1	Generator Sets	8.00	14	0.74
	3	Tractors/Loaders/Backhoes	7.00	84	0.37
	1	Welders	8.00	46	0.45
Paving	2	Pavers	8.00	81	0.42

24 ICAPCD (Imperial County Air Pollution Control District), 2017. CEQA Air Quality Handbook. Accessed online at https://apcd.imperialcounty.org/wp-content/uploads/2020/01/CEQAHandbk.pdf, on September 15, 2022.

25 Ibid

26 BREEZE Software. User's Guide for CalEEMod Version 2022.1.1.21. Prepared for California Air Pollution Control Officers Association. February 2024. Accessed online at https://www.caleemod.com/documents/user-guide/01_User%20Guide.pdf.

Phase	Number of Pieces of Equipment	Equipment	Usage Hours	Horsepower[a]	Load Factor[a]
	2	Paving Equipment	8.00	89	0.36
	2	Rollers	8.00	36	0.38
Architectural Coating	1	Air Compressors	6.00	37	0.48

Source: CalEEMod Version 2022.1.1.21.
[a]Horsepower and load factor data are default values from CalEEMod.

4.5 AIR QUALITY IMPACTS

4.5.1 Short-Term Impacts

Project construction activities will generate short-term air quality impacts. Construction emissions can be distinguished as either onsite or offsite. Onsite air pollutant emissions would consist principally of exhaust emissions from off-road heavy-duty construction equipment, as well as fugitive particulate matter from earthwork. Offsite emissions would result from workers commuting to and from the job site, as well as from trucks hauling building materials and taking away debris. For calculations, construction was divided into the following phases, which do not overlap in time:

- Site preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

Table 4.5-1 shows the results of the CalEEMod analysis and compares them with the ICAPCD significance criteria. Daily emissions of all pollutants are below their significance thresholds, and no mitigation is necessary. Calculation assumptions and results files are provided in **Attachment 1**.

Table 4.5-1
MAXIMUM DAILY UNMITIGATED CONSTRUCTION EMISSIONS

Project Phase Construction	Maximum Emissions (lbs/day)[a]			
	ROG	NO_x	CO	PM_{10}
Site Preparation	3.73	**36.08**	**33.65**	33.17
Grading	3.62	34.39	31.05	32.34
Building Construction- 2024	1.46	12.04	15.51	87.6
Building Construction- 2025	1.24	10.71	14.02	**34.43**
Paving	1.94	7.5	10.94	20.85
Architectural Coating	**32.89**	0.91	1.77	13.53
ICAPCD Significance Thresholds[a]	*75*	*100*	*550*	*150*
Significant (Yes or No)	**No**	**No**	**No**	**No**

Source: *CalEEMod Version 2022.1.1.21.*
[a]The ICAPCD does not have a significance threshold for $PM_{2.5}$ during construction.

4.5.2 Long-Term Impacts

To properly characterize air pollution impacts under CEQA, we calculated operational impacts for maximum emissions.

4.5.2.1 Operational Emissions

Table 4.5-2 summarizes the daily operating emissions for this phase. Because the daily emissions of all the pollutants are below the Tier I thresholds, these emissions are less than significant and no mitigation is needed.

Table 4.5-2
DAILY PROJECT OPERATIONAL EMISSIONS

Emissions Source	Pollutant (maximum lbs/day)				
	ROG	NOx	CO	PM_{10}	$PM_{2.5}$
Area	3.64	0.04	5.23	0.01	0.01
Energy	0.03	0.59	0.50	0.04	0.04
Mobile	1.42	0.79	7.10	96.3	9.78
Waste	ND	ND	ND	ND	ND
Water	ND	ND	ND	ND	ND
Total Operational Emissions	5.09	1.42	12.83	96.35	9.78
Thresholds for Tier II	*137*	*137*	*550*	*150*	*550*
Tier	**I**	**I**	**I**	**I**	**I**

ND = *No Data*
Source: Calculated by UltraSystems.

Air Toxics Emissions

The only toxic air contaminant emitted by the project will be diesel particulate matter (DPM), which is emitted by construction equipment and onroad diesel trucks. The ARB has formally designated DPM as a toxic air contaminant.[27] Per ARB guidance, PM_{10} from diesel fuel combustion is assumed to be a surrogate for DPM. UltraSystems has estimated DPM emissions and performed a health risk assessment (HRA), which is described in a separate memorandum.[28]

The State of California has established a threshold of 10 in one million as a level posing no risk for exposures to carcinogens regulated under the Safe Drinking Water and Toxic Enforcement Act (Proposition 65). The same threshold is used by many air pollution control agencies, including the South Coast Air Quality Management District. The project HRA estimated a maximum individual cancer risk of 0.0075 in one million during construction and 0.4 in one million during operations. Both of these values are far below the threshold of 10 in one million. The maximum chronic noncancer hazard, as measured by the "hazard index," which is the ratio of air concentration of a

27 The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. Fact Sheet. California Air Resources Board, Sacramento, CA. October 1998. URL: Per https://www.arb.ca.gov/toxics/dieseltac/factsht1.pdf.

28 Air Toxics Health Risk Assessment for Cal98 Charger Logistics Projects, Calexico, California. Memorandum from M. B. Rogozen, UltraSystems Environmental Inc. and B. Piazza, Air Quality Dynamics to Tom DuBose, DuBose Design Group. January 27, 2023.

pollutant to its standard reference level for toxic exposures, is estimated to be 0.0082 and 0.00043 for construction and operations, respectively, which is far below the significance level of 1.0.

4.5.3 Sensitive Receptors

Sensitive receptors are persons who would be more susceptible to air pollution than the general population, such as children, athletes, the elderly, and the chronically ill. Examples of land uses where substantial numbers of sensitive receptors are often found are schools, daycare centers, parks, recreational areas, medical facilities, nursing homes, and convalescent care facilities. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended times, resulting in sustained exposure to pollutants. The closest sensitive receptor currently is a single-family residence on State Route 98, about 32 feet west of the project's western boundary.

4.5.4 Objectionable Odors

Construction activities for the project would generate airborne odors associated with the operation of construction vehicles (i.e., diesel exhaust) and asphalt paving operations. These emissions would occur during daytime hours only and would be isolated to the immediate vicinity of the construction site and activity. Therefore, they would not affect a substantial number of people. Operational emissions would include some diesel engine exhaust, but the location of the project is remote and odor emissions will not affect a substantial number of people.

4.5.5 Conformity with Air Quality Management Plan

The ICAPCD *CEQA Air Quality Handbook* calls for a consistency analysis with the regional clean air plans, namely ozone and PM_{10} attainment demonstration plans, for large residential and commercial developments that are required to develop an EIR. Projects that are projected to exceed ICAPCD thresholds of significance for its operations are considered large developments and are required to demonstrate consistency with regional air quality plans. Because the proposed project's emissions will not exceed the District's significance thresholds, analysis for conformity with regional air quality plans is not required for the project.

5.0 GREENHOUSE GAS EMISSIONS ANALYSIS

5.1 Climate Change and Greenhouse Gases

If the earth had no atmosphere, almost all of the energy received from the sun would be re-radiated out into space. Our atmosphere helps retain a major portion of the solar radiation through "the greenhouse effect." Short-wavelength solar radiation passes through the atmosphere and is absorbed by the earth's surface. The earth re-radiates the heat up into the atmosphere, at a longer wavelength. GHG in the atmosphere absorb the longer-wavelength heat and then radiate it back downward. In general, as concentrations of GHG in the atmosphere increase, global temperatures increase.

For many centuries, atmospheric GHG concentrations were relatively stable. As combustion of fossil fuels for industrial activities and transportation increased, concentrations of CO_2 in the atmosphere increased dramatically. The result has been an observed increase in average global temperature. The current consensus among scientists is that continued increases in atmospheric GHG will not only raise the average global temperature but will also lead to changes in climate. While air temperatures will mainly rise, temperatures may decrease in some areas. Rainfall distribution and storm patterns will be affected. As polar ice melts, sea levels may rise, inundating coastal areas.

GHG is defined under the California Global Warming Solutions Act of 2006 (AB 32) as CO_2, CH_4, N_2O, hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulfur hexafluoride (SF_6). Associated with each GHG species is a "global warming potential" (GWP), which is defined as the ratio of degree of warming to the atmosphere that would result from the emission of one mass unit of a given GHG compared with one equivalent mass unit of CO_2 over a given period of time. By this definition, the GWP of CO_2 is always 1. The GWP of methane and N_2O are 25 and 298, respectively.[29] "Carbon dioxide equivalent" (CO_2e) emissions are calculated by weighting each GHG compound's emissions by its GWP and then summing the products.

Carbon dioxide (CO_2) is a clear, colorless, and odorless gas. Fossil fuel combustion is the main human-related source of CO_2 emissions; electricity generation and transportation are first and second in the amount of CO_2 emissions, respectively. Carbon dioxide is the basis of GWP, and thus has a GWP of 1.

Methane (CH_4) is a clear, colorless gas, and is the main component of natural gas. Anthropogenic sources of CH_4 are fossil fuel production, biomass burning, waste management, and mobile and stationary combustion of fossil fuel. Wetlands are responsible for the majority of the natural methane emissions.[30] As mentioned above, CH_4, within a 100-year period, is 25 times more effective in trapping heat than is CO_2.

Nitrous oxide (N_2O) is a colorless, clear gas, with a slightly sweet odor. N_2O has both natural and human-related sources, and is removed from the atmosphere mainly by photolysis, or breakdown by sunlight, in the stratosphere. The main human-related sources of N_2O in the United States are agricultural soil management (synthetic nitrogen fertilization), mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production.[31] Nitrous oxide is also produced from a wide range of biological sources in soil and water. Within a 100-year span, N_2O is 298 times more effective in trapping heat than is CO_2.[32]

5.1.1 Potential Environmental Effects

Worldwide, average temperatures are likely to increase by 3°F to 7°F by the end of the 21^{st} century.[33] However, a global temperature increase does not directly translate to a uniform increase in temperature in all locations on the earth. Regional climate changes are dependent on multiple variables, such as topography. One region of the Earth may experience increased temperature, increased incidents of drought, and similar warming effects, whereas another region may experience a relative cooling. According to the International Panel on Climate Change's (IPCC's) Working Group II Report,[34] climate change impacts on North America may include diminishing snowpack, increasing

29 Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. 2007.
30 U.S. Environmental Protection Agency, "Methane." Climate Change Web Site. Internet URL: http://www.epa.gov/methane/. Updated April 1, 2011.
31 U.S. Environmental Protection Agency, "Nitrous Oxide." Climate Change Web Site. Internet URL: http://www.epa.gov/nitrousoxide/. Updated June 22, 2010.
32 Ibid.
33 Climate Change 2007: Impacts, Adaptation, and Vulnerability. Website http://www.ipcc.ch/ipccreports/ar4-wg2.htm. Accessed March 2013.
34 Ibid.

evaporation, exacerbated shoreline erosion, exacerbated inundation from sea level rising, increased risk and frequency of wildfire, increased risk of insect outbreaks, increased experiences of heat waves, and rearrangement of ecosystems, as species and ecosystem zones shift northward and to higher elevations.

5.1.2 California Implications

Even though climate change is a global problem and GHGs are global pollutants, the specific potential effects of climate change on California have been studied. The third assessment produced by the California Natural Resources Agency (CNRA)[35] explores local and statewide vulnerabilities to climate change, highlighting opportunities for taking concrete actions to reduce climate-change impacts. Projected changes for the remainder of this century in California include:

- **Temperatures** – By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century and springtime warming — a critical influence on snowmelt — will be particularly pronounced.

- **Rainfall** – Even though model projections continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability, improved climate models shift towards drier conditions by the mid-to-late 21st century in Central, and most notably, Southern California.

- **Wildfire** - Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning, with human activities continuing to be the biggest factor in ignition risk. Models are showing that estimated that property damage from wildfire risk could be as much as 35% lower if smart growth policies were adopted and followed than if there is no change in growth policies and patterns.

The third assessment by CNRA not only defines projected vulnerabilities to climatic changes but analyzes potential impacts from adaptation measures used to minimize harm and take advantage of beneficial opportunities that may arise from climate change.

The report highlights important new insights and data, using probabilistic and detailed climate projections and refined topographic, demographic, and land use information. The findings include:

- The state's electricity system is more vulnerable than was previously understood.
- The Sacramento-San Joaquin Delta is sinking, putting levees at growing risk.
- Wind and waves, in addition to faster rising seas, will worsen coastal flooding.
- Animals and plants need connected "migration corridors" to allow them to move to habitats that are more suitable to avoid serious impacts.
- Native freshwater fish are particularly threatened by climate change.
- Minority and low-income communities face the greatest risks from climate change.

35 Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California. California Natural Resources Agency. July 2012 / CEC-500-2012-007.

5.2 Regulatory Background

5.2.1 Federal Climate Change Regulation

The federal government is taking several common-sense steps to address the challenge of climate change. The U.S. Environmental Protection Agency (USEPA) collects several types of GHG emissions data. These data help policy makers, businesses, and USEPA track GHG emissions trends and identify opportunities for reducing emissions and increasing efficiency. USEPA has been collecting a national inventory of GHG emissions since 1990, and in 2009 established mandatory reporting of GHG emissions from large GHG emissions sources.

Until January 19, 2017 the USEPA's regulatory initiatives included USEPA's vehicle GHG rules and Clean Power Plan; partnering with the private sector through voluntary energy and climate programs; and reducing USEPA's carbon footprint with the federal GHG requirements and USEPA's Strategic Sustainability Performance Plan.

The recently concluded Trump administration had a different strategy in relation to climate change and took the USEPA in a new direction (USEPA, 2017)[36]. President Trump's Executive Order 13783, "Promoting Energy Independence and Economic Growth,"[37] specifically addressed revisions in the Clean Power Plan and standards of performance for GHGs for new stationary sources; CH_4 standards for the oil and gas sector; and light-duty vehicle GHG standards. On January 20, 2021, President Biden issued Executive Order 13990[38], which rescinded the Executive Order on Energy Independence, along with several other executive orders concerning energy, climate, and environmental protection. Among the stated goals of Executive Order 13990 are "to reduce greenhouse gas emissions" and "to bolster resilience to the impacts of climate change." Various federal agencies are restoring prior regulations and developing new ones to further these policies.

5.2.2 California Climate Change Regulation

Through several pieces of legislation, gubernatorial executive orders, and administrative regulations that relate to GHG emissions and climate change, California has set aggressive goals for GHG reductions within the state. Per Senate Bill (SB) 97, the California Natural Resources Agency adopted amendments to the CEQA Guidelines, which address the specific obligations of public agencies when analyzing GHG emissions under CEQA to determine a project's effects on the environment. However, neither a threshold of significance nor any specific mitigation measures are included or provided in these CEQA Guideline amendments. The major state provisions for reducing GHG emissions are as follows.

Assembly Bill 32 (AB 32)

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires the California Air Resources Board (ARB) to develop and enforce regulations for the reporting and verification of statewide GHG emissions. The ARB is directed to set a statewide GHG emission limit, based on 1990

36 USEPA, 2020. Available online at: https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act accessed March 19, 2020.

37 Executive Order 13783, Promoting Energy Independence and Economic Growth. March 31, 2017. URL: https://www.federalregister.gov/documents/2017/03/31/2017-06576/promoting-energy-independence-and-economic-growth.

38 Executive Order 13990. Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis. January 20, 2021. URL:

levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. The heart of the bill is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020.

The AB 32 Scoping Plan (Scoping Plan) (ARB, 2008)[39] contains the main strategies to achieve the 2020 emissions cap. The Scoping Plan was developed by the ARB with input from the Climate Action Team and proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce oil dependency, diversify energy sources, and enhance public health while creating new jobs and improving the state's economy. The GHG reduction strategies contained in the Scoping Plan include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

In May 2014, the ARB adopted the First Update to the Climate Change Scoping Plan (ARB, 2014)[40]. This update identifies the next steps for California's leadership on climate change. The first update to the initial Scoping Plan describes progress made to meet the near-term objectives of AB 32 and defines California's climate change priorities and activities for the next several years. It also frames activities and issues facing the state as it develops an integrated framework for achieving both air quality and climate goals in California beyond 2020.

In the original Scoping Plan, the ARB approved a total statewide GHG 1990 emissions level and 2020 emissions limit of 427 million metric tons (MT) of CO_2e. As part of the update, the ARB revised the 2020 Statewide limit to 431 million MT of CO_2e, an approximately 1% increase from the original estimate. The 2020 business-as-usual forecast in the update is 509 million MT of CO_2e. The state would need to reduce those emissions by 15.3% to meet the 431 million MT of CO_2e 2020 limit.

In November 2017, the ARB published the 2017 Scoping Plan (ARB, 2017)[41], which builds upon the former Scoping Plan and Update by outlining priorities and recommendations for the state to achieve a 40% reduction in GHGs by 2030, compared to 1990 levels. The major elements of the framework proposed are enhancement of the Renewables Portfolio Standard (RPS) and the Low Carbon Fuel Standard (LCFS); a Mobile Source Strategy, Sustainable Freight Action Plan, Short-Lived Climate Pollutant Reduction Strategy, Sustainable Communities Strategies, and a Post-2020 Cap-and-Trade Program; a 20% reduction in GHG emissions from the refinery sector and an Integrated Natural and Working Lands Action Plan.

On November 16, 2022, the ARB circulated its Final 2022 Scoping Plan for Achieving Carbon Neutrality (ARB, 2022). It identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 or earlier. Through the lens of carbon neutrality, the plan expands the scope to

39 ARB, 2008. Climate Change Scoping Plan: A Framework for Change. California Air Resources Board. December 2008.
40 ARB, 2014. First Update to the Climate Change Scoping Plan, Building on the Framework. California Air Resources Board. May 2014.
41 ARB, 2017b. California's 2017 Climate Change Scoping Plan. California Air Resources Board. November 2017. URL: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

more meaningfully consider how our natural and working lands (NWL) contribute to our long-term climate goal.[42]

Executive Order B-30-15

On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40% below 1990 levels by 2030. This new emission reduction target is a step toward the ultimate goal of reducing emissions by 80% below 1990 levels by 2050. The executive order also specifically addresses the need for climate adaptation and directs state government to:

- Incorporate climate change impacts into the state's Five-Year Infrastructure Plan.
- Update the Safeguarding California Plan – the state climate adaption strategy – to identify how climate change will affect California infrastructure and industry, and what actions the state can take to reduce the risks posed by climate change.
- Factor climate change into state agencies' planning and investment decisions.
- Implement measures under existing agency and departmental authority to reduce GHG emissions.

California Senate Bills 1078, 107, 2, and 350; Renewables Portfolio Standard

Established in 2002 under California SB 1078 and accelerated in 2006 under California SB 107, California's RPS requires retail suppliers of electric services to increase procurement from eligible renewable energy resources by at least 1% of their retail sales annually, until they reach 20% by 2010.

On April 2, 2011, Governor Brown signed California SB 2 to increase California's RPS to 33% by 2020. This new standard also requires regulated sellers of electricity to procure 25% of their energy supply from certified renewable resources by 2016. Most recently, Governor Brown signed into legislation SB 350 in October 2015, which requires retail sellers and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030.

California Senate Bill 100 (Chapter 312, Statutes of 2018)

Senate Bill 100 (SB 100)[43] sets a 2045 goal of powering all retail electricity sold in California and state agency electricity needs with renewable and zero-carbon resources — those such as solar and wind energy that do not emit climate-altering greenhouse gases. SB 100 updates the state's Renewables Portfolio Standard to ensure that by 2030 at least 60% of California's electricity is renewable. SB 100 requires the Energy Commission, Public Utilities Commission and Air Resources Board to use programs under existing laws to achieve 100% clean electricity.

42 2022 Scoping Plan for Achieving Carbon Neutrality. California Air Resources Board, URL: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf

43 https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB100.

Low Carbon Fuel Standard

California Executive Order S-01-07 (January 18, 2007)[44] requires a 10% or greater reduction in the average carbon intensity for transportation fuels in California regulated by the ARB. The ARB identified the LCFS as a Discrete Early Action item under AB 32, and the final resolution (09-31) was issued on April 23, 2009.

Sustainable Communities and Climate Protection Act (SB 375)

California's Sustainable Communities and Climate Protection Act, also referred to as SB 375, became effective January 1, 2009. The goal of SB 375 is to help achieve AB 32's GHG emissions reduction goals by aligning the planning processes for regional transportation, housing, and land use. SB 375 requires the ARB to develop regional reduction targets for GHGs and prompts the creation of regional plans to reduce emissions from vehicle use throughout the state. California's 18 Metropolitan Planning Organizations (MPOs) have been tasked with creating Sustainable Community Strategies in an effort to reduce the region's vehicle miles traveled (VMT) in order to help meet AB 32 targets through integrated transportation, land use, housing and environmental planning. Pursuant to SB 375, the ARB set per-capita GHG emissions reduction targets from passenger vehicles for each of the state's 18 MPOs. On September 23, 2010, the ARB issued a regional 8% per capita reduction target for the planning year 2020, and a conditional target of 13% for 2035.

California Green Building Standards (CALGreen) Code

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24)[45], was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. Since then, Title 24 has been amended with recognition that energy-efficient buildings that require less electricity reduce fuel consumption, which in turn decreases GHG emissions. The standards are updated every three years, to allow consideration and possible incorporation of new energy efficient technologies and methods. The 2019 Title 24 standards (effective as of January 1, 2020) were adopted in part to respond to the GHG reduction targets. On the residential side, the standards required solar photovoltaic systems for new homes and encouraged demand-responsive technologies for increased comfort and energy savings. In nonresidential buildings, the standards updated indoor and outdoor lighting, making maximum use of LED technology. For the first time, the standards established requirements for newly constructed healthcare facilities[46,47]. Analysis by the California Energy Commission concludes that the 2019 energy efficiency standards, which took effect January 1, 2020, were projected to result in a 30% improvement in energy efficiency for nonresidential buildings over the 2016 standards. The 2019 standards were a major step towards meeting the Zero Net Energy goal by the year 2030. The latest iteration of CALGreen is the 2022 Energy Code, which took effect on January 1, 2023 and builds upon California's goals towards building decarbonization and net carbon neutrality by emphasizing

44 Office of the Governor. Executive Order S-01-07. January 18, 2007. URL: https://climateactionnetwork.ca/wp-content/uploads/2011/06/eos0107.pdf.

45 California Energy Commission, Building Energy Efficiency Standards for Residential and Nonresidential Buildings for the 2019 Building Energy Efficiency Standards. Title 24, Part 6, and Associated Administrative Regulations in Part 1. CEC-400-2018-020-CMF. December. URL: https://ww2.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf. Accessed March 12, 2020.

46 Ibid.

47 California Energy Commission, 2019 Building Energy Efficiency Standards. Frequently Asked Questions. March. URL: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf. Accessed March 12, 2020.

energy efficient innovations.[48] Its four areas of focus for the construction of new buildings include encouraging electric heat pump technology, establishing electric-ready requirements, expanding solar photovoltaic (PV) system and battery storage standards, and strengthening ventilation standards.

California Senate Bill 1383 (SB 1383)

California Senate Bill 1383 (SB 1383), which was signed into law on September 19, 2016, required the ARB to approve and implement a comprehensive strategy to reduce emissions of short-lived climate pollutants, including methane. By 2030, methane emissions are to be decreased to 40% below their 2013 levels.49 A principal method for achieving this goal is the setting of the following targets to reduce the landfill disposal of organics:[50]

- A 50-percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020.
- A 75-percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2025.

This legislation, and its implementing regulation,[51] are based on the idea that the methane that would be generated by decomposition of organic waste in landfills, can be recovered by anaerobic digestion or other technologies and converted to biogas, which can then be used to generate electricity, power motor vehicles, or supplement or replace fossil fuel-derived natural gas. The CO_2 emitted from these end uses has a significantly lower global warming potential than the CH_4 that would be emitted from organic waste disposal.

5.2.3 Local Significance Regulations

It is widely recognized that no single project could generate enough GHG emissions to change the global climate temperature noticeably. However, the combination of GHG emissions from past, present, and future projects could contribute substantially to global climate change. Thus, project specific GHG emissions should be evaluated in terms of whether they would result in a cumulatively significant impact on global climate change.

Since the County of Imperial has not established a threshold of significance for GHGs, we used an interim South Coast Air Quality Management District value[52] of 10,000 metric tons per year of CO_2e for a new industrial facility as a significance threshold.

48 2022 California Green Building Standards Code, Title 24, Part 11 (CALGreen). URL: https://codes.iccsafe.org/content/CAGBC2022P1. Accessed on February 22, 2024.

49 Senate Bill No. 1383. Chapter 395. URL: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1383. Accessed October 29, 2021.

50 Health and Safety Code § 39730.6(a).

51 Short-lived Climate Pollutants (SLCP): Organic Waste Reductions. Final Regulation Text. California Department of Resources Recycling and Recovery (CalRecycle), November 2020. URL: file:///A:/Downloads/2021Sep3NonADAFinalRegulationText.pdf. Accessed October 29, 2021.

52 Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans. South Coast Air Quality Management District Board. Adopted December 5, 2008. URL: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf.

5.3 Methodology

The project will cause both direct and indirect source emissions of GHG. Direct emission sources are those which produce onsite emissions through the combustion of fossil fuels or oxidation or fermentation of feedstock. Typically, the two main direct emission sources will be use of internal combustion (IC) engines and space heating. Indirect GHG source emissions are those for which the project is responsible, but that occur offsite. For example, the solid waste that is distributed to landfills will decay and emit the GHGs CO_2 and CH_4. GHG are also emitted by combustion of fossil fuels to generate electricity used by the project. Production of the electricity used to convey water to the project and to treat wastewater generated by the project is also an indirect source.

GHG emissions from project construction and operation were estimated with the CalEEMod Version 2022.1.1.21 software, as described in **Section 4.4.1**.

5.4 PROJECT GREENHOUSE GAS EMISSIONS INVENTORY

Because of the persistence of GHG in the atmosphere, all the impacts addressed in this section are defined as long-term. Greenhouse gas emissions from construction are amortized over the next 30 years and added to operational emissions for the purpose of estimating annual emissions.

5.4.1 Construction Emissions

The same equipment characteristics and schedule information that were used for the air quality analysis described in **Section 4.5** were used in the GHG analysis. **Table 5.4.1** shows the estimated annual construction-related GHG emissions, by construction year. The total of these values would be **374 tonnes of CO_2e** between the years 2024 and 2025. The 30-year amortized amount is 12.47 tonnes of CO_2e.

Table 5.4-1
ANNUAL GHG EMISSIONS FROM CONSTRUCTION, 2024-2025

Year	Annual Emissions (MT)			
	CO_2	CH_4	N_2O	CO_2e
2024	147	0.01	< 0.005	148
2025	224	0.01	0.01	226
Total	**371**	**0.02**	**0.015**	**374**

5.4.2 Operational Emissions

Operational GHG emissions were calculated by CalEEMod. These results are shown in **Table 5.4-2**. Total annual mitigated CO_2e emissions from the project would be **811 tonnes per year**. Energy sources account for about 65% of the total annual emissions.

Table 5.4-2
PROJECT OPERATIONAL GHG EMISSIONS

Emissions Source	Estimated Project Generated CO_2e Emissions (Metric Tons per Year)
Amortized Construction Emissions	12.47
Area Sources	1.76
Energy Demand (Electricity & Natural Gas)	528
Mobile (Motor Vehicles)	170
Solid Waste Generation	35.2
Water Demand	64.0
Total	**811**

5.5 IMPACT ANALYSIS

UltraSystems used the following factors from § 15064.4(b) of the CEQA Guidelines to assess the significance of impacts from greenhouse gas emissions on the environment:[53]

- The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- 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.

53 CEQA Guidelines §§ 15064.4(b)(1) through 15064.4(b)(3).

5.5.1 Change in Greenhouse Gas Emissions

Future annual GHG emissions will be less than the proposed interim significance threshold of 10,000 metric tons per year of CO_2e. Therefore, impacts will be less than significant an no mitigation is required.

5.5.2 Compliance with Regional Climate Action Plan

There are currently no regional or local climate action plans or general or specific plan provisions to reduce GHG emissions in the study area.

6.0 MITIGATION MEASURES

6.1 Mitigation For Air Quality Impacts

No mitigation for air quality impacts is necessary.

6.2 Mitigation for Climate Change Impacts

No mitigation for climate change impacts is necessary.

ATTACHMENTS

ATTACHMENT 1
CALEEMOD INPUTS AND RESULTS

7261_DuBose_Calexico Warehouse_Update Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	7261_DuBose_Calexico Warehouse_Update
Construction Start Date	10/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	4.80
Location	32.67754536951749, -115.53140835988658
County	Imperial
City	Unincorporated
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5611
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Unrefrigerated Warehouse-No Rail	108	1000sqft	2.49	108,341	16,117	0.00	—	Warehouse+ service
General Office Building	11.9	1000sqft	0.14	11,904	0.00	0.00	—	—
Parking Lot	894	Space	8.05	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-9	Use Dust Suppressants
Construction	C-10-A	Water Exposed Surfaces
Construction	C-13	Use Low-VOC Paints for Construction
Area Sources	AS-2	Use Low-VOC Paints

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.69	32.9	11.1	16.5	0.03	0.44	87.1	87.5	0.40	8.75	9.15	—	3,202	3,202	0.12	0.09	2.47	3,234
Mit.	1.69	32.9	11.1	16.5	0.03	0.44	87.1	87.5	0.40	8.75	9.15	—	3,202	3,202	0.12	0.09	2.47	3,234
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.43	3.73	36.0	33.7	0.06	1.60	87.1	87.6	1.47	12.5	14.0	—	6,733	6,733	0.28	0.09	0.07	6,757

Mit.	4.43	3.73	36.0	33.7	0.06	1.60	87.1	87.6	1.47	8.75	9.21	—	6,733	6,733	0.28	0.09	0.07	6,757
% Reduced	—	—	—	—	—	—	—	—	—	30%	34%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.72	2.46	4.89	6.85	0.01	0.20	35.8	36.0	0.19	3.60	3.78	—	1,352	1,352	0.05	0.04	0.44	1,365
Mit.	0.72	2.46	4.89	6.85	0.01	0.20	35.8	36.0	0.19	3.60	3.78	—	1,352	1,352	0.05	0.04	0.44	1,365
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	0.45	0.89	1.25	< 0.005	0.04	6.54	6.57	0.03	0.66	0.69	—	224	224	0.01	0.01	0.07	226
Mit.	0.13	0.45	0.89	1.25	< 0.005	0.04	6.54	6.57	0.03	0.66	0.69	—	224	224	0.01	0.01	0.07	226
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.69	32.9	11.1	16.5	0.03	0.44	87.1	87.5	0.40	8.75	9.15	—	3,202	3,202	0.12	0.09	2.47	3,234
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.43	3.73	36.0	33.7	0.06	1.60	87.1	87.6	1.47	12.5	14.0	—	6,733	6,733	0.28	0.09	0.07	6,757
2025	1.61	1.37	11.2	15.3	0.03	0.44	87.1	87.5	0.40	8.75	9.15	—	3,143	3,143	0.13	0.09	0.06	3,174
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2024	0.60	0.51	4.71	4.68	0.01	0.20	10.4	10.6	0.19	1.64	1.83	—	891	891	0.04	0.01	0.11	896
2025	0.72	2.46	4.89	6.85	0.01	0.19	35.8	36.0	0.18	3.60	3.78	—	1,352	1,352	0.05	0.04	0.44	1,365
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.11	0.09	0.86	0.85	< 0.005	0.04	1.90	1.94	0.03	0.30	0.33	—	147	147	0.01	< 0.005	0.02	148
2025	0.13	0.45	0.89	1.25	< 0.005	0.04	6.54	6.57	0.03	0.66	0.69	—	224	224	0.01	0.01	0.07	226

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.69	32.9	11.1	16.5	0.03	0.44	87.1	87.5	0.40	8.75	9.15	—	3,202	3,202	0.12	0.09	2.47	3,234
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.43	3.73	36.0	33.7	0.06	1.60	87.1	87.6	1.47	8.75	9.21	—	6,733	6,733	0.28	0.09	0.07	6,757
2025	1.61	1.37	11.2	15.3	0.03	0.44	87.1	87.5	0.40	8.75	9.15	—	3,143	3,143	0.13	0.09	0.06	3,174
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.60	0.51	4.71	4.68	0.01	0.20	9.44	9.64	0.19	1.18	1.37	—	891	891	0.04	0.01	0.11	896
2025	0.72	2.46	4.89	6.85	0.01	0.19	35.8	36.0	0.18	3.60	3.78	—	1,352	1,352	0.05	0.04	0.44	1,365
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.11	0.09	0.86	0.85	< 0.005	0.04	1.72	1.76	0.03	0.22	0.25	—	147	147	0.01	< 0.005	0.02	148
2025	0.13	0.45	0.89	1.25	< 0.005	0.04	6.54	6.57	0.03	0.66	0.69	—	224	224	0.01	0.01	0.07	226

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

EEC ORIGINAL PKG

PC ORIGINAL PKG

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.47	5.09	1.35	12.8	0.02	0.06	96.3	96.4	0.06	9.72	9.78	113	4,550	4,663	11.7	0.22	4.15	5,025
Mit.	2.47	5.09	1.35	12.8	0.02	0.06	96.3	96.4	0.06	9.72	9.78	113	4,550	4,663	11.7	0.22	4.15	5,025
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.18	3.87	1.38	5.88	0.01	0.05	96.3	96.4	0.05	9.72	9.77	113	4,389	4,502	11.7	0.22	0.14	4,860
Mit.	1.18	3.87	1.38	5.88	0.01	0.05	96.3	96.4	0.05	9.72	9.77	113	4,389	4,502	11.7	0.22	0.14	4,860
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.63	4.29	1.30	8.30	0.01	0.06	86.3	86.3	0.06	8.70	8.76	113	4,354	4,467	11.7	0.21	1.64	4,824
Mit.	1.63	4.29	1.30	8.30	0.01	0.06	86.3	86.3	0.06	8.70	8.76	113	4,354	4,467	11.7	0.21	1.64	4,824
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.78	0.24	1.51	< 0.005	0.01	15.7	15.8	0.01	1.59	1.60	18.7	721	739	1.94	0.03	0.27	799
Mit.	0.30	0.78	0.24	1.51	< 0.005	0.01	15.7	15.8	0.01	1.59	1.60	18.7	721	739	1.94	0.03	0.27	799
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.48	1.42	0.72	7.10	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,193	1,193	0.07	0.06	4.12	1,217
Area	0.93	3.64	0.04	5.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Energy	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	3,174	3,174	0.24	0.02	—	3,186
Water	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Waste	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	2.47	5.09	1.35	12.8	0.02	0.06	96.3	96.4	0.06	9.72	9.78	113	4,550	4,663	11.7	0.22	4.15	5,025
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.12	1.06	0.79	5.39	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,053	1,053	0.08	0.07	0.11	1,075
Area	—	2.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	3,174	3,174	0.24	0.02	—	3,186
Water	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Waste	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	1.18	3.87	1.38	5.88	0.01	0.05	96.3	96.4	0.05	9.72	9.77	113	4,389	4,502	11.7	0.22	0.14	4,860
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.11	1.06	0.69	5.23	0.01	0.01	86.3	86.3	0.01	8.70	8.71	—	1,007	1,007	0.06	0.06	1.61	1,028
Area	0.46	3.20	0.02	2.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.6	10.6	< 0.005	< 0.005	—	10.6
Energy	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	3,174	3,174	0.24	0.02	—	3,186
Water	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Waste	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	1.63	4.29	1.30	8.30	0.01	0.06	86.3	86.3	0.06	8.70	8.76	113	4,354	4,467	11.7	0.21	1.64	4,824

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.20	0.19	0.13	0.95	< 0.005	< 0.005	15.7	15.7	< 0.005	1.59	1.59	—	167	167	0.01	0.01	0.27	170
Area	0.08	0.58	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.76	1.76	< 0.005	< 0.005	—	1.76
Energy	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	525	525	0.04	< 0.005	—	528
Water	—	—	—	—	—	—	—	—	—	—	—	8.62	26.9	35.5	0.89	0.02	—	64.0
Waste	—	—	—	—	—	—	—	—	—	—	—	10.1	0.00	10.1	1.01	0.00	—	35.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.30	0.78	0.24	1.51	< 0.005	0.01	15.7	15.8	0.01	1.59	1.60	18.7	721	739	1.94	0.03	0.27	799

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.48	1.42	0.72	7.10	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,193	1,193	0.07	0.06	4.12	1,217
Area	0.93	3.64	0.04	5.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Energy	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	3,174	3,174	0.24	0.02	—	3,186
Water	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Waste	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	2.47	5.09	1.35	12.8	0.02	0.06	96.3	96.4	0.06	9.72	9.78	113	4,550	4,663	11.7	0.22	4.15	5,025
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.12	1.06	0.79	5.39	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,053	1,053	0.08	0.07	0.11	1,075
Area	—	2.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	3,174	3,174	0.24	0.02	—	3,186
Water	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386

Waste	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	1.18	3.87	1.38	5.88	0.01	0.05	96.3	96.4	0.05	9.72	9.77	113	4,389	4,502	11.7	0.22	0.14	4,860
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.11	1.06	0.69	5.23	0.01	0.01	86.3	86.3	0.01	8.70	8.71	—	1,007	1,007	0.06	0.06	1.61	1,028
Area	0.46	3.20	0.02	2.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.6	10.6	< 0.005	< 0.005	—	10.6
Energy	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	3,174	3,174	0.24	0.02	—	3,186
Water	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Waste	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	1.63	4.29	1.30	8.30	0.01	0.06	86.3	86.3	0.06	8.70	8.76	113	4,354	4,467	11.7	0.21	1.64	4,824
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.20	0.19	0.13	0.95	< 0.005	< 0.005	15.7	15.7	< 0.005	1.59	1.59	—	167	167	0.01	0.01	0.27	170
Area	0.08	0.58	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.76	1.76	< 0.005	< 0.005	—	1.76
Energy	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	525	525	0.04	< 0.005	—	528
Water	—	—	—	—	—	—	—	—	—	—	—	8.62	26.9	35.5	0.89	0.02	—	64.0
Waste	—	—	—	—	—	—	—	—	—	—	—	10.1	0.00	10.1	1.01	0.00	—	35.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.30	0.78	0.24	1.51	< 0.005	0.01	15.7	15.8	0.01	1.59	1.60	18.7	721	739	1.94	0.03	0.27	799

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

EEC ORIGINAL PKG

PC ORIGINAL PKG

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.97	1.80	< 0.005	0.09	—	0.09	0.08	—	0.08	—	290	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	—	1.08	1.08	—	0.55	0.55	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.36	0.33	< 0.005	0.02	—	0.02	0.01	—	0.01	—	48.0	48.0	< 0.005	< 0.005	—	48.2
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.75	0.00	0.00	23.9	23.9	0.00	2.40	2.40	—	118	118	0.01	0.01	0.01	120
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	1.29	1.29	0.00	0.13	0.13	—	6.93	6.93	< 0.005	< 0.005	0.01	7.04
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.24	0.24	0.00	0.02	0.02	—	1.15	1.15	< 0.005	< 0.005	< 0.005	1.17
Vendor	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	0.00
Hauling	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	0.00

3.2. Site Preparation (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.97	1.80	< 0.005	0.09	—	0.09	0.08	—	0.08	—	290	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	—	0.42	0.42	—	0.22	0.22	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.36	0.33	< 0.005	0.02	—	0.02	0.01	—	0.01	—	48.0	48.0	< 0.005	< 0.005	—	48.2
Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.75	0.00	0.00	23.9	23.9	0.00	2.40	2.40	—	118	118	0.01	0.01	0.01	120
Vendor	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	0.00
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	1.29	1.29	0.00	0.13	0.13	—	6.93	6.93	< 0.005	< 0.005	0.01	7.04
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.24	0.24	0.00	0.02	0.02	—	1.15	1.15	< 0.005	< 0.005	< 0.005	1.17
Vendor	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	0.00
Hauling	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	0.00

3.3. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movemen:	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.88	1.65	< 0.005	0.08	—	0.08	0.07	—	0.07	—	362	362	0.01	< 0.005	—	363

Dust From Material Movement	—	—	—	—	—	—	0.50	0.50	—	0.20	0.20	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.9	59.9	< 0.005	< 0.005	—	60.1
Dust From Material Movement	—	—	—	—	—	—	0.09	0.09	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.09	0.85	0.00	0.00	27.3	27.3	0.00	2.74	2.74	—	135	135	0.01	0.01	0.02	137
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	1.48	1.48	0.00	0.15	0.15	—	7.92	7.92	< 0.005	< 0.005	0.01	8.04
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.27	0.27	0.00	0.03	0.03	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.33
Vendor	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	0.00

EEC ORIGINAL PKG

PC ORIGINAL PKG

Hauling	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	0.00

3.4. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.19	1.88	1.65	< 0.005	0.08	—	0.08	0.07	—	0.07	—	362	362	0.01	< 0.005	—	363
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.9	59.9	< 0.005	< 0.005	—	60.1

EEC ORIGINAL PKG

PC ORIGINAL PKG

Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.09	0.85	0.00	0.00	27.3	27.3	0.00	2.74	2.74	—	135	135	0.01	0.01	0.02	137
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	1.48	1.48	0.00	0.15	0.15	—	7.92	7.92	< 0.005	< 0.005	0.01	8.04
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.27	0.27	0.00	0.03	0.03	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.33
Vendor	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	0.00
Hauling	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	0.00

3.5. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

EEC ORIGINAL PKG

PC ORIGINAL PKG

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.79	0.92	< 0.005	0.04	—	0.04	0.03	—	0.03	—	169	169	0.01	< 0.005	—	169
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	28.0	28.0	< 0.005	< 0.005	—	28.1
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.23	2.10	0.00	0.00	67.4	67.4	0.00	6.76	6.76	—	332	332	0.02	0.01	0.04	337
Vendor	0.03	0.02	0.61	0.31	< 0.005	0.01	19.7	19.7	0.01	1.99	1.99	—	428	428	0.01	0.06	0.03	447
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

EEC ORIGINAL PKG

PC ORIGINAL PKG

Worker	0.02	0.02	0.02	0.18	0.00	0.00	4.68	4.68	0.00	0.47	0.47	—	25.1	25.1	< 0.005	< 0.005	0.04	25.5
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	30.2	30.2	< 0.005	< 0.005	0.03	31.5
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.85	0.85	0.00	0.09	0.09	—	4.16	4.16	< 0.005	< 0.005	0.01	4.22
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.25	0.25	< 0.005	0.03	0.03	—	4.99	4.99	< 0.005	< 0.005	0.01	5.21
Hauling	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	0.00

3.6. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.79	0.92	< 0.005	0.04	—	0.04	0.03	—	0.03	—	169	169	0.01	< 0.005	—	169
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	28.0	28.0	< 0.005	< 0.005	—	28.1

EEC ORIGINAL PKG

PC ORIGINAL PKG

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.23	2.10	0.00	0.00	67.4	67.4	0.00	6.76	6.76	—	332	332	0.02	0.01	0.04	337
Vendor	0.03	0.02	0.61	0.31	< 0.005	0.01	19.7	19.7	0.01	1.99	1.99	—	428	428	0.01	0.06	0.03	447
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.18	0.00	0.00	4.68	4.68	0.00	0.47	0.47	—	25.1	25.1	< 0.005	< 0.005	0.04	25.5
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.37	1.37	< 0.005	0.14	0.14	—	30.2	30.2	< 0.005	< 0.005	0.03	31.5
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.85	0.85	0.00	0.09	0.09	—	4.16	4.16	< 0.005	< 0.005	0.01	4.22
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.25	0.25	< 0.005	0.03	0.03	—	4.99	4.99	< 0.005	< 0.005	0.01	5.21
Hauling	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	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.45	4.13	5.15	0.01	0.17	—	0.17	0.16	—	0.16	—	948	948	0.04	0.01	—	951
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.75	0.94	< 0.005	0.03	—	0.03	0.03	—	0.03	—	157	157	0.01	< 0.005	—	157
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.17	3.15	0.00	0.00	67.4	67.4	0.00	6.76	6.76	—	384	384	0.02	0.01	1.34	390
Vendor	0.03	0.02	0.53	0.27	< 0.005	0.01	19.7	19.7	0.01	1.99	1.99	—	420	420	0.01	0.06	1.14	438
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.22	0.20	1.93	0.00	0.00	67.4	67.4	0.00	6.76	6.76	—	325	325	0.02	0.01	0.03	330

EEC ORIGINAL PKG

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Vendor	0.03	0.02	0.58	0.28	< 0.005	0.01	19.7	19.7	0.01	1.99	1.99	—	421	421	0.01	0.06	0.03	438
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	0.91	0.00	0.00	26.3	26.3	0.00	2.64	2.64	—	138	138	0.01	0.01	0.23	140
Vendor	0.01	0.01	0.23	0.11	< 0.005	< 0.005	7.70	7.70	< 0.005	0.78	0.78	—	166	166	< 0.005	0.02	0.19	173
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	4.80	4.80	0.00	0.48	0.48	—	22.8	22.8	< 0.005	< 0.005	0.04	23.2
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.41	1.41	< 0.005	0.14	0.14	—	27.5	27.5	< 0.005	< 0.005	0.03	28.7
Hauling	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	0.00

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00

EEC ORIGINAL PKG

PC ORIGINAL PKG

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.45	4.13	5.15	0.01	0.17	—	0.17	0.16	—	0.16	—	948	948	0.04	0.01	—	951
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.75	0.94	< 0.005	0.03	—	0.03	0.03	—	0.03	—	157	157	0.01	< 0.005	—	157
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.17	3.15	0.00	0.00	67.4	67.4	0.00	6.76	6.76	—	384	384	0.02	0.01	1.34	390
Vendor	0.03	0.02	0.53	0.27	< 0.005	0.01	19.7	19.7	0.01	1.99	1.99	—	420	420	0.01	0.06	1.14	438
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.22	0.20	1.93	0.00	0.00	67.4	67.4	0.00	6.76	6.76	—	325	325	0.02	0.01	0.03	330
Vendor	0.03	0.02	0.58	0.28	< 0.005	0.01	19.7	19.7	0.01	1.99	1.99	—	421	421	0.01	0.06	0.03	438
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.08	0.91	0.00	0.00	26.3	26.3	0.00	2.64	2.64	—	138	138	0.01	0.01	0.23	140
Vendor	0.01	0.01	0.23	0.11	< 0.005	< 0.005	7.70	7.70	< 0.005	0.78	0.78	—	166	166	< 0.005	0.02	0.19	173
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	4.80	4.80	0.00	0.48	0.48	—	22.8	22.8	< 0.005	< 0.005	0.04	23.2

Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	1.41	1.41	< 0.005	0.14	0.14	—	27.5	27.5	< 0.005	< 0.005	0.03	28.7
Hauling	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	0.00

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	1.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.05	0.96	0.00	0.00	20.5	20.5	0.00	2.06	2.06	—	117	117	0.01	< 0.005	0.41	119
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	1.11	1.11	0.00	0.11	0.11	—	5.82	5.82	< 0.005	< 0.005	0.01	5.91
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.20	0.20	0.00	0.02	0.02	—	0.96	0.96	< 0.005	< 0.005	< 0.005	0.98
Vendor	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	0.00
Hauling	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	0.00

3.10. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	1.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.05	0.96	0.00	0.00	20.5	20.5	0.00	2.06	2.06	—	117	117	0.01	< 0.005	0.41	119
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	1.11	1.11	0.00	0.11	0.11	—	5.82	5.82	< 0.005	< 0.005	0.01	5.91
Vendor	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	0.00

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Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	0.20	0.20	0.00	0.02	0.02	—	0.96	0.96	< 0.005	< 0.005	< 0.005	0.98
Vendor	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	0.00
Hauling	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	0.00

3.11. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	32.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	—	1.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	—	0.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.03	0.63	0.00	0.00	13.5	13.5	0.00	1.35	1.35	—	76.8	76.8	< 0.005	< 0.005	0.27	78.0
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.73	0.73	0.00	0.07	0.07	—	3.83	3.83	< 0.005	< 0.005	0.01	3.88
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	0.13	0.13	0.00	0.01	0.01	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
Vendor	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	0.00
Hauling	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	0.00

3.12. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	32.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	—	1.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	—	0.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.03	0.63	0.00	0.00	13.5	13.5	0.00	1.35	1.35	—	76.8	76.8	< 0.005	< 0.005	0.27	78.0
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.73	0.73	0.00	0.07	0.07	—	3.83	3.83	< 0.005	< 0.005	0.01	3.88
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	0.13	0.13	0.00	0.01	0.01	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No Rail	0.92	0.88	0.45	4.40	0.01	0.01	59.6	59.6	0.01	6.02	6.02	—	738	738	0.04	0.04	2.55	754
General Office Building	0.56	0.54	0.27	2.71	< 0.005	< 0.005	36.7	36.7	< 0.005	3.70	3.70	—	454	454	0.03	0.02	1.57	464
Parking Lot	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	0.00
Total	1.48	1.42	0.72	7.10	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,193	1,193	0.07	0.06	4.12	1,217
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.69	0.65	0.49	3.33	0.01	0.01	59.6	59.6	0.01	6.02	6.02	—	652	652	0.05	0.04	0.07	665
General Office Building	0.43	0.40	0.30	2.05	< 0.005	< 0.005	36.7	36.7	< 0.005	3.70	3.70	—	401	401	0.03	0.02	0.04	409
Parking Lot	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	0.00
Total	1.12	1.06	0.79	5.39	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,053	1,053	0.08	0.07	0.11	1,075
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.14	0.13	0.09	0.65	< 0.005	< 0.005	10.7	10.7	< 0.005	1.08	1.08	—	114	114	0.01	0.01	0.18	116
General Office Building	0.06	0.06	0.04	0.30	< 0.005	< 0.005	5.00	5.00	< 0.005	0.50	0.51	—	53.0	53.0	< 0.005	< 0.005	0.08	54.0
Parking Lot	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	0.00
Total	0.20	0.19	0.13	0.95	< 0.005	< 0.005	15.7	15.7	< 0.005	1.59	1.59	—	167	167	0.01	0.01	0.27	170

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PC ORIGINAL PKG

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.92	0.88	0.45	4.40	0.01	0.01	59.6	59.6	0.01	6.02	6.02	—	738	738	0.04	0.04	2.55	754
General Office Building	0.56	0.54	0.27	2.71	< 0.005	< 0.005	36.7	36.7	< 0.005	3.70	3.70	—	454	454	0.03	0.02	1.57	464
Parking Lot	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	0.00
Total	1.48	1.42	0.72	7.10	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,193	1,193	0.07	0.06	4.12	1,217
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.69	0.65	0.49	3.33	0.01	0.01	59.6	59.6	0.01	6.02	6.02	—	652	652	0.05	0.04	0.07	665
General Office Building	0.43	0.40	0.30	2.05	< 0.005	< 0.005	36.7	36.7	< 0.005	3.70	3.70	—	401	401	0.03	0.02	0.04	409
Parking Lot	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	0.00
Total	1.12	1.06	0.79	5.39	0.01	0.01	96.3	96.3	0.01	9.72	9.73	—	1,053	1,053	0.08	0.07	0.11	1,075
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated	0.14	0.13	0.09	0.65	< 0.005	< 0.005	10.7	10.7	< 0.005	1.08	1.08	—	114	114	0.01	0.01	0.18	116
General Office Building	0.06	0.06	0.04	0.30	< 0.005	< 0.005	5.00	5.00	< 0.005	0.50	0.51	—	53.0	53.0	< 0.005	< 0.005	0.08	54.0
Parking Lot	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	0.00
Total	0.20	0.19	0.13	0.95	< 0.005	< 0.005	15.7	15.7	< 0.005	1.59	1.59	—	167	167	0.01	0.01	0.27	170

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,520	1,520	0.11	0.01	—	1,526
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	566	566	0.04	< 0.005	—	569
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	384	384	0.03	< 0.005	—	386
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,470	2,470	0.18	0.02	—	2,481
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

EEC ORIGINAL PKG

PC ORIGINAL PKG

Unrefrigerated Warehou Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,520	1,520	0.11	0.01	—	1,526
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	566	566	0.04	< 0.005	—	569
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	384	384	0.03	< 0.005	—	386
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,470	2,470	0.18	0.02	—	2,481
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	252	252	0.02	< 0.005	—	253
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	93.8	93.8	0.01	< 0.005	—	94.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	63.6	63.6	< 0.005	< 0.005	—	63.9
Total	—	—	—	—	—	—	—	—	—	—	—	—	409	409	0.03	< 0.005	—	411

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,520	1,520	0.11	0.01	—	1,526

EEC ORIGINAL PKG

PC ORIGINAL PKG

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	566	566	0.04	< 0.005	—	569
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	384	384	0.03	< 0.005	—	386
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,470	2,470	0.18	0.02	—	2,481
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,520	1,520	0.11	0.01	—	1,526
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	566	566	0.04	< 0.005	—	569
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	384	384	0.03	< 0.005	—	386
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,470	2,470	0.18	0.02	—	2,481
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	252	252	0.02	< 0.005	—	253
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	93.8	93.8	0.01	< 0.005	—	94.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	63.6	63.6	< 0.005	< 0.005	—	63.9
Total	—	—	—	—	—	—	—	—	—	—	—	—	409	409	0.03	< 0.005	—	411

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

EEC ORIGINAL PKG

PC ORIGINAL PKG

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.06	0.03	0.56	0.47	< 0.005	0.04	—	0.04	0.04	—	0.04	—	663	663	0.06	< 0.005	—	665
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.9	40.9	< 0.005	< 0.005	—	41.0
Parking Lot	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
Total	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	704	704	0.06	< 0.005	—	706
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.06	0.03	0.56	0.47	< 0.005	0.04	—	0.04	0.04	—	0.04	—	663	663	0.06	< 0.005	—	665
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.9	40.9	< 0.005	< 0.005	—	41.0
Parking Lot	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
Total	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	704	704	0.06	< 0.005	—	706
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

EEC ORIGINAL PKG

PC ORIGINAL PKG

Unrefrigerated Warehouse-No Rail	0.01	0.01	0.10	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	110	110	0.01	< 0.005	—	110
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.77	6.77	< 0.005	< 0.005	—	6.79
Parking Lot	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
Total	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	116	116	0.01	< 0.005	—	117

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.06	0.03	0.56	0.47	< 0.005	0.04	—	0.04	0.04	—	0.04	—	663	663	0.06	< 0.005	—	665
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.9	40.9	< 0.005	< 0.005	—	41.0
Parking Lot	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
Total	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	704	704	0.06	< 0.005	—	706
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

EEC ORIGINAL PKG

PC ORIGINAL PKG

Unrefrigerated Warehouse-Rail	0.06	0.03	0.56	0.47	< 0.005	0.04	—	0.04	0.04	—	0.04	—	663	663	0.06	< 0.005	—	665
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.9	40.9	< 0.005	< 0.005	—	41.0
Parking Lot	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
Total	0.06	0.03	0.59	0.50	< 0.005	0.04	—	0.04	0.04	—	0.04	—	704	704	0.06	< 0.005	—	706
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.01	0.01	0.10	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	110	110	0.01	< 0.005	—	110
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.77	6.77	< 0.005	< 0.005	—	6.79
Parking Lot	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
Total	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	116	116	0.01	< 0.005	—	117

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

EEC ORIGINAL PKG

PC ORIGINAL PKG

Architect Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.93	0.86	0.04	5.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Total	0.93	3.64	0.04	5.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	2.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.08	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.76	1.76	< 0.005	< 0.005	—	1.76
Total	0.08	0.58	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.76	1.76	< 0.005	< 0.005	—	1.76

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.93	0.86	0.04	5.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Total	0.93	3.64	0.04	5.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	2.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.08	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.76	1.76	< 0.005	< 0.005	—	1.76
Total	0.08	0.58	< 0.005	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.76	1.76	< 0.005	< 0.005	—	1.76

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	48.0	150	198	4.93	0.12	—	356
General Office Building	—	—	—	—	—	—	—	—	—	—	—	4.05	12.5	16.6	0.42	0.01	—	30.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	48.0	150	198	4.93	0.12	—	356
General Office Building	—	—	—	—	—	—	—	—	—	—	—	4.05	12.5	16.6	0.42	0.01	—	30.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	7.95	24.8	32.7	0.82	0.02	—	59.0
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.67	2.08	2.75	0.07	< 0.005	—	4.96
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.62	26.9	35.5	0.89	0.02	—	64.0

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	48.0	150	198	4.93	0.12	—	356
General Office Building	—	—	—	—	—	—	—	—	—	—	—	4.05	12.5	16.6	0.42	0.01	—	30.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrige Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	48.0	150	198	4.93	0.12	—	356
General Office Building	—	—	—	—	—	—	—	—	—	—	—	4.05	12.5	16.6	0.42	0.01	—	30.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	52.1	162	214	5.35	0.13	—	386
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	7.95	24.8	32.7	0.82	0.02	—	59.0
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.67	2.08	2.75	0.07	< 0.005	—	4.96
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.62	26.9	35.5	0.89	0.02	—	64.0

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No	—	—	—	—	—	—	—	—	—	—	—	54.9	0.00	54.9	5.49	0.00	—	192
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.97	0.00	5.97	0.60	0.00	—	20.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	54.9	0.00	54.9	5.49	0.00	—	192
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.97	0.00	5.97	0.60	0.00	—	20.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	9.09	0.00	9.09	0.91	0.00	—	31.8
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.99	0.00	0.99	0.10	0.00	—	3.46
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.1	0.00	10.1	1.01	0.00	—	35.2

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	54.9	0.00	54.9	5.49	0.00	—	192
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.97	0.00	5.97	0.60	0.00	—	20.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	54.9	0.00	54.9	5.49	0.00	—	192
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.97	0.00	5.97	0.60	0.00	—	20.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	60.9	0.00	60.9	6.08	0.00	—	213
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated	—	—	—	—	—	—	—	—	—	—	—	9.09	0.00	9.09	0.91	0.00	—	31.8
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.99	0.00	0.99	0.10	0.00	—	3.46
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.1	0.00	10.1	1.01	0.00	—	35.2

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

EEC ORIGINAL PKG

PC ORIGINAL PKG

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

EEC ORIGINAL PKG

PC ORIGINAL PKG

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	10/1/2024	10/28/2024	5.00	20.0	—
Grading	Grading	10/29/2024	11/25/2024	5.00	20.0	—
Building Construction	Building Construction	11/26/2024	7/21/2025	5.00	170	—
Paving	Paving	7/22/2025	8/18/2025	5.00	20.0	—

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Architectural Coating	Architectural Coating	8/19/2025	9/15/2025	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	9.24	LDA,LDT1,LDT2
Site Preparation	Vendor	—	6.77	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT

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Grading	—	—	—	—
Grading	Worker	20.0	9.24	LDA,LDT1,LDT2
Grading	Vendor	—	6.77	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	49.3	9.24	LDA,LDT1,LDT2
Building Construction	Vendor	19.7	6.77	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	9.24	LDA,LDT1,LDT2
Paving	Vendor	—	6.77	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	9.86	9.24	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	6.77	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	9.24	LDA,LDT1,LDT2
Site Preparation	Vendor	—	6.77	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT

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Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	9.24	LDA,LDT1,LDT2
Grading	Vendor	—	6.77	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	49.3	9.24	LDA,LDT1,LDT2
Building Construction	Vendor	19.7	6.77	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	9.24	LDA,LDT1,LDT2
Paving	Vendor	—	6.77	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	9.86	9.24	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	6.77	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%

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Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	180,368	60,123	21,029

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	30.0	0.00	—
Grading	—	—	60.0	0.00	—
Paving	0.00	0.00	0.00	0.00	8.05

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Unrefrigerated Warehouse-No Rail	0.00	0%
General Office Building	0.00	0%
Parking Lot	8.05	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	457	0.03	< 0.005
2025	0.00	457	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	189	189	189	68,807	794	794	794	289,937
General Office Building	116	26.3	8.33	32,035	489	111	35.1	134,987
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	189	189	189	68,807	794	794	794	289,937
General Office Building	116	26.3	8.33	32,035	489	111	35.1	134,987
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	180,368	60,123	21,029

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	1,214,981	457	0.0330	0.0040	2,067,828
General Office Building	452,738	457	0.0330	0.0040	127,568
Parking Lot	307,024	457	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	1,214,981	457	0.0330	0.0040	2,067,828
General Office Building	452,738	457	0.0330	0.0040	127,568
Parking Lot	307,024	457	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	25,053,856	329,917
General Office Building	2,115,743	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	25,053,856	329,917
General Office Building	2,115,743	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	102	—
General Office Building	11.1	—
Parking Lot	0.00	—

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5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	102	—
General Office Building	11.1	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	33.4	annual days of extreme heat
Extreme Precipitation	0.25	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

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Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A

Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	65.7
AQ-PM	48.7
AQ-DPM	30.1
Drinking Water	57.2
Lead Risk Housing	30.7
Pesticides	89.5
Toxic Releases	46.0
Traffic	8.75
Effect Indicators	—
CleanUp Sites	50.3
Groundwater	74.8

Haz Waste Facilities/Generators	86.6
Impaired Water Bodies	99.5
Solid Waste	95.0
Sensitive Population	—
Asthma	68.5
Cardio-vascular	89.4
Low Birth Weights	20.3
Socioeconomic Factor Indicators	—
Education	73.4
Housing	39.7
Linguistic	85.2
Poverty	72.1
Unemployment	65.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	24.4193507
Employed	22.93083537
Median HI	21.92993712
Education	—
Bachelor's or higher	23.23880405
High school enrollment	14.0639035
Preschool enrollment	58.10342615
Transportation	—
Auto Access	48.80020531

Active commuting	25.67688952
Social	—
2-parent households	77.12049275
Voting	20.99319902
Neighborhood	—
Alcohol availability	67.0986783
Park access	38.22661363
Retail density	7.955857821
Supermarket access	24.95829591
Tree canopy	1.424355191
Housing	—
Homeownership	51.98254844
Housing habitability	38.4832542
Low-inc homeowner severe housing cost burden	37.62350828
Low-inc renter severe housing cost burden	23.55960477
Uncrowded housing	28.33311947
Health Outcomes	—
Insured adults	30.39907609
Arthritis	0.0
Asthma ER Admissions	42.3
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	90.7

Cognitively Disabled	19.2
Physically Disabled	15.4
Heart Attack ER Admissions	7.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	39.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	33.8
Elderly	39.7
English Speaking	4.1
Foreign-born	93.6
Outdoor Workers	18.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	72.6
Traffic Density	16.8
Traffic Access	23.0
Other Indices	—
Hardship	80.6

Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	84.0
Healthy Places Index Score for Project Location (b)	26.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	El Centro Corridor

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project plan
Construction: Construction Phases	Start date of construction? Q 4 of 2024 End date? or Operational year? Open Q 3 2025

Construction: Architectural Coatings	Imperial County RULE 424 ARCHITECTURAL COATINGS VOC CONTENT LIMITS FOR ARCHITECTURAL COATING Floor Coatings 100 Roof Coatings 50 Traffic Marking Coatings 100
Operations: Architectural Coatings	Imperial County RULE 424 ARCHITECTURAL COATINGS VOC CONTENT LIMITS FOR ARCHITECTURAL COATING Floor Coatings 100 Roof Coatings 50 Traffic Marking Coatings 100
Operations: Road Dust	90% paved
Construction: On-Road Fugitive Dust	90% PAVED ROAD

CAL 98 CHARGER LOGISTICS

Biological Resources Assessment Technical Report

El Centro ,California

December, 2022

Prepared for:

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1065 W State Street
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Prepared by:

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TABLE OF CONTENTS

EEC ORIGINAL PKG

PC ORIGINAL PKG

Appendices

Figures

Executive Summary

General biological surveys were conducted on December 13/20, 2022 within the proposed site. The approximately 44.6 acres of the project site is located within Imperial County, CA.

No federal or state botanical or zoological endangered or threatened species were found within the project site areas or buffer survey zone during this survey.

Burrowing owls, a California Species of Special Concern, were not found on project site.

Saltcedar, an invasive species, was found in several areas.

1.0 Introduction

1.1 Location

The project site is located within the County of Imperial. The current use of the property is Agricultural (A2) (Alfalfa) with 44.6 +/- acres, APN 058-180-001-000 and is located on the southwest corner of the SR-98 and Kemp Road intersection in the County of Imperial. Approximately three fourths of area is planted to crops and one fourth is a ruderal vacant lot. The U.S. Geological Survey 1:24,000-scale, 7.5- minute map is Heber, California topographic quadrangle.

1.2 Project Description

DuBose Design Group, Inc., the applicant, proposes to build a project that includes 91,881 square feet (SF) of warehousing, 16,460 square feet of service space and 11,904 square feet of office space. Additionally, the project proposes to provide 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces.

Access to the site will be provided via two driveways. One driveway will be located on the north side of the project site at SR-98, and one driveway will be located on the east side of the project site at Kemp Road. The project proposes to provide warehousing, order fulfillment, logistics and transportation services. Trucks will travel to and from Mexico, San Diego, and Imperial County.

It will begin construction in June 2023 and end in February 2024. The total construction duration will be almost nine months. The construction phases include Site Preparation, Grading, Building Construction, Paving and Architectural Coating.

1.3 Possible Applicable Environmental Regulations

1.3.1 State of California

California Environmental Quality Act (CEQA) Title 14 CA Code of Regulations 15380 requires that endangered, rare or threatened species or subspecies of animals or plants be identified within the influence of the project. If any such species are found, appropriate measures should be identified to avoid, minimize or mitigate to the extent possible the effects of the project.

Native Plant Protection Act CDFG Code Section 1900-1913 prohibits the taking, possessing, or sale within the stare of any plant listed by CDFG as rare, threatened or endangered. Landowners may be allowed to take these species if CDFG is notified at least 10 days prior to plant removal or if these plants are found within public right of ways.

CA Fish and Game Codes 3503, 3503.5. 3513 protect migratory birds, bird nests and eggs including raptors (birds of prey) and raptor nests from take unless authorized by CDFG.

CA Fish and Game Code Section **1600, as amended** regulates activities that substantially diverts or obstructs the natural flow of any river, stream or lake or uses materials from a streambed. This can include riparian habitat associated with watercourses.

State of CA Fully Protected Species identifies and provides additional protection to species that are rare or face possible extinction. These species may not be taken or possessed at any time except for scientific research or relocation for protection of livestock.

Porter-Cologne Water Quality Control Act, as amended is administered by the State Water Resource Control Board (SWRCB) to protect water quality and is an avenue to implement CA responsibilities under the federal Clean Water Act. This act regulates discharge of waste into a water resource.

1.3.2 Federal

National Environmental Policy Act (NEPA: 42 United States Code (U.S.C.) 4321 et seq) established national environmental policy and goals for the protection, maintenance and enhancement of the environment. A process is available for implementation goals within federal agencies. NEPA requires federal agencies to consider the environment in processing proposed actions.

Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531-1544) protects federal listed threatened and endangered species from unlawful take (harass, harm, pursue, hunt, shoot, kill ,wound, collect, capture, trap or attempt to do so) or significantly modify habitat. If a proposed project would jeopardize a threatened or endangered species, then a Section 7 consultation with a federal agency could be required.

Migratory Bird Treaty Act (MBTA) (50 Code Federal Regulations (CFR) 10.13)is a federal statute with several foreign countries to protect species that migrate between countries. Over 850 species are listed and may not be disrupted during nesting activities. It is illegal to collect any part (nest, feather, eggs, etc) of a listed species, disturb species while nesting or offer for trade or barter any listed species or parts thereof.

Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) protects bald and golden eagles from take (harass, harm, pursue, hunt, shoot, kill ,wound, collect, capture, trap or attempt to do so) or interference with breeding, feeding or sheltering activities.

Clean Water Act, 1972 (CWA 33 U.S.C. 1251 et seq.) regulates discharges into waters of the U.S. EPA is given the responsibility to implement programs to prevent pollution.

2.0 BIOLOGICAL SURVEY METHODOLOGIES

The purpose of the studies was to determine the inventory of biological resources at the time of the survey; the possibility of the existence of endangered, threatened, sensitive or species of concern within project area: map habitats, and ascertain the probability of the presence of sensitive species on site.

2.1 Field Surveys

2.1.1 General Biological Survey

The survey was intended to assess presence or the potential for species to occur based on habitat suitability.

California Natural Diversity Database (CNDDB), California Native Plant Society database (CNPS), United States Fish and Wildlife Service (USFWS)/Carlsbad office Sensitive Species list, FEMA Flood Map, USDA Soil Maps, field guides, personal contacts and other methods were utilized to ascertain potential for sensitive species on the site.

Pedestrian biological surveys of the approximately +44.6 acre project area and buffer zones, where possible, to document vegetation and animals were conducted by biologists Glenna Barrett, Jacob Calanno and Jeremy Scheffler as indicated in Table 1: Field Survey Schedule. The surveys were conducted to develop an inventory of species (plant and animal) present at the time of the surveys, map vegetative communities, if present and ascertain the potential for occurrence of sensitive, endangered or threatened species within the project area and vicinity.

Table 1: Field Survey Schedule

Date	Surveyors	Survey Time	Weather
12/13/22	Glenna Barrett, Jacob Calanno, Jeremy Scheffler	0700-0830	59-64°F/25% cloud cover/4 mph
12/20/22	Glenna Barrett	0915-1030	59-64°F/0% cloud cover/4 mph
Total all surveyors		5.75 hrs	

Garmin GPS, binoculars, thermometer, anemometer and digital cameras were used.

2.1.2 Jurisdictional Delineation

No washes and ephemeral washes were observed on site.

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2.2 Literature Review

Potential occurrence for endangered, threatened, sensitive, species of concern and noxious weeds was determined by perusal of appropriate data bases which included:

- CA Natural Diversity Database (CNDDB)
- CA Native Plant Society (CNPS) Rare Plant Program
- USFWS Bird Species of Conservation Concern
- UFWS Critical Habitat for Threatened & Endangered Species Website
- CA Food and Agriculture Department Noxious Weed Information Project
- USDA Soil maps
- FEMA Flood map

3.0 Existing Conditions

3.1 Topography and Soils

This area is located in Imperial County and is found in the southern part of the county; southern portion of site is north of the New River and northern portion adjacent to SR 98. Landforms are Alluvium derived from mixed and/or eolian deposits derived from mixed. Drainage is moderately well drained and depth to water table is typically greater than 80 inches.

The elevation on this site varies from approximately -3 feet to -38 feet.

Soils on site include:
102—Badland (6.8%)
Map Unit Setting
National map unit symbol: h8z8
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Not prime farmland

114—Imperial silty clay, wet (72.5%)
Map Unit Setting
National map unit symbol: h8zn
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Farmland of statewide importance

115—Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes (4.2%)
Map Unit Setting

National map unit symbol: h8zp
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Farmland of statewide importance

122—Meloland very fine sandy loam, wet (15.5%)
Map Unit Setting
National map unit symbol: h8zx
Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Prime farmland if irrigated and drained

3.2 Vegetation

3.2.1 Vegetation Community

Vegetation has been divided into communities that are groups of plants that usually coexist within the same area. This area is considered the Colorado Desert and native vegetation would be creosote bush-brittle bush scrub (*Larrea tridentate-Encelia farinosa* Shrubland Alliance). (*A Manual of California Vegetation,* 2009, Sawyer/Wolf). Rainfall was reported as 1.10 inches in September, 2022, which is sufficient to promote seed germination on site.

Table 2: Vegetative Communities

Parcels	Acreage	Description	Vegetative Communities
		41.1 acres of agricultural crops 3.5 acres of vacant lot	Agriculture Ruderal

3.2.2 Agriculture

Agricultural crops are growing on this site. Approximately 41.1 aces are planted to crops. Approximately 3.5 acres is a vacant lot with no signs of agricultural cultivation. Soils at this site include: Approximately 41.1 aces are Farmland of statewide importance. Soil map found in Appendix.

3.2.3 Vegetation

Vegetation on site is agricultural and ruderal species (listed in Appendix C).

3.3 Wildlife

3.3.1 Invertebrates

This project site is a combination of agricultural and vacant lot. Invertebrates (insects) would be expected.

3.3.2 Amphibians

Reliable moisture is a requirement for a portion of amphibian life cycle. The project site has irrigation water, but no standing water. No amphibians were observed on site. Due to the lack of reliable available water, none would be expected.

3.3.3 Reptiles

Reptiles utilize habitat dependent upon their dietary requirements. Some species diet includes vegetation while others consume insects. All require vegetation for shelter. Vegetation is available on site and could support reptiles. None were observed.

3.3.4 Birds

Bird species diversity varies with seasons, variety and quality of vegetative communities.

Birds were observed in the vicinity. List of species observed is found in Appendix C.

3.3.5 Mammals

Signs of mammals were observed on sites but were assumed to be coyotes, rabbits. Bats are not expected; roosting sites are not available. The mammals that were found are identified in Appendix C.

3.3.6 Fish

There are no water sources on site; no fish would be expected.

3.4 Sensitive Biological Resources

3.4.1 Special Status Species

Table 3. Special-Status Wildlife Species with Potential to Occur on Project Site

Special-Status Species	Legal Status	Found	Potential for Occurrence
Flat-tailed horned lizard (FTHL)	Federal: None State: Protected, Species of Special Concern	No	None on site – Highly disturbed acreage. No FTHL, scat or tracks were identified in the general biological survey. This area is not within a FTHL Management Area
Colorado fringe toed lizard	Federal: Threatened State: Endangered	No	None on site – Primarily found in wind-blown sand areas. Agricultural acres/badlands with no wind blown sand areas.
Burrowing owl	Federal: None State: CSC	No	Low on site but burrowing possible in water conveyance system (canals/drains)
Gila Woodpecker *Melanerpes uropygialis*	CDFW: Endangered	No	Very low on site – Highly disturbed acreage with sparse available nesting opportunities; no palm trees
Le Conte's thrasher *Toxostoma lecontei*	CDFW: Species of Concern	No	Very low on site –no available nesting opportunities
Loggerhead shrike *Lanius ludovicianus*	CDFW: Species of Concern	No	Very low on site; no suitable habitat No prey was observed
Yuma Ridgeway rail	Fed: Endangered	No	None on site. Lives in freshwater and brackish marshes; Prefers dense cattails, bulrushes, and other aquatic vegetation. Nests in riverine wetlands near upland, in shallow sites dominated by mature vegetation, often in the base of a shrub. Prefers denser cover in winter than in summer. Very shy. No habitat not on site.

3.4.2 Riparian Habitat or Sensitive Natural Communities

Based upon the level of disturbance or habitat conversion within adjacent areas, vegetative communities are considered rare or sensitive. Rare vegetation types that are converted and degraded can disrupt the integrity of the ecological functions of natural

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environments. This can lead to the loss of sensitive plant species and a resulting decrease in biodiversity. Wetland or riparian habitat communities are considered sensitive by CDFW.

3.4.3 Jurisdictional Waters

Wetlands and other "waters of the United States" that are subject to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act are under the jurisdiction of the U.S. Army Corp of Engineers (ACOE). No Wetlands and other waters of the United States will be impacted.

3.4.4 Habitat Connectivity and Wildlife Corridors

The ability for wildlife to freely move about an area and not become isolated is considered connectivity and is important to allow dispersal of a species to maintain exchange genetic characteristics; forage (food and water) and escape from predation.

3.4.5 California Desert Conservation Area (CDCA)

This project is not within or immediately adjacent to an Area of Critical Environmental Concern (ACEC) of the CDCA.

4.0 Proposed Project Impact

The proposed impacts are summarized in this section.

4.1 Impact to Special Status Species

If this project has a substantial adverse effect, either directly or through habitat modification or elimination, on any plant or animal species that is considered endangered, threatened, candidate for listing or special status species either through federal or state regulations, this project would be considered to have a significant impact.

4.1.1 Biological Resources

No special status and priority plants or animals were observed. The approximately 44.6 acres are highly disturbed and no adverse impact is expected either directly or through habitat modification on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service when avoidance, minimization and mitigation recommendations are followed.

Biological resources found are listed in Table 4, Appendix C and Figure 4 Biological Resources Map.

Table 4 Biological Resources

Location	Description	Recommendations
1. Agriculture/Ruderal vegetation	Agricultural crops on approximately 44.1 acres and ruderal vegetation on approximately 3.5 acres	Burrowing Owl/MBTA surveys prior to construction

4.1.2 Sensitive Wildlife

4.1.2.1 Burrowing Owl

Construction Impact.

While no burrowing owl (BUOW) were observed during surveys, a preconstruction BUOW) survey should be performed within 14 days and 24 hours prior to construction by qualified biologists as BUOW are found throughout Imperial County.

BUOW could potentially utilize burrows in nearby canal or drain ditch banks adjacent to the project. There is no abundance of prey (insects) that could support BUOW presence. There is potential that there would be direct and/or indirect impacts to this species if construction occurs during the active nesting period of February to end of August. Ground disturbance from heavy equipment, which may potentially impact the BUOW, if present, would be considered significant and could require mitigation. Impacts to this species would be considered significant, if present.

Section 5 discusses avoidance, minimization and mitigation requirements for burrowing owls found on site or in vicinity during construction.

4.1.2.2 MBTA Nesting

Construction Impact

Bird nesting could occur within the project. Ground nesting species, such as lesser nighthawk, and killdeer could use the area.
If construction is planned to begin during nesting season (generally February 1 through August 31), the project area and a 500 foot buffer area should be surveyed within 3-5 days of start of construction to determine presence/absence of nesting. If nests are found, an appropriate buffer zone for the species should be maintained during construction until juveniles have fledged.

Operations and Maintenance Indirect Impact

Electrocution

Electrical components are not found within the project and would not be expected to impact avian populations.

4.2 Impact to Riparian Habitat or Sensitive Natural Communities

The distribution of riparian plant species is largely driven by hydrological and soil variables and riparian plant communities frequently occur in relatively distinct zone along streamside elevational and soil textural gradients.

There is no riparian habitat found on site, therefore this project will not have a substantial adverse effect on any riparian habitat.

4.3 Impact to Jurisdictional Waters

There are no wetlands found on site; therefore this project will have no impact 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.

No established washes and ephemeral washes were observed on site. FEMA Map #06025C2067C rated this project as Zone X: Areas determined to be outside the 0.2% annual chance floodplain. FEMA map found in Figure 1.

4.4 Impact to Wildlife Movement and Nursery Sites

This project is a vacant lot surrounded by agricultural, vacant lots and commercial development. The proposed project will not interfere with the currently restricted 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.

4.5 Impact to Airports

This project has no components that will attract avian populations that would impact airports. It is approximately 0.6 miles from Calexico International Airport, CA, which is the closest airport. No impact upon airports is expected.

4.6 CEQA Impacts

Possible CEQA significant impacts that could include the following within the parameters of this project:

Table 5: Expected Impacts

Area	Endangered/threatened/ Species of Concern Habitat	Riparian Habitat	Wetlands	Wildlife Corridors	Local Ordinances	Waters of the U.S.
44.6 acres	None with avoidance/ minimization/ mitigation measures	No	No	No	No	No

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5.0 Recommended Avoidance, Minimization and Mitigation Measures

5.1 Sensitive Wildlife

5.1.1 Burrowing Owl

Avoidance Measures

A preconstruction survey should be performed prior to initiating ground disturbance. Report should be submitted to the appropriate agency.

Since BUOW have been located within the vicinity, it is recommended that construction foremen and workers and onsite employees be given worker training by a qualified biologist regarding burrowing owl that would include the following:

- Description of BUOW
- Biology
- Regulations (CDFW/USFWS)
- Wallet card with picture/guidelines for protecting owl and wildlife
- Notification procedures if owl (dead, alive, injured) is found on or near site

A sign in should be obtained and the training materials and sign in sheet should be submitted to appropriate agency.

Minimization Measures

To avoid direct or indirect impacts to BUOW, surveys for this species should be conducted to determine if this species is present within the survey area. If BUOW is present, mitigation will be required. Minimization measures could include preconstruction surveys within 14 days and 24 hours of start of ground breaking activities and worker training.

Mitigation Measures

1. If occupied burrows are found on site, the burrows shall be passively relocated by a qualified biologist outside of nesting season and an appropriate number of artificial burrows shall be installed. If possible, these burrows shall be installed as close as possible to the passively relocated burrows
2. If not in the active construction areas, the occupied burrows can be sheltered in place with appropriate materials
3. If occupied burrows are sheltered, a biological monitor shall monitor areas of active construction This biologist will ensure that the project complies with these mitigation measures and will have the authority to halt activities if they are not in

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compliance. The biologist will inspect the construction areas periodically for the presence of BUOWs.

4. If work is stopped for longer than 14 days, area will be resurveyed prior to restart of construction.

5.1.2 Migratory Birds and Non-migratory Bird Species

If construction is scheduled to begin during nesting season (February-August), a survey for nesting birds should be performed within 3-5 days of groundbreaking activities. Dependent upon species found, appropriate buffer zones will be established by a qualified biologist. Buffer zones will be established for active nests and these nests will be monitored by qualified biologist until young have fledged.

If work is stopped for longer than 7 days during nesting bird season, area will be resurveyed prior to restart of construction.

It is recommended that construction foremen and workers and onsite employees be given worker training by a qualified biologist regarding nesting birds that would include the following:

- Description of birds covered under MBTA and likely to be found on project
- Biology
- Regulations (CDFW/USFWS)
- Notification procedures if bird (dead, alive, injured) is found on or near site

A sign in should be obtained and the training materials and sign in sheet should be submitted to appropriate agency.
A biologist should be consulted immediately if a dead or injured bird is found on site.

5.1.3 Invasive Plants

Any saltcedar found on site should be removed in a manner that will not distribute plant seeds or plant material. Use of covered trailers to remove invasive species to an approved landfill is recommended.

Equipment brought onsite should be clean to prevent importing invasive species to site.

6.0 Works Referenced

Alonso, Juan C., Javier A. Alonso, Rodrigo Munoz-Palido, *Mitigation of Bird Collusions with Transmission Lines* through *Groundwire Marking*, Biological Conservation, 1994.

Association of Environmental Professionals, *California Environmental Quality Act 2014 Statues and Guidelines,* AEP, Palm Desert, CA, 2014.

EEC ORIGINAL PKG

PC ORIGINAL PKG

Baldwin, Bruce G., et al, *The Jepson Desert Manual,* Los Angeles, University of California Press, 2002.

Behler, Jack L., and F. Wayne King, *Natural Audubon Society Field Guide to North American Reptiles & Amphibians,* New York, Chanticleer Press, 1996.
Borror, Donald J. and Richard E. White, *Insects,* The Easton Press, Norwalk, Ct. 1970.

Bowers, Nora, Rick Bowers, Kenn Kaufman, *Mammals of North America,* Houghton Mifflin Company, Singapore, 2004.

California Department of Fish and Game, *Staff Report on Burrowing Owl Mitigation, California Department of Fish and Game, Oct 17, 1995*

California Department of Fish and Game, *Staff Report on Burrowing Owl Mitigation, California Department of Fish and Game, March 7, 2012.*

California Native Plant Society, *CNPS Inventory of Rare and Endangered Plants,* online: www. Northcoast.com, October, 2022

California Natural Diversity Database, October 2022. Sacramento, Ca California Department of Fish and Wildlife.

Coulombe, Harry N., *Behavior and Population Ecology of the Burrowing Owl, Speotyto Cunicularia, in the Imperial Valley of California,* The Condor, 73:163-176, 1971.

Department of the Army, *Corps of Engineers Wetlands Delineation Manual,* January, 1987. U.S. Department of Commerce.

Griggs, Jack, *American Bird Conservancy's Field Guide*, *All the Birds of North America*, New York HarpersCollinsPublishers, Inc. 1997.

Grinnell, J., and A. H. Miller. 1944. The distribution of the birds of California. Pac. Coast Avifauna no. 27. Cooper Ornith. Society. 608pp

https://msc.fema.gov/portal/search?AddressQuery=1000%20kemp%20road%20calexico%2C%20ca#searchresultsanchor

http://viewer.nationalmap.gov/viewer

https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

https://www.google.com/maps/place/Imperial+County,+CA/@33.0211899,-116.4057862,8z/data=!3m1!4b1!4m5!3m4!1s0x80d754222493d885:0xe9d06a1b18608580!8m2!3d33.0113694!4d-115.4733554

https://www.weather.gov/wrh/Climate?wfo=psr

Jameson, E.W., Hans J. Peeters, *Mammals of California,* Los Angeles, University of California, 2004.

Rosenberg, Daniel K. and Katherine Haley, *The Ecology of Burrowing Owl in the Agroecosystem of the Imperial Valley, California,* Studies in Avian Biology, No., 27:120-135, 2004.

Sawyer, John O. and Todd Keeler-Wolf, *A Manual of California Vegetation,* California Natural Plant Society, 2009.

Sibley, David Allen, *The Sibley Guide To Birds,* Alfred A. Knopf, New York, 2000.

Shuford W. D., and Gardali, T., editors, *California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California.* Studies of Western Birds 1.Western Field Ornithologists, Camarillo, California and California Department of Fish and Game, Sacramento, CA

Tibbitts, T.J., M.K. Sogge, and S.J. Sferra. 1994. A survey protocol for the southwestern willow flycatcher (*Empidonax traillii extimus*). Technical Report NPS/NAUCPRS/NRTR-94/04. National Park Service Colorado Plateau Research Station, Flagstaff, Arizona. 24 p

United States Fish and Wildlife Service, *Birds of Conservation Concern 2008.*

United States Fish and Wildlife Service, *Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States BTP-R6001-2003.*

York, Melissa A., Daniel K. Rosenberg, and Ken A. Sturm, *Diet and Food-Niche Breadth of Burrowing Owl (Athene Cunicularia) in the Imperial Valley, California,* Western North American Naturalist 62(3), 2002. 280-287.

APPENDIX A
SENSITIVE BOTANICAL AND ZOOLOGICAL SPECIES (CNDDB/CNPS) SPECIES

APPENDIX A
SENSITIVE BOTANICAL AND ZOOLOGICAL SPECIES (CNDDB/CNPS)
HEBER Nine-Quadrangle
12/10/22

BOTANICAL SPECIES	STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/SITE POTENTIAL
Abrams's Spurge *Chamaesyce abramisiana*	CNPS list: 2	Annual herbaceous blooms Sept/Nov. Common spurge in area has large purple spot and is prostrate; Abram's is not as colorful.	Sonoran Desert Shrub	No Abrams's spurge found. No habitat
Hairy stickleaf *Mentzelia hirsutissima*	S2S3/2.3	Annual to shrub; hairs needle-like, stinging, or rough Leaves alternate in CA, generally ± pinnately lobed; stipules 0 Various Inflorescence Flower is bisexual, radial; sepals generally 5, generally persistent in fruit; petals generally 5, free or fused to each other or to filament tube; stamens 5–many, filaments thread-like to flat, sometimes fused at base or in clusters; petal-like staminodes sometimes present; pistil 1, ovary inferior, chamber generally 1, placentas generally 3, parietal, style 1 Fruit is generally capsule (utricle) with 1-many seeds	Sonoran Desert Scrub growing on rocky hillsides and desert mesas. Found in small boulders on an arid slope with limited competition from shrubs.	Not expected; no habitat. None observed.

Abronia villosa var aurita Chaparral sand-verbena	State: S2.2 (not very threatened); CNPS list:1B.2 (rare, threatened in Ca; fairly endangered in Ca.)	Likes full sun, and sandy soil. Sand-verbena has gray foliage with pinkish purple flowers, and the flowers are fragrant. It does not tolerate weeds and needs bare ground. 80-1600m (263-5249ft	Chaparral, Coastal Shrub, and desert dunes/sandy areas.	No habitat; none observed
Sand Food *Pholisma sonorae*	State: S1.2 (threatened); CNPS list:1B.2	Parasite on species such as *Erigonus, /tiquilia, ambrosia, pluchea.* White to brown color. Corolla pink to purple.	Sonoran Desert Dunes; loose deep sand	No habitat; none observed
ZOOLOGICAL SPECIES	**STATUS[1]**	**DESCRIPTION OF SPECIES**	**HABITAT**	**OBSERVATION/ SITE POTENTIAL**
Yuma clapper rail *Rallus longirostris yumanensis*	Fed:Endangered Ca: Threatened	A chickenlike marsh bird with a long, slightly drooping bill and an often-upturned tail. Light brownish with dark streaks above. Rust-colored breast; bold, vertical gray and white bars on the flanks; white undertail coverts	Lives in freshwater and brackish marshes. Prefers dense cattails, bulrushes, and other aquatic vegetation. Nests in riverine wetlands near upland in shallow sites dominated by mature vegetation, often in the base of a shrub. Prefers denser cover in winter than in summer. Very shy.	None observed or heard; Cattails not found in dense stands; no suitable habitat on site.

Burrowing Owl *Athene cunicularia*	CDFW: SC Species of Concern	Small raptors that nest in burrows that have been borrowed from other species in open grassland areas. Have adapted well in Imperial County using canals/ drains/ ditches to establish burrows and foraging for insects in agricultural fields	Open, dry annual or perennial grasslands; deserts & scrublands	No owls/burrows found. Survey results included in this report
Vermillion flycatcher *Pyrocephalus rubinus*	CDFW: SC Species of Concern	Length: 5 inches the adult male has a Bright red cap, throat and underparts; with a Black eyeline, nape, back, wings, and tail The Immature male similar to female but has variable amount of red on underparts. The female and immature have Brown upperparts with White underparts with faint streaks on breast with an undertail coverts tinged pink, the adult male Vermilion Flycatcher is very distinctive. The female and immatures are more nondescript but the streaking on the breast and pink tinge to the undertail coverts distinguish them from other flycatchers	Frequents streams and ponds in arid areas	No habitat; none observed.

BOTANICAL SPECIES	STATUS[1]	DESCRIPTION OF SPECIES	HABITAT	OBSERVATION/SITE POTENTIAL
Yellow Warbler *Dendroica petechia brewsteri*	State: S2; CDFW: SC	Plain yellow face with dark eyes;yellow spots on tail. Flits around hunting insects. Rare in winter in southwest; winters in tropics	Nests in riparian plant areas; preferring willows, cottonwoods, aspens, sycamores and alders for nesting and foraging	None observed;. No wet thickets are present on site.
Western Yellow bat *Lasiurus xanthinus*	State: S3	Consumes small to medium-sized, night flying insects. Yellow color/short ears.	Roosts in leafy vegetation the deserts of the southwestern United States. Roosts among the dead fronds of palm trees and cottonwoods	Not expected no palms or cottonwood trees.
Pocketed free-tailed bat *Nyctinomops femorosaccus*	CDFW: SC	Bat has a free-tail which extends beyond the edge of the interfemoral membrane. With a forearm of 45-49 mm, it is smaller than all other North American molossid species except *Tadarida brasiliensis*. It is slightly larger than *T. brasiliensis* and has its ears joined at the midline. The body length measures 3 7/8 to 4 5/8", with a wingspan of 14". The fur is dark gray or brown above and below and nearly white at base. Ears are joined at base. Possesses a wrinkly upper lip; about half of the tail extends past edge of tail membrane	These bats require large surfaces of open water in order to drink. The pocketed free-tailed bat is colonial and roosts primarily in crevices of rugged cliffs, high rocky outcrops and slopes. Plant associations, include desert shrub and pine-oak forests. The species may also roost in buildings, caves, and under roof tiles.	No habitat; no large surface of water on site

big free-tailed bat *Nyctinomops macrotis*	State: SSC	It is the largest member of Nyctinomops,[3] with an average forearm length of 60 mm (2.4 in).[4] Individuals weigh approximately 20.6 g (0.73 oz). It has a wingspan of 417–436 mm (16.4–17.2 in). Its fur is glossy and variable in color, ranging from pale, reddish brown to dark brown or blackish.	It's range includes many countries in North, Central, and South America. Big Free-tailed Bats typically live in deserts and arid grasslands where rocky outcrops, canyons, or cliffs provide ideal roosts. Occasionally these bats will roost in buildings. They feed mostly on moths, but also crickets, flying ants, froghoppers, leafhoppers, and stinkbugs. The bats are seldom encountered by people It has been documented at a range of elevations from sea level to 2,600 m (8,500 ft) above sea level.	Rocky outcrops, canyons, or cliffs are not available for roosting; not expected
California leaf-nosed bat *Macrotus californicus*	State: SSC	The California leaf-nosed bat weighs between 12 and 20 grams, has a wingspan of over 30 centimeters and a body length of over 6 centimeters, and is brown in color. As its name implies, it has a triangular fleshy growth of skin, called a noseleaf, protruding above the nose.	California leaf-nosed bats can be found in Sonoran and Mojave Desert scrub habitats in the Colorado River valley in southern California, Nevada and Arizona, and throughout western Mexico. It is non-migratory and does not hibernate.	No desert scrub habitats on site; not expected
pallid bat *Antrozous pallidus*	State: SSC	have a head and body length of approximately 2.75 inches (6.2-7.9 cm), forearm length of approximately 2.1	is a species of bat that ranges from western Canada to central Mexico. Roosts in cliffs in	No roosting habitat; not expected

		inches (4.5–6 cm), a tail of approximately 1.75 inches (3.9-4.9 cm), and a wingspan of 15-16 inches (38–40 cm). They weigh 14-25 grams. These bats are large, with long forward pointing ears (over 2.5 cm). Fur is pale at the roots, brown on their back, with a light underside. Pallid bats have a blunt piglike snout.	colonies generally including 20 or more individuals. Pallid bats were highly selective in their choice of roost sites; Deep, horizontal crevices were preferred in summer	
American Badger *Taxidea taxus*	CDFW: Species of Concern	Burrowing animals that feed on ground squirrels, rabbits, gophers and other small animals. Prefer grasslands, agricultural areas.	Found in drier open areas with friable soils	None seen; no burrows observed
western mastiff bat *Eumops perotis californicus*	State: SSC	This species is the largest bat native to North America, and some of its distinguishing characteristics are its large ears, wings, and forearms.	It is found in the Western United States, Mexico and South America.	None observed; no habitat
Sonoran Desert toad *Incilius alvarius*	State: SSC	It exudes toxins from glands within its skin that have psychoactive properties.	is found in northern Mexico and the southwestern United States.	None observed, no habitat
northern leopard frog *Lithobates pipiens*	State: SSC	The northern leopard frog is a fairly large species of frog, reaching about 11 cm (4.3 in) in snout-to-vent length. It varies from green to brown in dorsal color, with large, dark, circular spots on its back, sides, and legs	Northern leopard frogs have a wide range of habitats. They are found in permanent ponds, swamps, marshes, and slow-moving streams throughout forest, open, and urban areas.[9] They normally inhabit water bodies with abundant aquatic	None observed, no habitat on site

			vegetation. In the summer, they often abandon ponds and move to grassy areas and lawns.	
lowland leopard frog *Lithobates yavapaiensis*	State: SSC		Appears to stay close to water, seeking shelter in streamside vegetation.In cold areas they are inactive in the winter, but they can be active all year long in geothermal springs or at low elevations	No habitat; not expected
Yuma hispid cotton rat *Sigmodon hispidus eremicus*	State: SSC	Adult size is total length 202–340 mm (8.0–13.4 in); tail 87–122 mm (3.4–4.8 in), frequently broken or stubbed; hind foot 29–35 mm (1.1–1.4 in); ear 16–20 mm (0.63–0.79 in); mass 50–250 g	The distribution of S. hispidus ranges from Arizona in the west to Virginia to the east and from the Platte River in Nebraska in the north to, likely, the Rio Grande in the south, where it meets the northern edge of the distribution of S. toltecus (formerly S. h. toltecus)	None observed, no habitat on site
Palm Springs pocket mouse *Perognathus longimembris bangsi*	State: SSC	This small mouse, with a long tail, inhabits arid and semiarid habitats with grasses, sagebrush and other scrubby vegetation. It is nocturnal and has a short period of activity for the first two hours after sunset, and then sporadic activity through the rest of the night.	It is found in Baja California and Sonora in Mexico and in Arizona, California, Idaho, Nevada, Oregon and Utah in the United States.[1] Its natural habitat is subtropical or tropical dry lowland grassland.	None observed, could be found hunting in area

northern harrier *Circus hudsonius*	State: SSC	Owl-like faces and small, hooked bills slender bodies, V-shaped wings	undisturbed wetlands and grasslands	
summer tanager *Piranga rubra*	State: SSC	Adults have stout pointed bills and measure 17 cm (6.7 in) in length and 29 g (1.0 oz) in weight. Wingspan ranges from 28 to 30 cm. Adult males are rose red and similar in appearance to the hepatic tanager, although the latter has a dark bill; females are orangish on the underparts and olive on top, with olive-brown wings and tail. As with all other birds, all red and orange colorations are acquired through their diet.	Their breeding habitat is open wooded areas, especially with oaks, across the southern United States, extending as far north as Iowa. These birds migrate to Mexico, Central America and northern South America.	No habitat; not expected
mountain plover *Charadrius montanus*	State: SSC	The mountain plover is 8 to 9.5 inches (20 to 24 cm) long and weighs about 3.7 ounces (105 grams). Its wingspread is 17.5 to 19.5 inches (44.5 to 49.5 cm). The mountain plover's call consists of a low, variable whistle. Both sexes are of the same size.	Mountain plovers nest on bare ground in early spring (April in northern Colorado). The breeding territory must have bare ground with short, sparse vegetation. Plovers usually select a breeding range that they share with bison and black tailed prairie dogs. These animals are grazers that keep vegetation short.	Not observed; could be found in alfalfa fields that have been pastured by sheep
loggerhead shrike *Lanius*	State: SSC	The loggerhead shrike is a medium-sized passerine. "Loggerhead" refers to the relatively large size of the head as	The bird requires an open habitat with an area to forage, elevated perches, and nesting	Not observed; no prey observed; not expected

ludovicianus		compared to the rest of the body. The wing and tail length are about 3.82 in (9.70 cm) and 3.87 in (9.83 cm) long, respectively. It weighs on average 1.8 oz (50 g), with a range of 1.6–2.1 oz (45–60 g) for a healthy adult shrike.	sites. They are often found in open pastures or grasslands and appear to prefer red-cedar and hawthorn trees for nesting.	
California black rail *Laterallus jamaicensis coturniculus*	State: Threatened	Chicken-like, small, black bird, shy	Marshy areas.	No habitat
flat-tailed horned lizard *Phrynosoma mcallii*	State: SSC	The flat-tail horned lizard has evolved elaborate camouflage measures to eliminate shadow. Their bodies are flattened, with the sides thinning to an edge; the animals habitually press their bodies to the ground; and their sides are fringed with white scales which effectively hide and disrupt any remaining areas of shadow there may be under the edge of the body.	The majority of their remaining habitat in the US is administered by the Bureau of Land Management. Sandy, desert areas.	No habitat
Colorado Desert fringe-toed lizard *Uma notata*	State: SSC	It can be distinguished from the Mojave fringe-toed lizard and the Coachella Valley fringe-toed lizard by its orange/pinkish stripes on the sides of its underside, while the backs have much similar appearances.	It is adapted to arid climates and is most commonly found in sand dunes within the Colorado Desert of the United States and Mexico.	No habitat

Special Status Species that Occur in Imperial County (USFWS)

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
Plants				
Peirson's milk-vetch *Astragalus magdalenae* var. *peirsonii*	T/E/1B	Silvery, short-lived perennial plant that is somewhat broom like in appearance. A member of the pea and bean family, it can grow to 2.5 feet tall and is notable among milkvetches for its greatly reduced leaves. Peirson´s milkvetch produces attractive, small purple flowers , generally in March or April, with 10 to 17 flowers per stalk. It yields inflated fruit similar to yellow-green pea pods with triangular beaks.	Desert dune habitats. In California, known from sand dunes in the Algodones Dunes system of Imperial County. Was known historically from Borrego Valley in San Diego County and at a site southwest of the Salton Sea in Imperial County	L None observed. No dune habitat
Birds				
California brown pelican *Pelecanus occidentalis* No longer endangered	E/E/-	Large size and brown color. Adults weigh approximately 9 pounds, and have a wingspan of over 6 feet. They have long, dark	Open water, estuaries, beaches; roosts on various structures, such as pilings, boat docks,	L None observed. No open water

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		bills with big pouches for catching and holding fish. Pelicans breed in nesting colonies on islands without mammal predators. Roosting and loafing sites provide important resting habitat for breeding and non-breeding birds.	breakwaters, and mudflats	
Southwestern willow flycatcher *Empidonax traillii extimus*	E/-/-	Small; usually a little less than 6 inches in length, including tail. Conspicuous light-colored wingbars. Lacks the conspicuous pale eye-ring of many similar *Empidonax* species. Overall, body brownish-olive to gray-green above. Throat whitish, breast pale olive, and belly yellowish. Bill relatively large; lower mandible completely pale. The breeding range of extimus includes Arizona and adjacent	At low elevations, breeds principally in dense willow, cottonwood, and tamarisk thickets and in woodlands, along streams and rivers. Migrants may occur more widely. Prefers riparian willow/cottonwood but will use salt cedar thickets	L None Observed No sal cedar thickets (salt cedar sparse) with running water found on site

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		states.		
Yuma clapper rail *Rallus longirostris yumanensis*	E/T/-	A chickenlike marsh bird with a long, slightly drooping bill and an often upturned tail. Light brownish with dark streaks above. Rust-colored breast; bold, vertical gray and white bars on the flanks; white undertail coverts. Very shy.	Lives in freshwater and brackish marshes. Prefers dense cattails, bulrushes, and other aquatic vegetation. Nests in riverine wetlands near upland, in shallow sites dominated by mature vegetation, often in the base of a shrub. Prefers denser cover in winter than in summer..	L None observed or heard; no suitable habitat; not immediately adjacent to Salton Sea.
Yellow-billed cuckoo *Coccyzus americanus*	C/E/-	Medium-sized cuckoo with gray-brown upperparts and white underparts. Eye-rings are pale yellow. Bill is mostly yellow. Wings are gray-brown with rufous primaries. Tail is long and has white-spotted black edges. Sexes are similar.	Found in forest and open woodlands, especially in areas with dense undergrowth, such as parks, riparian woodlands, and thickets	L None observed; no habitat on site. No thickets are present.
Bald eagle	T, PD/E/-	The distinctive white head and	Found on shores, lake	L

EEC ORIGINAL PKG

PC ORIGINAL PKG

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
Haliaeetus leucocephalus		tail feathers Beak and eyes yellow. Bald Eagles are about 29 to 42 inches long, can weigh 7 to 15 pounds, and have a wing span of 6 to 8 feet.	margins, and near large rivers. Nests in large trees. Winters at lakes, reservoirs, river systems, and some rangelands and coastal wetlands (breeding range is mainly in mountainous habitats near reservoirs, lakes and rivers, mainly in the northern two-thirds of California)	None observed; no habitat on site.
Least tern *Sterna antillarum*	E/E/-	Small tern. During breeding, black cap ending at white forehead. Short white eyestripe. Bill yellow with black tip. Back light gray. Underside white. Black leading edge to wing. In nonbreeding plumage has black eyestripe extending to back of head, white top of head, and black bill. Size: 21-23 cm (8-9 in) Wingspan: 48-53 cm (19-21 in)	Shallow areas of estuaries, lagoons, and at the joining points between rivers and estuaries	L None observed; no habitat

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		Weight: 30-45 g (1.06-1.59 ounces)		
Least Bell's Vireo *Vireo bellii pusillus*	E/E/-	Drab gray to green above and white to yellow below. It has a faint white eyering and two pale wingbars; has pale whitish cheeks and forehead and greenish wings and tail. longer tail and subtle wingbars. The song is a varied sequence of sharp, slurred phrases that typically end with an ascending or descending note.	Formerly a common and widespread summer resident below about 2,000 feet in western Sierra Nevada. Also was common in coastal southern California, from Santa Barbara County south, below about 4,000 feet east of the Sierra Nevada. Prefers thickets of willow, and other low shrubs afford nesting and roosting cover	L None observed; no habitat on site. No thickets are present on site.
Mountain plover *Charadrius montanus*	FPT/SC/-	Medium-sized plover with pale brown upperparts, white underparts, and brown sides. Head has brown cap, white face, and dark eyestripe. Upperwings	Avoids high and dense cover. Uses open grass plains, plowed fields with little vegetation, and open sagebrush areas.	L None observed; could be found if alfalfa fields are

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		are brown with black edges and white bars; underwings are white. Tail is brown-black with white edges. Sexes are similar.	Likes to follow livestock grazing or burned off fields.	pastured by sheep
Black rail *Laterallus jamaicensis coturniculus*	-/T/-	The smallest of all rails, the black rail is slate-colored, with a black bill, red eyes and a white-speckled back. The legs are moderately long and the toes are unwebbed. The sexes are similar.	Most commonly occurs in tidal emergent wetlands dominated by pickleweed or in brackish marshes with bulrushes in association with pickleweed. In freshwater, usually found in bulrushes, cattails, and saltgrass and in immediate vicinity of tidal sloughs. Typically occurs in the high wetland zones near upper limit of tidal flooding, not in low wetland areas with	L None observed; no habitat

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
			considerable annual or daily fluctuations in water levels. Nests are concealed in dense vegetation, often pickleweed, near upper limits of tidal flooding	

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
Raptors				
Peregrine Falcon *Falco peregrinus*	D/E/-	Large, powerful falcon; pointed winged falcon silhouette. Strong shallow wingbeats may dive at speeds up to 100 mph. Dark with dark hooded effect. Blue gray below with narrow bars	Most often found along coastlines or marshy habitats. Nest in cliffs and have been known to nest in tall buildings	L None observed; rare visitors to area outside of the Salton Sea. No waterfowl for prey or cliffs/tall buildings for nesting
Northern Harrier *Circus cyaneus*	-/SC/-	Long-winged, long tailed hawk. Habitually flys low over open fields and marshes watching and listening for prey such as rodents and birds. (I observed Harrier with a white faced ibis as prey). Perches low or on ground. Low slow flight. Nests in reeds. Grey with black wingtips.	Marshes, open fields. Nests in reeds	L Low rodent, rabbit populations. Not observed on site.

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
Sharp-shinned Hawk *Accipiter striatus*	-/SC/-	Blue gray above pale reddish below; small size. Tip of tail squared off. Nesting occurs in dense tree stands which are cool, moist, well shaded and usually near water. Hunt in openings at the edges of woodlands and also brushy pastures.	Sharp-shinned hawks may appear in woodland habitats during winter and migration periods and are often common in southern California in the coastal lowlands and desert areas; winters in woodlands and other habitats except alpine, open prairie and bare desert	L Low rodent, rabbit populations. Not observed
White tailed Kite *Elanus leucurus*		Gray and white with black on lshoulders and under bend of wing. Graceful flyer. Adults have bright red eyes. Medium size hawk; aboaut 15 inches long and about 12 ounces. Males pale with with rufous shoulders and thigh feathers.	Found in open country; like to perch on treetop. May be seen hovering prior to attack of a rodent.	L Low rodent, rabbit populations. Not observed

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
Ferruginous hawk *Buteo regalis*	/E/ /SC/	White tail washed with rufous. Wide head wings in shallow v when soaring.	Found in arid to semiarid regions, as well as grasslands and agricultural areas in southwestern Canada, western United States, and northern Mexico.	L Low rodent, rabbit populations; None observed
Mammals				
Bighorn sheep *Ovis canadensis*	E/E/-	Sheep have short hair which is light gray to grayish brown, except around their stomachs and rump, where it is creamy	Desert Bighorn sheep occupy a variety of plant communities, ranging from mixed-grass	L None observed; no habitat

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		white. Their tails are about four inches long. Full-grown rams weigh between 180 and 240 pounds,	hillsides, shrubs. Avoids dense vegetation	
Jaguar *Panthera onca*	-/-/-	Typically yellow-brown with black spots, called rosettes, but they can also be black with black spots. They are nocturnal and have a keen sense of smell and hearing. Excellent swimmers, tree climbers, and move easily on the ground.	Occurs in tropical rainforests, arid scrub, and wet grasslands. Prefers dense forests or swamps with a ready supply of water	L None observed; no habitat
Reptiles and Amphibians				
Desert tortoise *Gopherus agassizii*	T/T/-	A herbivore that may attain a length of 9 to 15 inches in upper shell (carapace) length. The tortoise is able to live where ground temperature may exceed 140 degrees F because of its ability to dig underground burrows and escape the heat. At least 95% of its life is spent in	Dry, flat, and gravelly or sandy ground in desert shrub communities where annual and perennial grasses are abundant. Frequent habitats with a mix of shrubs, forbs, and grasses	L None observed; habitat not favorable

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		burrows. Their shells are high-domed, and greenish-tan to dark brown in color. Desert tortoises can grow from 4–6"in height and weigh 8–15 lb (4–7 kg) when fully grown. The front limbs have heavy, claw-like scales and are flattened for digging. Back legs are more stumpy and elephantine		
Flat-tailed horn lizard *Phrynosoma mcallii*	PT/-/-	Closely related to Desert horned lizard (scat indistinquishable); only found in Imperial, Riverside County,Ca and Yuma area, Az. Small round lizard with distinquishing round spots on back. Diet of ants; needs sandy soil, shade bushes to survive.	Desert washes/sandy areas with vegetative cover. Diet of ants	L No habitat; none observed
Fish				
Desert pupfish	E/E/-	Small, silvery-colored fish with 6 to 9 dark bands on its sides.	Springs, seeps, and slow-moving streams in Salton	L

Common Name *Scientific Name*	Status[1] Federal/CDFG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
Cyprinodon macularius		Grows to a full average length of only 2.5 inches; develop quickly, sometimes reaching full maturity within 2 to 3 months. Although their average life span is 6 to 9 months, some survive more than one year. Pupfish have a short, scaled head with an upturned mouth. The anal and dorsal fins are rounded with the dorsal sometimes exhibiting a dark blotch. The caudal fin is convex at the rear.	Sink basin and backwaters and sloughs of the Colorado River	None observed; no habitat
Razorback Sucker *Xyrauchen texanus*	Fed/CA: Endangered	One of the largest suckers in North America, can grow to up to 13 pounds and lengths exceeding 3 feet. The razorback is brownish-green with a yellow to white-colored belly and has an abrupt, bony hump on its back shaped like an upside-down	Colorado River	L None observed; no habitat

Common Name *Scientific Name*	Status[1] Federal/CD FG / CNPS	DESCRIPTION OF SPECIES	Habitat	Suitability Of Habitat In Survey Area
		boat keel		

Sources: CDFW/CNDDB 2009, California Wildlife 2009; CNPS 2009; USFWS, 2009
[1]Status:
Federal:

e = Listed as an endangered species

t = Listed as a threatened species

c = Candidate for listing

D = Delisted
PD = Proposed for delisting/PT = Proposed for threatened status
State/CDF
WG:
E = Listed as an endangered species; or previously known as "rare, fully protected"
T = Listed as a threatened species
SC = species of special concern (designation intended for use as a management tool and for information; species of special concern have no legal status (www.dfg.ca.gov/wildlife/species/ssc/birds.html))

CNPS (California Native Plant Society):
1B = Rare, threatened, or endangered in California or elsewhere
2= Plants rare, threatened,or endangered in Ca, but more common elsewhere
3=Plants about which more information is needed
Habitat Suitability Codes: H = Habitat is of high suitability for this species M = Habitat is of moderate suitability for this species L = Habitat is of low suitability for this species

USFWS BIRDS OF CONSERVATION CONCERN

Common Name	Species Name	Region 8 Imperial County	National Rating	Habitat	Potential Onsite
Bald Eagle	*Haliaeetus leucocephalus*	X	X	Nests on tall trees or on cliffs in forested areas near large bodies of water. Winters in coastal areas, along large rivers, and large unfrozen lakes.	Low Not expected. No tall trees; not observed in area
Swainson's Hawk	*Buteo swainsoni*		X	Breeds in open country such as grassland, shrubland, and agricultural areas. Usually migrates in large flocks often with Broad-winged Hawks. Winters in open grasslands and agricultural areas of Southern America.	Low Not expected on site; no agriculture. May migrate through. Not observed in area
Peregrine Falcon	*Falco peregrinus*	X	X	Inhabits open wetlands near cliffs for nesting. Also uses large cities and nests on buildings.	Low No open wetlands or nesting area.

Black Rail	*Laterallus jamaicensis*	X	X	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Low No salt or freshwater marshes; no vegetation
Snowy Plover	*Chardrius alexandrinus*	X	X	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, river bars, along alkaline or sailne lakes, reservoirs, and ponds.	Low No habitat; not observed
Mountain Plover	*Charadrius montanus*	X	X	Breeds on open plains at moderate elevations. Winters in short-grass plains and fields, plowed fields, and sandy deserts.	Low on site No habitat; not observed
Black Oystercatcher	*Haematopus bachmani*	X	X	Rocky seacoasts and islands, less commonly sandy beaches.	Low No habitat; not observed

Solitary Sandpiper	*Tringa solitaria*		X	Breeds in taiga, nesting in trees in deserted songbird nests. In migration and winter found along freshwater ponds, stream edges, temporary ponds, flooded ditches and fields, more commonly in wooded regions, less frequently on mudflats and open marshes.	Low No habitat; not observed
Lesser Yellowlegs	*Tringa flavipes*		X	Breeds in open boreal forest with scattered shallow wetlands. Winters in wide variety of shallow fresh and saltwater habitats.	Low No habitat; not observed
Upland Sandpiper	*Bartramia longicauda*		X	Native prairie and other dry grasslands, including airports and some croplands.	Low No habitat; not observed
Whimbrel	*Numenius phaeopus*	X	X	Breeds in various tundra habitat, from wet lowlands to dry heath. In migration, frequents various coastal and inland habitats, including	Low No habitat; not observed

				fields and beaches. Winters in tidal flats and shorelines, occasionally visiting inland habitats.	
Long-billed Curlew	*Numenius americanus*	X	X	Nests in wet and dry uplands. In migration and winter found on wetlands, grain fields, lake and river shores, marshes, and beaches.	Low on site No habitat; not observed
Short-billed Dowitcher	*Limnodromus griseus*	X	X	Breeds in muskegs of taiga to timberline, and barely into subarctic tundra. Winters on coastal mud flats and brackish lagoons. In migration prefers saltwater tidal flats, beaches, and salt marshes. Also found in freshwater mud flats and flooded agricultural fields.	Low No habitat; not observed

Aleutian Tern	*Sterna aleutica*		X	Nest on flat vegetated islands on or near the coast. Vegetation includes dwarf-shrub tundra, grass and sedgemeadows, and coastal marsh. Migration and winter habitat not known, probably pelagic.	Low No habitat; not observed
Least Tern	*Sterna antillarum*		X	Seacoasts, beaches, bays, estuaries, lagoons, lakes and rivers, breeding on sandy or gravelly beaches and banks of rivers or lakes, rarely on flat rooftops of buildings.	Low No habitat; not observed
Gull-billed Turn	*Sterna nilotica*		X	Breeds on gravelly or sandy beaches. Inters in salt marshes, estuaries, lagoons and plowed fields, along rivers, around lakes and in freshwater marshes.	Low No habitat; not observed
Black Skimmer	*Rynchops niger*	X	X	Breeds in large colonies on sandbars and beaches. Forages in shallow bays, inlets, and estuaries.	Low No habitat; not observed

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Yellow-billed Cuckoo	*Coccyzus americanus*	X	X	Open woodlands with clearings, orchards, dense scrubby vegetation, mainly cottonwood, willow, and adler, often along water.	Low No habitat; not observed
Black Swift	*Cypseloides niger*	X	X	Nests on steep ledges on cliffs or canyons. Migrates and winters over coastal lowlands.	Low No habitat; no swifts observed in area
Costa's Hummingbird	*Calypte costae*	X	X	Primarily low deserts and arid brushy foothills, but also chaparral and coastal sage scrub closer to the coast. Often visits ornamental plantings and feeders in desert communities. In migration and winter frequents a wider variety of habitats, occasionally ranging into pine-oak woodlands in adjacent mountains.	Low No habitat; not observed – no feeders or nectar sources in area
Calliope Hummingbird	*Stellula calliope*	X	X	Open montane forest, mountain meadows, and thickets of willow and alder. In migration and	Low No habitat; not observed

				winter also in chaparral, oak and pine-oak woodlands, deserts, and gardens.	
Rufous Hummingbird	*Selasphorus rufus*		X	Breeds in a variety of forested habitats where flowers are found. Frequents montane meadows and just about anywhere else with flowers or feeders during migration. Winters primarily in pine and pine-oak forests in Mexico, but most birds wintering farther north are attracted either to flowers or feeders in gardens.	Low No habitat; not observed – no feeders or nectar in area.
Allen's Hummingbird	*Selasphorus sasin*	X	X	Breeds in coastal sage scrub, chaparral, and riparian corridors within coastal forests. In Mexico winters in forest edge and scrub clearings with flowers. The resident population on the mainland of southern	Low No habitat; not observed. No feeders or nectar in area

				California is largely restricted to suburban neighborhoods where feeders and flowers are plentiful.	
Lewis's Woodpecker	*Melanerpes lewis*	X	X	Breeds in open arid conifer, oak, and riparian woodlands: rare in coastal areas. Winters in breeding habitat, and oak savannas, orchards, and even in towns.	Low No habitat; not observed
Olive-sided Flycatcher	*Contopus cooperi*	X	X	Montane and northern coniferous forests, at forest edges and openings such as meadows, and at ponds and bags. Winters at forest edges and clearings where tall trees or snags are present.	Low No habitat; not observed
Willow Flycatcher	*Empidonax trailii*	X	X	Breeds in moist, shrubby areas, often with standing or running water. Winters in shrubby clearings and	Low No habitat; not observed

				early successional growth.	
Loggerhead Shrike	*Lanius ludovicianus*	X	X	Open or brushy areas.	Low No habitat; not observed. No thorny trees available
Bell's Vireo	*Vireo bellii*	X	X	Dense, low, shrubby vegetation generally early successional stages in riparian areas, brushy fields, young second-growth forest or woodland, scrub oak, coastal chaparral, and mesquite brushlands, often near water in arid regions.	Low No habitat; not observed
Gray Vireo	*Vireo vicinior*	X	X	Found in desert scrub, mixed oak-juniper and pinyon-juniper woodlands, dry chaparral, and thorn scrub in hot, arid mountains and high-plains.	Low No habitat; not observed
Horned Lark	*Eremophila alpestris*		X	Open, barren country including dirt fields, gravel ridges, and shores.	Low No Habitat; none observed

				Prefers bare ground to short grasses.	
LeConte's Thrasher	*Toxostoma lecontei*	X	X	Desert scrub, mesquite, tall riparian brush and, locally, chaparral.	Low No habitat; not observed
Yellow Warbler	*Dendroica petechia*	X		Breeds in wet, decidious thickets, especially in willows and adler. Also in shrubby areas, old fields, gardens and orchards. In southern Florida and farther south, found in mangroves.	Low No habitat; not observed
Common Yellowthroat	*Geothlypis trichas*	X		Thick vegetation from wetlands to prairies to pine forests. Frequently near water.	Low No habitat; not observed
Rufous-winged Sparrow	*Aimophila carpalis*		X	Found in flat areas of tall desert grass mixed with brush and cactus, and thorn scrub.	Low No habitat; not observed
Brewer's Sparrow	*Euphagus cyanocephalus*	X	X	Found in a variety of habitats, but prefers open, human-modified areas, such as farmland, fields, residential lawns, and urban parks.	Low No habitat; not observed

Black-chinned Sparrow	*Spizella atrogularis*	X	X	Arid brushland, commonly in tall and fairly dense sagebrush, and dry chaparral. Often in rocky, rugged country from sea level to around 8,900 ft (2700m).	Low No habitat; not observed
Tricolored Blackbird	*Agelaius tricolor*	X	X	Breeds in marsh vegetation, particulary cattails, near grain fields, riparian scrublnd, and forests, but always near water. Dairies and feedlots also commonly used for foraging. Urban and suburban areas occasinoally utilized, particularly park lawns. Cultivated lands also suitable for foraging. Large night-time roosts form during nonbreeding season in cattail marshes near foraging grounds.	Low No habitat; not observed
Lawrence's Goldfinch	*Carduelis lawrencei*	X	X	Prefers dry interior foothills, mountain valleys, open woodlands, chaparral, and weedy	Low No habitat; not observed

				fields. Often found near isolated water sources such as springs and cattle troughs.	

APPENDIX B
PHOTOGRAPHS

PHOTOGRAPHS

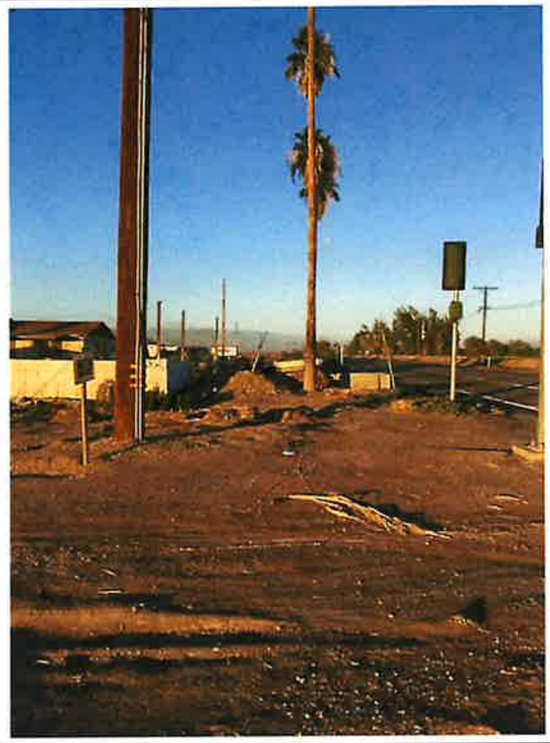
1. Looking south from northern portion of project site; agricultural crop

2. Facing east from northwest portion of project site; agricultural crop

3. Looking west at southern border of alfalfa field; alfalfa and ruderal vegetation on site

4. Project site facing SE from SW corner

5. Concrete lined ditch facing north from Kemp road facing north



6. On the south side of SR 98 looking west, to the SW is the house and few buildings; off site

7. Saltbush on site

8. Dirt ditch at middle road between fields; alfalfa

9. Kemp Rd and SR 98 facing west at seeded ag field across SR 98

10. Southeast corner facing south

11. Looking east at intersection of Kemp Road and southern alfalfa field; offsite adjacent to site

12. Southeast corner facing north

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APPENDIX C
SPECIES FOUND ONSITE AND VICINITY

VEGETATION OBSERVED ON/ADJACENT TO THE PROJECT SITE:

Common name	Scientific name	Cal-IPC Rating*
Alfalfa	*Medicago sativa*	None
Arrowweed	*Pluchea sericea*	None
Phragmites	*Phragmites australis*	None
Iodine bush	*Allenrolfea occidentalis*	None
Mesquite	*Prosopis glandulosa*	None
4 wing Salt bush	*Atriplex canescens*	None
Saltcedar	*Tamarix sp.*	Ca Noxious Weed Cal-IPC rating: High *

Cal-Invasive Plant Council
*High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

ANIMALS/INVERTEBRATES OBSERVED ON/ADJACENT TO SITE

Common name	Scientific name
Black phoebe	*Sayornis nigricans*
Black-tailed gnatcatcher	*Polioptila melanura*
Cooper's hawk	*Accipiter cooperii*
Double-crested cormorant	*Phalacrocorax auritus*
Eurasian collared dove	*Streptopelia decaocto*
Gambel's Quail	*Callipepla gambelii*
Great-tailed Grackle	*Quiscalus mexicanus*
Great blue heron	*Ardea herodias*
Mourning dove	*Zenaida macroura*
Says Phoebe	*Sayornis saya*
Canine tracks	*unknown*
Cottontail rabbit	*Sylvilagus audubonii*

APPENDIX D
QUALIFICATIONS

GLENNA MARIE BARRETT

PO Box 636 Imperial, California 92251 (760) 425-0688
glennabarrett@outlook.com

PROFILE

Organized and focused individual, adept at implementing multifaceted projects while working alone or as an integral part of a team .Skilled in client/employee communications ,report preparation ,program analyses and development. Cost conscious ,safety oriented and empathetic .A strong communicator with excellent interpersonal skills ,which allows development of rapport with individuals on all levels . A sound professional attitude ,strong work ethic and pride in personal performance.

WORK EXPERIENCE

Senior Biologist Barrett's Biological Surveys, Imperial County, CA April 2016-currently.
Principal Biological Consultant, Barrett Enterprises. Imperial, CA December 2001 - currently. Compile information and complete local, state, and federal government forms; such as conditional use permits, reclamation plan applications, Financial Assurance Cost Estimates, zone changes, CEQA, Environmental Evaluation Committee responses, and 501 (c)(3) tax exemption applications. Act as liaison between local businesses and local, state, and federal government agencies. Certified to survey for Flat-Tailed Horned Lizards in California and Arizona. Certified to survey the Desert Tortoise.
Kruger- Environmental Compliance Coordinator (ECC) for Seville Solar Complex for a 626-acre solar farm in Imperial County, CA. Compiled and submitted data and reports for APCD such as equipment lists and man hours, water hours for dust suppression; Planning reports such as weekly monitoring reports and scheduling with the third party monitor for work on BLM land; Assisted in writing the Emergency Response Action Plan; CDFW quarterly reports for the Incidental Take Permit for the Flat Tail Horned Lizard (FTHL), CNDDB reports, FTHL Observation Data Sheets, site tours and any other information required by CDFW; Agriculture Commissioner's Office quarterly reports; provided the hazardous reporting information for the CERS online reporting system; assisted writing the FTHL ITP; trained new hires; contacted various local businesses for different on-call services; also provided any updates for plans and schedules necessary throughout the life of the project; etc. (January 2015- March 2016).
Grant writing experience: Awarded two grants for BUOW educational programs for $15,000 each from Imperial Valley Community Foundation. Awarded $35,700 for a total of $75,000 with matching funds to establish the Imperial Valley Small Business Development Center with the Imperial Reginal Alliance. Awarded $450,000 from the California Public Utilities Commission for a broadband connectivity initiative in Imperial County with Imperial Reginal Alliance and Imperial Valley Economic Development Corporation (IVEDC).

FIELD EXPERIENCE

Ms. Barrett has done the field work and contributed to the required reports for the following projects:
•**8ME-Burrowing Owl/MBTA/Avian Mortality Monitoring and training for the Mount Signal Solar Projects** in Calexico, CA (April 2010-currently)
•**Salton Sea Species Conservation Habitat Project** - Imperial County, CA: Nov 2020 -current monitoring construction for desert pupfish, Ridgway Rails and other species. Found both species on site and consulted with agencies for protective measures.
•**Burrtec- FTHL/MBTA Surveys** in Salton City, CA: Team leader for eight people to complete a pre-construction site sweep for 320 acres in Imperial County. 2014-2022
•**Applied Biological Consulting- Approved Biological Monitor on DPV2**: The 500kV transmission line traverses approximately 153 mi from Bythe, CA to Menifee in Riverside County, CA. Crossing private,

state and Federal lands, such as the Bureau of Land Management [BLM], U.S. Forest Service [USFS]. Desert tortoise, nesting birds, fringe toed lizard, flat tailed lizard (November 2011 to May 31, 2013)

- **Chandi Group,** Conduct Habitat Assessment Survey (as outlined in Western

Riverside Multispecies Habitat Conservation Plan: Burrowing Owl/Narrow Endemic Species) within the City of Jurupa Valley, Riverside County, 2015

EDUCATION AND TRAINING

Received Bachelor of Science in Business Administration with a focus on Management, along with Economics and Leadership minors, December 2000. Humboldt State University, Arcata, CA.

Special Status/listed species observed/ identified, surveyed, monitored and/or relocated: Mohave desert tortoise, Coachella valley milkvetch, Desert kit fox, Mountain lion, Coachella valley fringe toed lizard, Mohave fringe toed lizard, Stephen's kangaroo rat, Mohave ground squirrel, Coast horned lizard, Flat-Tail Horned lizard, Burrowing Owl.

Extensive knowledge in southwestern United States, non-migratory and migratory avian biology and ecology. Strong knowledge of common Flora and Fauna communities associated with Southern California and surrounding environs. CEQA, NEPA, California Endangered Species Act (CESA) and Federal Endangered Species Act (ESA) knowledge gained through work experience. I have excellent analytical skills, multi-tasking and writing abilities. My past work experience has provided me with many years of hands on experience working with and managing others to find practical solutions to solve problems and achieve common goals.

CERTIFICATIONS/ WORKSHOPS

- Desert Pupfish Training CA Department of Fish and Wildlife Sharon Keeney, Summer/Fall 2019-21
- Introduction to Plant Identification CA Native Plant Society June. 2019
- FTHL Workshop, 2008 El Centro BLM office.
- Yuma Clapper Rail Training Colorado River Yuma Bird Festival AZ Game and Fish 2008
- USFW Desert Tortoise Egg Handling Desert Tortoise Council Survey Techniques Workshop Certificate, 2008 and 2010.
- Anza Borrego State Park Wildflower Identification Workshop, 2010.
- Southwest Willow Flycatcher Workshop Kernville, CA, 2010.
- SCE TRTP Construction Monitoring Training Class and WEAP Redlands, CA 2011.
- DPV2 Construction Monitoring Training Class and WEAP Santa Ana, CA 2011.
- Helicopter flight trained on DPV2, 2012.
- Certified to handle/ move venomous snakes on DPV2, 2012.
- Bat monitoring with Ms. Pat Brown BLM El Centro, CA Office, 2010.
- Salton Sea International Bird Festival 2007 Coordinator
- Mountain Plover/ Long-billed Curlew surveys, L.A. Museum of Natural History
- Presented at the Fourth Annual BUOW Symposium in Pasco, Washington, 2014.
- Board Member- Colorado River Citizens Forum, 2014-2016.
- BUOW Educational outreach grantee from IVCF, interacting with IID, IVROP, ICFB, Ag Commissioner's Office, 2015.
- Friends of the Sonny Bono National Wildlife Refuge, Member 2015

Jeremy Scheffler
181 Branding Iron
Imperial, CA 92251
jscheffler29@gmail.com
760-457-5154

INTRO:

I am a recent graduate from CSU Chico, and I majored in Environmental Science. I pride myself on my problem-solving abilities and my capacity to view situations through different perspectives to find a solution.

EDUCATION:

August 2016- May 2020 — ***California State University, Chico***
Undergraduate, Senior GPA: 3.04
Environmental Science: Atmosphere & Climate
Pathway Minor: Sustainability

August 2012- June 2016 — ***Imperial High School, Imperial, CA***
Diploma, June 2016 GPA: 3.4

SKILLS:

-Experience with tools
-Knowledge of Plant and Insects
-Experience creating/presenting reports
-Analyzing Data
-Experience with groups to complete assignments
-Experience with inspection of ag commodities
-Familiarity with ArcGIS software
-Communication (Written & Verbal)

EXPERIENCE:

April 11,2021 — **Wildlife Biologist**, Imperial County, Niland, CA
Working with Barrett's Biological Surveys performed transects on 100 acres observing for desert tortoise, Harwoods' milkvetch and American badger.

April 2, 2021 — ***Wildlife Biologist,*** Imperial County, Winterhaven, CA
Working with Barrett's Biological Surveys performed a pedestrian nesting bird survey on a linear project of 1mile. Found nesting egrets in a rookery.

March 1 - Current (2021) — ***Agriculture Biologist,* Imperial County, El Centro, CA**
-Enforce compliance of CCR and CFAC
-Inspect and investigate pesticide use and incidents
-Sample and ship specimens to lab for ID

September 21 - February 16 (2021) — ***Agriculture Technician,* CDFA, Winterhaven, CA**
-Enforce CA Food and Ag Code
-Inspect Ag commodities for invasive pests
-Input necessary data into computer

January 24 – May 15 (2020) — ***Teaching Assistant/ Grader,* Shane Mayor, CSU Chico**
-Teaching Assistant for the Weather Class
-Assist Students With Help on Course Material
-Grade Assignments and Tests

RELEVANT COURSE WORK:

-Ecology (Fall 2018)
-Earth System Science (Sp. 2019)
-Sustainability Issues (Fall 2019)
-Evolutionary Biology (Sp. 2018)
-Water & Soils (Fall 2017)
-Senior Seminar in Environmental Science (Sp. 2020)

ACHIEVEMENTS:

Spring 2020	***Sustainability Leadership*, Certificate,** CSU Chico
Spring 2020	***Dean's Honor List,* Certificate,** CSU Chico
Fall 2019	***Dean's Honor List,* Certificate**, CSU Chico

Jacob Calanno
Post Office Box 458
Niland, California 92257
760-550-4214

SPECIALTIES: Biological Surveys and Monitoring, Mechanical Process Applications, Field operations.

EDUCATION: Imperial Valley College, Imperial, Ca. - Municipal Water and Waste Water Treatment; Licensing pending.

COMPUTER SKILLS: Basic computer skills, Lab View for Engineers.

CERTIFIED SPECIALIZED TRAINING:
Environmental Review & Compliance for Natural Gas Facilities Seminar- June 5-7, 2012
Desert tortoise Surveying, Monitoring and Handling Techniques Certificate Nov. 5-6, 2012
Flat Tail Horn Lizard Training- June 20, 2012
Introduction to Plant Identification, CA Native Plant Society, June, 2019
Desert Pupfish Training CA Department of Fish and Wildlife, Sharon Keeney, Summer Fall 2019
40 Hour Hazwoper Feb. 8, 2013
CALIFORNIA OSHA TITLE-2011
Confine Space Training, 2005
Lockout/Tagout , 2005
Respirator Training, 2005
Operators Safety Training, 2005
Foreman Field Crew Supervisory and Operations Training, 2005

SUMMARY: Biological surveyor and Monitor/ Field Operations Crew Foreman/Operations Technician
For the past ten years I have been specifically working on biological surveys and monitoring including burrowing owl, flat tail horned lizard, desert tortoise and migratory birds. I have 15 years' experience in the environmental remediation industry. My area of expertise is in biological monitoring, remedial mechanical applications, equipment, operations and maintenance programs.
Training and hands on experience working in the field with endangered species:
Desert Tortoise and the Flat Tail Horned Lizard, Desert Pupfish, Ridgway Rail followed compliance policy and procedure when encountering endangered species. This training was received while working on specific projects such as:

WORK EXPERIENCE:

2012-18 Barrett's Biological Surveys
Salton Sea Species Conservation Habitat Project: Imperial, CA: Nov 2020 -current monitoring construction for desert pupfish, Ridgway Rails and other species. Found both species on site and consulted with agencies for protective measures. 8 hrs/day/5 days per week
Project Salton City Burrtec Landfill: 320 acre clearance and provided FTHL training to construction crew(42 hrs)
Project AECOM/IID Burrowing Owl habitat surveys June, 2015
Project Imperial County Public Works Desert Tortoise/MBTA monitoring: 195.7 hours at Walters Camp, near Palo Verde, CA
Project Mesquite Mine: 30 acre desert tortoise clearance; fence installation monitoring (25 hrs)
Project Oat Mine: FTHL monitoring (186 hrs)
Project CalTrans: FTHL monitoring (50 hrs)
Project: Arms and Dudes Film Project FTHL/MBTA monitoring (181 hours)
Project Niland Wastewater Project BUOW/Biological surveys (5 days)

Project: Hell's Kitchen MBTA Nesting Bird/Burrowing Owl Surveys (5 days)
BLM, El Centro, CA office: Volunteer Bat Surveys with Pat Brown (20 hours)
CDFW, Avian Carcass Collection Volunteer (5 hours)

2005 to 2010 Volper, LLC, Burbank, Ca.
Provided field supervision of construction
Responsibilities include plan and coordinate field construction and activities, field reports and tracking hours.
Manager/Grower

2003 to 2005 Cape Environmental, Irvine, California
Field Operations Supervisor/Sr. Operations Technician
Provided technical equipment applications support on various environmental remediation projects.
Responsibilities included; construction, planning and field supervision for the installation, operation and maintenance of ground water remediation equipment.

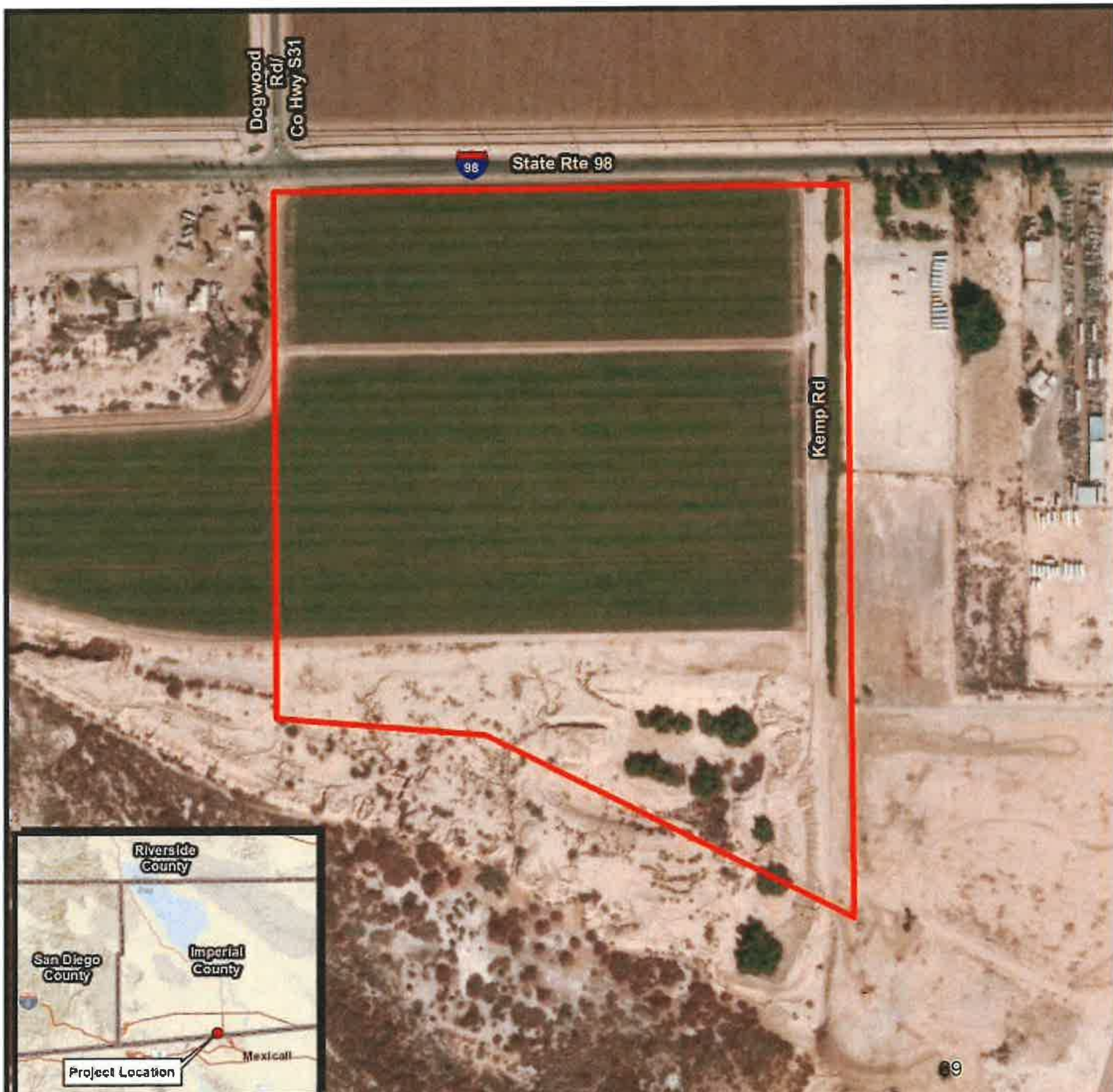
2000 to 2003 Foster Wheeler Environmental, San Diego, California
Field Operation Supervisor/Sr. Operations Technician
Provided technical equipment applications support on various environmental remediation projects.
Responsibilities included; construction, planning and field supervision for the installation, operation and maintenance of ground water remediation equipment.

REFERENCES:

Mr. Fredrick Rivera	Marie Barrett	Ed Cooney
IR Manager,	2035 Forrester Rd	Engineering Technician
Naval Air Facility - El Centro	El Centro, CA 92243	FEAD/PW Bldg.504 NAF El Centro, CA 92243
760-339-2226	760 427 7006	760-339-2469

FIGURE 1
PROJECT LOCATION MAP

PROJECT LOCATION MAP



Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

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FIGURE 2
BIOLOGICAL RESOURCES MAP

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FIGURE 3
FEMA/Soil Maps

National Flood Hazard Layer FIRMette

FEMA

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee. See Notes. Zone X
- Area with Flood Risk due to Levee Zone D

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone D

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/12/2022 at 2:01 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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Soil Map—Imperial County, California, Imperial Valley Area

Map Scale: 1:3,340 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0, 45, 90, 180, 270

Feet: 0, 150, 300, 600, 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

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MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 14, Sep 1, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 17, 2021—May 22, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
102	Badland	3.3	6.8%
114	Imperial silty clay, wet	35.2	72.5%
115	Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes	2.0	4.2%
122	Meloland very fine sandy loam, wet	8.0	16.5%
Totals for Area of Interest		**48.5**	**100.0%**

CULTURAL RESOURCES SURVEY REPORT FOR THE CAL98 HOLDINGS TRUCKING FACILITY IMPERIAL COUNTY, CALIFORNIA

Prepared for:

Dubose Design Group Inc.
1065 State Street
El Centro, CA, 92243

Submitted by:

Tierra Environmental Services
10650 Scripps Ranch Boulevard, Suite 105
San Diego, CA 92131

Michael Baksh, Ph.D.
Bobby Bolger Ed.M, RPA

July 03, 2023

National Archaeological Data Base Information
Type of Study: Cultural Resources Survey
Sites: N/A
USGS Quadrangles: Heber 7.5' Quadrangle (1:25,000)
Area: 45.7 Acres
Key Words: Imperial County, Kumeyaay, Lake Cahuilla, Negative Archaeological Survey

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF PHOTOGRAPHS

ABSTRACT

Tierra Environmental Services (Tierra) was retained to conduct an intensive archaeological survey of 45.7 acres for the Cal98 Holdings Trucking Facility Project (Project)in Imperial County, California. The Project intends a zone change (#22-0005) and Conditional Use Permit (#22-0024) to construct a trucking facility to service the needs of vehicles utilizing the adjacent Highway 98, leading from the border town of Calexico in the east to the community of Ocotillo in the west. Archaeological and historical research included a records search, literature review, examination of historic maps, and an intensive pedestrian survey of the Property.

Cultural resource work was conducted in accordance with the California Environmental Quality Act (CEQA) and its respective implementing regulations and guidelines. The County of Imperial will assume the role of lead agency for the Project.

The record search was conducted by the South Coastal Information Center (SCIC) at San Diego State University to identify any previously recorded cultural resources within the Project area and to determine the types of resources that might occur in the Project area. The records search identified five cultural studies and six resources (all designated as Historic) previously recorded within a half-mile search radius, with no previously recorded resources identified within the Project area.

A Native American Contact Program has been initiated to ascertain further prehistoric knowledge from the local Tribes and the Native American Heritage Commission. The Native American Heritage Commission notified Imperial County of a positive result for the broader general area in a search of their Sacred Lands File for The Ewwiiaapaayp and Viejas Bands, who were contacted regarding the project and confirmed that the specific Project area does not overlap with their known Sacred Lands Site(s).

In addition to the archival research, Bobby Bolger, RPA conducted an intensive pedestrian survey of the Project area on March 8, 2023. Overall surface visibility within the Project area was good within the southern portion of the Project area having very high surface visibility attributed to being raw and lightly vegetated desert landscape while the northern portion of the site had fair to poor surface visibility attributed to its use as an active agricultural field with crops currently growing throughout it. No new resources were discovered within the Project area. At the request of Imperial County, additional land south of the Project area was also surveyed and a single new resource (a Historic trash dump) was identified and recorded south of the project site along the eroding cliffs overlooking the New River. Based on its location well outside the Project boundaries, it is not expected to be impacted by Project construction or activities. No further archaeological work is recommended at this time.

In the event unanticipated, buried prehistoric archaeological resources (lithic material, faunal, pottery, etc.) or historical archaeological resources (ceramics, building materials, glassware, etc.) are unearthed during construction or any ground disturbing activities within the Project area, additional resource treatments would become necessary. Once a potential resource has been identified, all work within 100 feet must be halted until the find can be assessed by a qualified archaeologist.

If human remains are encountered during the proposed work, no further excavation or disturbance may occur in the vicinity of the find until the County coroner has been contacted. California Health and Safety Cod 7050.5 states (a) Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the Public Resources Code. (b) In the event of discovery or recognition of any human remains in any location other than a dedicated

cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains area discovered has determined that the remains are not subject to the provisions of Section 27481. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or to his or her authorized representative, notifies the coroner of the discovery if recognition of human remains. (c) If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

I. INTRODUCTION

A. Project Description

Tierra Environmental Services, Inc. (Tierra) conducted a cultural resources study in support of The Cal98 Holdings Trucking Facility Project (Project). The Project intends a zone change and Conditional Use Permit for the proposed plans to develop the property to construct a trucking facility to service the needs of vehicles utilizing the adjacent Highway 98, leading from the border town of Calexico in the east to the community of Ocotillo in the west.

The Project site is situated on APN/Parcel 058-080-001 immediately west of Calexico in southern Imperial County, California (Figure 1). The Project site is located immediately southwest of the intersection of Dogwood Road and California State Route 98, approximately 0.8 miles north of the Mexico/U.S. Border, and adjacent to (north of) the New River that connects to the Salton Sea. The Project site is located 0.2 miles west of the All-American Canal and shares its northern border with California State Route (SR) 98 (SR-98 within Section 11, Township 17 South, Range 14 East, on the Heber 7.5' California (1:24,000) USGS Quadrangle (Figure 2). Surrounding land uses include residential, industrial, commercial, and agricultural land (Figure 3).

Cultural resource work was conducted in accordance with the California Environmental Quality Act (CEQA) and its respective implementing regulations and guidelines. The Imperial County Planning & Development Services Department will act as the "Lead Agency" for the Project.

B. Project Personnel

The cultural resource inventory has been conducted by Tierra Environmental Services (Tierra), whose cultural resources staff meets federal, state, and local requirements. Dr. Michael G. Baksh served as Principal Investigator and provided overall Project management. Dr. Baksh has a Ph.D. in Anthropology from the University of California at Los Angeles and has more than 35 years conducting archaeological investigations within the southwestern United States in compliance with Section 106 of the NHPA. Mr. Bobby Bolger, RPA served as primary report author and field crew chief. Mr. Bolger has a B.A. in Anthropology from the University of California at Berkeley, an Ed.M from SUNY Buffalo and 16 years of experience in southern California archaeology. Resumes of lead Project personnel are included in Appendix A.

C. Structure of the Report

This report follows the State Historic Preservation Office's guidelines for Archaeological Resource Management Reports (ARMR). The report introduction provides a description of the project and associated personnel. Section II provides background on the Project site and previous research. Section III describes the research design and survey methods, while Section IV describes the inventory results, including individual site descriptions. Section V provides a summary and recommendations.

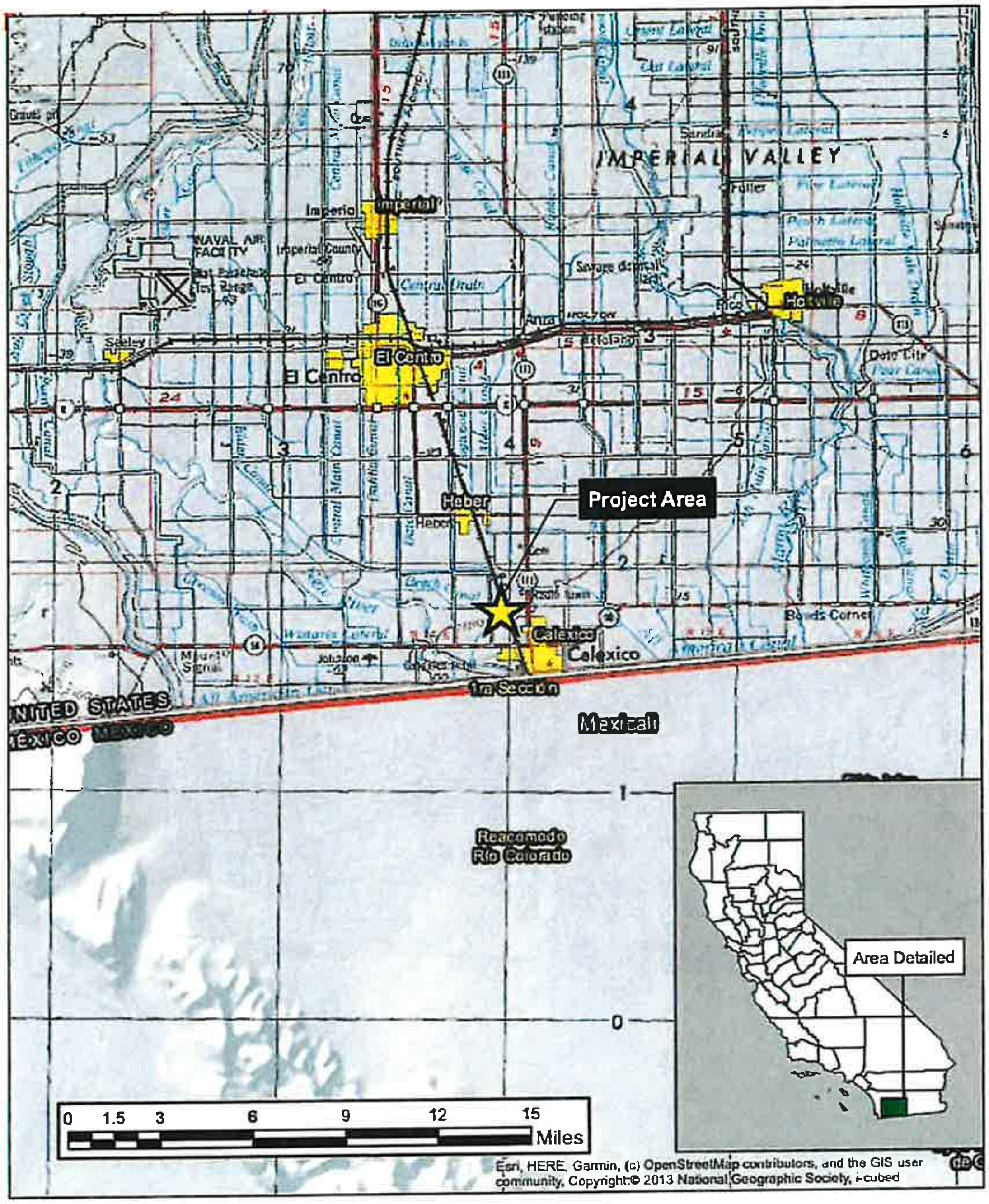

Figure 1. Regional Location Map

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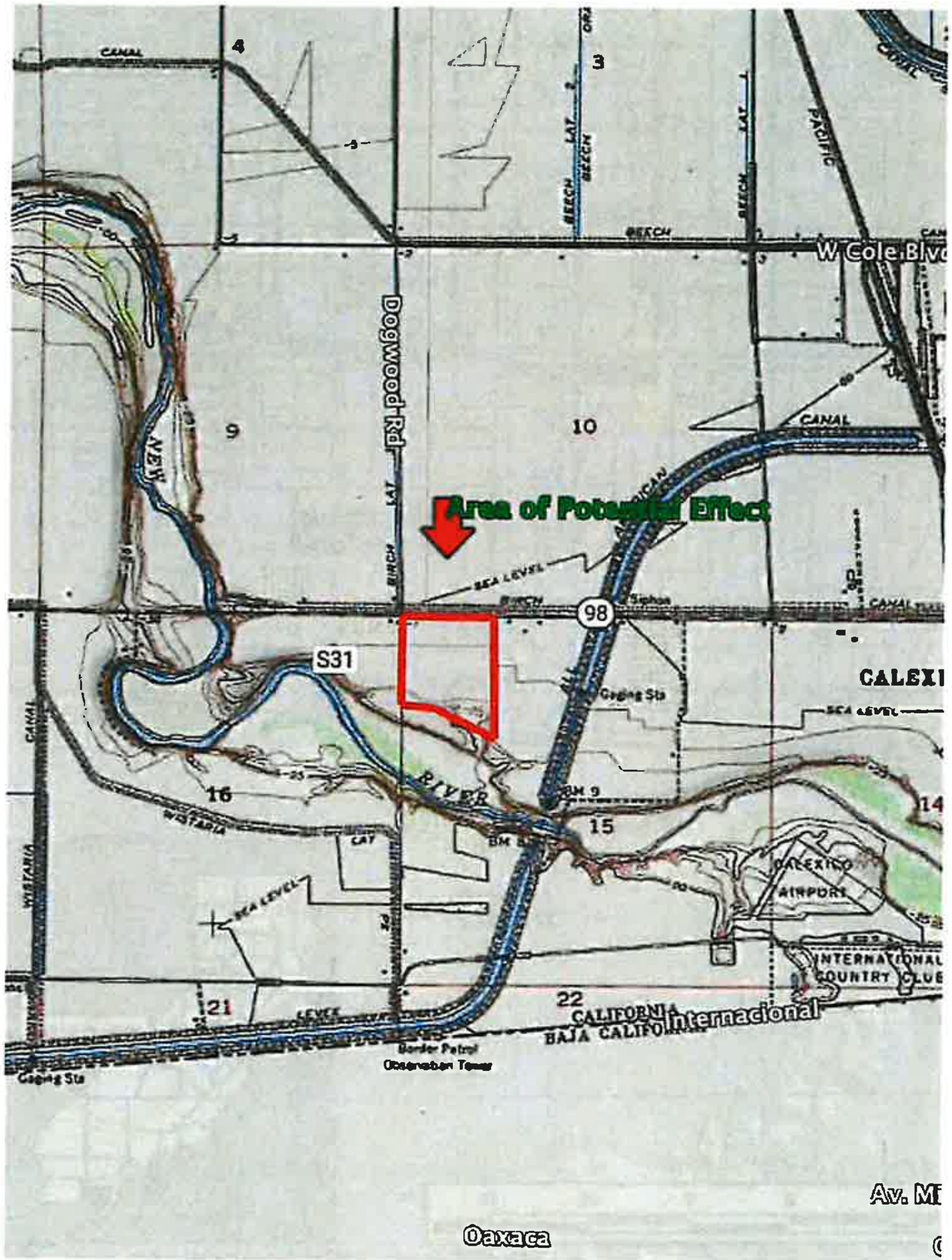

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Copyright:© 2013 National Geographic Society, i-cubed

USGS 7.5' Quadrangle:

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Figure 2. Project Location Map

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Imagery Date: May 2023

Figure 3. Area of Potential Effects

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EEC ORIGINAL PKG

PC ORIGINAL PKG

II. NATURAL AND CULTURAL SETTING

The following environmental and cultural background provides a context for the cultural resource inventory.

A. Natural Setting

The Project area is relatively flat and is located in what was once the lakebed of the prehistoric Lake Cahuilla. During the late Cretaceous (>100 million years ago) a granitic and gabbroic batholith was being formed under and west of the Project area. This batholith was uplifted and now forms the granitic rocks and outcrops of the San Jacinto Mountains. At about the same time that these mountains were being uplifted, the Salton Trough was dropping, reaching points well below sea level. The Salton Trough to the north of the Project area began slowly filling with sediments from streams draining the adjacent mountains and from the Colorado River. The Colorado River occasionally shifted from its Gulf of California delta and flowed north into the Salton Trough, forming freshwater Lake Cahuilla.

At its highest level, this body of water covered more than 60 miles of the lowest portion of the basin. Lake Cahuilla was a resource that had profound effects on the prehistoric people who lived in the Project area and groups in the surrounding region. This lake probably last existed in the 1500s (Laylander 1994). It supplied the southern Coachella Valley and northern Imperial Valley with not only water but other lacustrine resources such as freshwater mussels, waterfowl, and fish. Even without the support of direct flow from the Colorado River, the Salton Basin, Borrego, and other dry lake basins would sometimes contain seasonal shallow ponds supplying additional water resources (Bean 1972).

The proposed Project area is located approximately 0.8 miles north of the Mexico/U.S. Border, 0.2 miles west of the All-American Canal, directly adjacent and south of State Route 98, and a few hundred meters north of the New River that connects to the Salton Sea. Nearby existing developments include residential, industrial, commercial, and agricultural land.

The City Calexico (City) is a port of entry and trade and shipping center within Imperial County. The City is heavily characterized by industrial, agricultural, and residential development. The Property is just north of the U.S. and Mexico border and the city of Mexicali, Mexico. The City is incorporated and within the jurisdiction of the County of Imperial Valley.

The Project site is located in the southern portion of Imperial County. The elevation of the Property ranges from two feet Below Mean Sea Level (BMSL) to ten feet Below Mean Sea Level. The area is composed of disturbed land consisting of active agricultural fields in the north, vacant desert land interrupted by offroad and target shooting activity in the south, and a small canal alongside the private Kemp Road at the very eastern boundary. There are no permanent structures within the Project site. In the immediate vicinity of the Project site, agricultural fields, vacant desert land, and State Route 98 are visible. Residential development is present just east of the Project site and adjacent to and east of the All-American Canal. The area consists of flat terrain with the active agricultural fields slightly terraced to allow for irrigation via the canals.

The Project area is dependent on water imported from the Colorado River via the All-American Canal located 0.2 miles east of the Project site. This resource has made water readily available for domestic use and agriculture. The New River, located just to the south of the Project site, is not a viable water source due to its contaminated state. The New River is considered to be one of the most polluted rivers in the United

States. The river originates in Mexicali, Mexico, and flows into the U.S. through the City of Calexico. The New River is one of the largest public health issues the County has faced (City of Calexico 2020).

The soils series present within the Project site consists of Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes (USDA N.D.). The Imperial series are typically pinkish gray and light brown, calcareous, silty clay to depths of 60 inches or more. Vegetation consists of saltbush, creosotebush, Sueda, and Allenrolfea; mesquite and Tamarix grow where their roots can reach ground water (USDA 2015). The Glenbar series consists of very deep, well drained soils that formed in stratified stream alluvium. Glenbar soils are on flood plains and alluvial fans and have slopes of 0 to 3 percent. Vegetation consists of creosotebush, mesquite, paloverde, ironwood, salt cedar, cacti, annual weeds and grasses (USDA 2015).

Animal resources in the region include coyotes, rabbits, and various rodent, reptile, and bird species. Coastal resources are located more than 90 miles west and include shellfish and other animal species.

B. Cultural Setting

Paleoindian Period

The earliest well documented prehistoric sites in southern California are identified as belonging to the Paleoindian period, which has locally been termed the San Dieguito complex/tradition. The Paleoindian period is thought to have occurred between 12,000 years ago, or earlier, and 8,000 years ago in this region. Although varying from the well-defined fluted point complexes such as Clovis, the San Dieguito complex is still seen as a hunting focused economy with limited use of seed grinding technology. The economy is generally seen to focus on highly ranked resources such as large mammals and relatively high mobility which may be related to following large game. Archaeological evidence associated with this period has been found around inland dry lakes, on old terrace deposits of the California desert, and also near the coast where it was first documented at the Harris Site.

Early Archaic Period

Native Americans during the Archaic period had a generalized economic focus on hunting and gathering. In many parts of North America, Native Americans chose to replace this economy with types based on horticulture and agriculture. Coastal southern California economies remained largely based on wild resource use until European contact (Willey and Phillips 1958). Changes in hunting technology and other important elements of material culture have created two distinct subdivisions within the Archaic period in southern California.

The Early Archaic period is differentiated from the earlier Paleoindian period by a shift to a more generalized economy and an increased focus on use of grinding and seed processing technology. At sites dated between approximately 8,000 and 1,500 years before present, the increased use of groundstone artifacts and atlatl dart points, along with a mixed core-based tool assemblage, identify a range of adaptations to a more diversified set of plant and animal resources. Variations of the Pinto and Elko series projectile points, large bifaces, manos and portable metates, core tools, and heavy use of marine invertebrates in coastal areas are characteristic of this period, but many coastal sites show limited use of diagnostic atlatl points. Major changes in technology within this relatively long chronological unit appear limited. Several scientists have considered changes in projectile point styles and artifact frequencies within the Early Archaic period to be indicative of population movements or units of cultural change (Moratto 1984) but these units are poorly defined locally due to poor site preservation.

During the 1940s and 1950s, D.L. True located a number of Archaic Period sites in inland northern San Diego County that appeared to exhibit an assemblage different from the coastal Archaic material (True 1958, 1980; True and Beemer 1982). These sites were typically on small saddles and hills overlooking stream drainages and were characterized mainly by surface artifact scatters of basin and slab metates, manos, some scraper planes, debitage and rarely discoidals. True originally called this material "Old Complex" sites and later the Pauma Complex (True 1958; True and Beemer 1982). True and Beemer concluded after an examination of a number of Pauma sites, that it was still too early to determine whether there was a relationship between the La Jolla and Pauma materials, and whether that relationship is "temporal, economic, or cultural in nature" (1982:258). Given that the distance between the two very different environments (coastal and inland) is only a few dozen kilometers, and the sites appear to be contemporaneous, it seems most rational that the different materials are seasonal manifestations of a typical single Archaic mobility strategy using coastal and inland resources.

Similar environmental variability exists in the Archaic in the Southwest and other regions, and all varying sites are considered to be different aspects of annual positioning strategies of the same hunter-gatherer groups (Bayham et al. 1986; Sayles 1983; Sayles and Antevs 1941). It seems likely that this is the case in northern San Diego County, but as noted by True and Beemer, "ultimate resolution of this kind of problem requires a direct examination and analysis of each collection by the same investigator" (1982:258). This problem remains an important issue in southern California prehistory.

Late Archaic or Late Prehistoric Period

Around 2,000 B.P., Takic-speaking people from the Great Basin region began migrating into southern California, representing what is called the Late Prehistoric period. The Late Prehistoric period in this portion of Imperial County is recognized archaeologically by smaller Projectile points, the replacement of flexed inhumations with cremation, the introduction of ceramics, and an emphasis on inland plant food collection and processing, especially acorns and mesquite (Kroeber 1925). Inland semi-sedentary villages were established along major water courses and around springs, and montane areas were seasonally occupied to exploit mesquite, acorns, and piñon nuts. Mortars for mesquite and acorn processing increased in frequency relative to seed grinding basins.

The most numerous of the archaeological resources in the Imperial Valley date to the Late Prehistoric period. The majority of the sites studied were small processing sites, associated with the grinding of vegetal resources and dating to the Late Prehistoric period. Larger habitation sites were less common, but displayed a wider range of activities and longer periods of occupation (Jefferson 1974). Typical artifacts at these sites include Desert Side-notched and Cottonwood Triangular Projectile points and Lower Colorado Buff Ware and Tizon Brown Ware ceramics. Lithic artifacts are typically made from chert, volcanic, or quartz material.

The Kamia or Desert Kumeyaay occupied the Project area during this period. The Kamia are a subgroup of the Yuman family of the Hokan stock, and are therefore closely related linguistically to the Mohave, Quechan, Maricopa, Paipai, Cocopa and Kiliwa (Kendall 1983:5). The extreme diversity of Cahuilla territory nearly reflected the range of environmental habitats allowed in inland southern California. Topographically, their territory ranged from the New River and Alamo River sloughs to San Felipe Creek in the north and east to the Algodones Dunes. Ecological habitats included the full range of mountains, valleys, passes, foothills, and desert area (Shipek 1982).

Group size and the degree of social interaction therefore varied over the course of an annual cycle. The basic unit of production was the family, which was capable of great self-sufficiency, but Kamia/Kumeyaay families, like other hunter-gatherers, moved in and out of extended family camps or villages opportunistically as problems or opportunities arose (Lawton and Bean 1968). Thus, whereas single families occasionally exploited low-density, dispersed resources on their own, camps or villages of several families formed at other times, particularly when key resources (such as water) were highly localized.

Going beyond the basic social unit of the family, the Kamia/Kumeyaay were organized by some form of descent system. From the available ethnographic data it is not immediately obvious as to whether they were organized into lineages or clans. Indeed, their features of social organization appear to have shared some qualities of both systems, and it may be speculated that the society had begun evolving from a lineage system to a clan system prior to the time of Western contact. In any case, the Kamia/Kumeyaay traced their descent patrilineally (i.e., through one's father), were exogamous at the level of the descent group (i.e., one had to marry outside one's own lineage or clan), and practiced patrilocal residence (i.e., a married woman lived with her husband's father's relatives). Descent groups apparently "owned" land and certain other resources. According to Kroeber (1925:720), "It would appear that each "clan" owned a tract and that each locality was inhabited by members of one clan, plus their introduced wives". Regarding other resources, Spier (1923:307) observed that some "gens" (i.e., clans) owned patches of certain trees and "Each gens owned one or more eyries from which eaglets were taken for use in the mourning ceremony". Apparently, however, resource ownership did not extend to the oak groves in the mountains (ibid), which probably reflects the extreme importance placed upon this resource for the adaptation and survival of the entire society. Gifford (1931: 50-51) reported that the Kamia had no clan chiefs and recognized a tribal chief like the Quechan, however this form of leadership may have been introduced after European contact.

Important plant foods exploited from the Kamia's diverse habitat included mesquite and screw beans, pinyon nuts, and various cacti. Important but less utilized plants included various seeds, wild fruits and berries, tubers, roots, and greens. Women were instrumental in the collection and preparation of vegetal foods (Gifford 1931).

The extent to which the Kamia/Kumeyaay practiced agriculture at the time of European contact has not been established. Gifford (1931) felt that agriculture, which had been well established among the Colorado River groups at the time of Western influence, had diffused into the Imperial Valley and was practiced by all of the Kamia lineages. Similarly, Lawton and Bean (1968) have suggested that certain Cahuilla groups cultivated corn, beans, squash and melons, like the neighboring Colorado River tribes.

Kamia culture and society remained stable during the period of missionization on the coast. It was not until the American period that Kamia were heavily displaced. The introduction of European diseases greatly reduced the native population of southern California and further disrupted the way of life of the native inhabitants (Lawton and Bean 1968).

Ethnohistoric Period

The Ethnohistoric period refers to a brief period when Native American culture was initially being affected by Euroamerican culture and historical records on Native American activities were limited. When the Spanish colonists began to settle California, the Kamia were on the margins of the mission system. They retained more of their culture due to their distance from mission influence. Although clans moved from place to place within their general territory, some locations were occupied for longer periods and by more people than others (Almstedt 1982:13). These settlements, which may be regarded as villages, "were places to which the people returned from their foraging, where they spent winter months, sometimes in association with other clans Some larger groups appear to have had sizable summer as well as winter villages" (Almstedt 1982:13). Within each village there was a dance floor, extensive milling stations, family living areas, and possibly a sweathouse and granary. If it was a winter camp, a house would have been set directly on the ground and a fireplace built on the ground by the door (Spier 1923:338).

European contact introduced disease that dramatically reduced the Native American population and helped to break down cultural institutions. The transition to a largely Euroamerican lifestyle occurred relatively rapidly in the nineteenth century.

C. Prior Research

The archaeological inventory includes archival and other background studies in addition to Tierra's field survey of the Project. The archival research consisted of literature and records searches at local archaeological repositories in addition to an examination of historic maps, aerial photographs, and historic site inventories. This information was used to identify previously recorded resources and determine the types of resources that might occur in the survey area. The methods and results of the archival research are described below.

The records and literature search for the Project was conducted at the South Coastal Information Center at San Diego State University. The records search included a half-mile radius of the Project site to provide background on the types of sites that would be expected in the region (Appendix B). The records search identified a total of five archaeological investigations, and six previously recorded resources within a half-mile radius of the Project site. Table 1 summarizes the investigations, and Table 2 summarizes the resources. Historic research included an examination of a variety of resources. The current listings of the National Register of Historic Places (NRHP) were checked through the NRHP website. The California Inventory of Historic Resources (State of California 1976) and the California Historical Landmarks (State of California 1992) were also checked for historic resources.

The 1957 Heber (1:62500) USGS Quadrangle shows the presence of no buildings/structures within the Project site. The All-American Canal is visible to the east of the Project site. Kemp Road along the eastern edge of the project is visible but unnamed in the map. No buildings/structures are visible on the most recent topographic maps ranging from 2012 to 2021 (1:24000) USGS Quadrangle, and no evidence of any permanent structures having existed within the Project site were found.

Table 1. the APE	Cultural Resource Investigations Previously Conducted Within a Half-Mile Radius of **shaded (or bolded) entries indicate intersection with current APE*		
Report #	**Title**	**Author**	**Year**
IM-00643	Archaeological Examination of the Proposed Ramirez RV Park in Calexico, California	Von Werlhof, Jay et al.	1999
IM-00997	Nextel Wireless Telecommunications Site CA5850A	Wlodarski, Robert J.	2006
IM-01252	Draft Environmental Impact Report - Los Lagos Specific Plan, Calexico, California	HDR	2007
IM-01584	"First Supplemental Historic Property Survey Report for the State Route 98 Widening, Phase 1-B, City of Calexico, Imperial County"	Tsunoda, Koji	2015
IM-01638	Cultural Resources Survey Dogwood – CA/Ensite #17431	Perez, Don C.	2014

Table 2	Cultural Resources Previously Recorded Within a Half-Mile of the APE **shaded entries indicate intersection with the current APE*		
Site	**Description**	**Recorder**	**Year**
P-13-007130	Historic Structure. Four-mile segment of an abandoned portion of the original All-American Canal.	HDR, Inc.	1994
P-13-008912	HP04 (Ancillary Building)	Harris Arch Cons.	2005
P-13-008913	AH06 (Water Conveyance System)	Harris Arch Cons.	2005
P-13-008914	AH11 (Walls/fences) Fence	Harris Arch Cons.	2005
P-13-014488	AH04 (Privies/dumps/trash scatters)	ASM Affiliates	2013

Historic aerial photographs, dating from 1953 to 2020, were also analyzed. The 1953 historic aerial photograph shows an almost completely unchanged land usage as is observed in the modern day. This is mirrored in the 1984, 1996, 2002, 2012, and 2020 aerials. From all available evidence, and to the degree of certainty that can be obtained via the resolution of the pictures available, the land usage, agricultural field distribution, and layout of the area has remained the same since at least 1953 (Historic Aerials 2022).

The records search identified a total of six previously recorded cultural resources within a half-mile radius of the Project site. These records provide an idea of the types of cultural resources that might be expected within the Project site. As indicated in Table 2 all of the recorded cultural resources in the project vicinity are historic in age. These sites are composed of a portion of the All-American Canal, a historic building, a historic water conveyance system, a historic fence, and a historic trash scatter.

III. RESEARCH DESIGN AND METHODS

A. Survey Research Design

The goal of the project was to identify any cultural resources that might be affected by the proposed action. To accomplish this goal, background information was examined and assessed, and an intensive pedestrian field survey was conducted to identify cultural remains. Based on the records search and historic map check, cultural resources were not anticipated to be present within the Project site, however, due to the presence of a portion of the All American Canal as well as the New River within the vicinity of the Project site, the presence of historic artifacts and sites was determined as possible, therefore, an intensive pedestrian survey was conducted.

B. Survey Methods

The literature search for the project was conducted at the South Coastal Information Center of the California Archaeological Inventory at San Diego State University. This records search included site records and reports for the Project site and a half-mile radius of the project along with historic research.

The survey of the Project site was conducted by Bobby Bolger, RPA (Tierra Environmental Senior Archaeologist) on March 8, 2023. The intensive survey used 10-meter transects.

Resources identified during the survey were assigned consecutive temporary numbers (*e.g.* PFTT-TES-001) in the field. Furthermore, temporary numbers may contain an "H" suffix, used to denote historic period resources (*e.g.* PFTT-TES-001H) or in the case of a resource representative of both historic and prehistoric periods, the suffix "/H" was added (*e.g.* PFTT-TES-001/H). Resources identified as isolates received an "i" to indicate isolated finds. As per industry standards, historic artifacts or features were recorded in feet and inches while prehistoric resources were recorded using the metric system. All resources assigned with a temporary number will be given permanent trinomials or primary numbers by the SCIC. No ground disturbing activities or artifact collections were undertaken during the course of this study.

IV. SURVEY RESULTS

An intensive pedestrian survey was conducted for the proposed Project by Senior Archaeologist Bobby Bolger, RPA from Tierra Environmental Services on March 8, 2023. The study was conducted to identify potential cultural resources previously not identified within the Project site. Visibility was good in the southern portion of the project area 95% to 100% and fair to poor 25%-50% in the northern agricultural portion of the project area, and the survey utilized 15-meter transects.

The Project site is composed of agricultural fields in the northern portion of the Project area and vacant desert land marred by arroyos, target shooting activity, and offroad usage in the southern portion. Significant trash, metal scraps, evidence of offroad activity, and almost ubiquitous evidence of target shooting were present in the southern portion of the Project area. A historic trash deposit was located south of the Project area's boundaries along the ridgeline overlooking the New River and it is possible that some of the non-diagnostic glass shards and metal debris located throughout the southern portion of the project was also of a historic age, but due to a lack of identifiable characteristics, the fragmentary nature of the debris, and the seeming modern nature of the target shooting and offroad activity that accounted for its current location, no historic resources were noted within the Project area.

The literature and records search identified no previously recorded resources within the Project site, and the survey resulted in no newly recorded cultural resources within the Project site.

As Imperial County had requested that the survey include some transects south of the Project, between the southern project boundary and the New River, further work south of the Project area was included in the survey and resulted in the discovery of a Historic trash dump approximately 225 feet south of the southern APN boundary for the Project. This site is not expected to be impacted by Project construction.

Photograph 1. Agricultural Fields (APN 058-080-001-000), View South

Photograph 2. Vacant Desert Land (APN 058-080-001-000), View Northwest

Photograph 3. Agricultural Fields and Canal (APN 058-080-001-000), View South Southwest

Photograph 4. Evidence of Offroading Activity (APN 058-080-001-000), View South Southeast

V. SUMMARY AND RECOMMENDATIONS

This cultural investigation was undertaken in response to the proposed Cal98 Holdings Trucking Facility Project, which included a pedestrian survey, a record search at the SCIC, and a Native American Contact Program. The goal of the project was to identify resources that may be impacted by the project.

The Project intends a zone change and Condition Use Permit for the proposed plans to develop the property for use as a trucking facility along State Route 98.

A pedestrian survey was conducted to ascertain if any cultural resources may be present within the Project area and subsequently impacted by the proposed Project. The results of the pedestrian survey were negative with no previously or newly recorded resources identified within the Project site. Significant trash and debris were located within the southern portion of the site and the only permanent facilities within the Project area are an agricultural canal and dirt road. These facilities are not known to be affiliated with anyone of significance, contribute to any broad pattern of local cultural heritage, nor yield additional information to local history further making it not eligible for listing on the CRHR. These facilities are not considered culturally significant; therefore, they were not recorded as historic resources.

A records search resulted in five cultural studies previously conducted within a one-half mile radius of the Project area and six previously recorded resources identified within a mile radius of the Project site, none of which have been recorded within the Project site.

A Native American Contact Program has been enacted with local Tribes and the Native American Heritage Commission. Calls were placed to Ewwiiaapaayp and Viejas Bands of the Kumeyaay over a potential positive result of the Sacred Lands File, but both governments formally responded to inform Tierra Environmental Services that the Project area did not contain areas of sensitive cultural importance to their respective tribal organizations.

A. Regulatory Framework

For the purposes of this report, cultural resources describe any expression of human activity on the landscape whether past or present. Within the cultural resources framework are resource types including but not limited to, prehistoric archaeological sites, historical archeological sites, districts, historical buildings and structures, ethnographic sites, Traditional Cultural Properties (TCPs), and isolated artifacts and features. Each of these resources may be evaluated for their potential significance, and if determined eligible to the California Register, are designated as "historic properties".

This archaeological investigation was conducted in compliance with California Environmental Quality Act (CEQA) requirements pertaining to the determination of whether the proposed Project may have an affect on significant cultural resources (PRC 21083.2 and CCR 15064.5). According to CEQA, an impact is considered significant if it would disrupt or adversely affect a prehistoric or historic-era archaeological site or a property of historic or cultural significance to a community, ethnic or social group. The State CEQA Guidelines define a significant historical resource as a resource listed or eligible for listing on the California Register of Historic Resources (CRHR) (PRC 5024.1). A historical resource may be eligible for inclusion in the CRHR if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or is likely to yield, information important in prehistory or history.

Significant cultural resources may be avoided by the proposed Project through a redesign of the Project or construction planning, or protected and preserved through various means. If avoidance or protection of a significant cultural resource is not possible, mitigation measures shall be required as set forth in Public Resources Code 21083.2 (c-1). A non-significant cultural resource need not be given any further consideration (PRC 21083.2 [h]).

B. Recommendations

Of the six resources recorded within a mile radius of the Project site, none have been previously recorded within the Project site and no new cultural resources were recorded within the Project area during the intensive pedestrian survey. A historic trash dump was located south of the Project area but is not expected to be impacted by Project activities. No further archaeological work is recommended at this time.

VI. REFERENCES

Almstedt, Ruth F.
1982 Kumeyaay and `Ipay. In APS/SDG&E Interconnection Native American Cultural Resources, edited by Clyde M. Woods, pp. 6-20. Wirth Associates, Inc., San Diego

Gifford, E.W.
1931 The Kamia of Imperial Valley. *Bureau of American Ethnology*, Bulletin 98.

Historic Aerials
2022 Online Aerial Photographic Search.
Available: <http://www.historicaerials.com/default.aspx>. Accessed: June, 2022

Jefferson, G.T.
1974 A Research Strategy for Interior Southern California Archeology. In *Perris Reservoir Archaeology, Late Prehistoric Demographic Change in Southeastern California.* Edited by James F. O'Connell, Philip J. Wilke, Thomas F. King, and Carol L. Mix. State of California Resources Agency, Department of Parks and Recreation, Division of Resource Management and Protection, Cultural Resources Section. Sacramento, California.

Kendall, Martha B.
1983 "Yuman languages". In *Southwest*, edited by Alfonso Ortiz, pp. 4-12. Handbook of North American Indians, William C. Sturtevant, general editor, Vol. 10. Smithsonian Institution, Washington, D.C.

Kroeber, A. L.
1925 Handbook of the Indians of California. *Bureau of American Ethnology Bulletin 78.* Smithsonian Institute, Washington. Reprinted in 1976 by Drover Publications, New York.

Lawton, H. W. and L. J. Bean
1968 A preliminary reconstruction of aboriginal agricultural technology among the Cahuilla. *Indian Historian* 1(5):18-24,29.

Laylander, Don
1994 Phase III Data Recovery at the Elmore Site (CA-IMP-6427) Imperial County, California. Unpublished report on file at Tierra Environmental Services.

Moratto, Michael
1984 *California Archaeology.* Academic Press, Inc., Orlando, Florida.

Shipek, Florence
1982 The Kamia. In APS/SDG&E Interconnection Project: Native American Cultural Resources, edited by Clyde Woods, pp. 21-33. Wirth Associates, Inc., San Diego.

Spier, Leslie
1923 Southern Diegueño Customs. *University of California Publications in American Archaeology and Ethnology* 20:292-358.

United States Department of Agriculture (USDA)
2022 Soil Survey, Natural Resources Conservation Service. Imperial County. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Willey, G. R. and P. Phillips
1958 *Method and Theory in American Archaeology*. University of Chicago Press.

Bayham, Frank E., Donald H. Morris, and M. Steven Shackley
1986 Prehistoric Hunter-Gatherers of South Central Arizona: The Picacho Reservoir Archaic Project. *Anthropological Field Studies 13*, Arizona State University, Tempe.

Bean, Lowell John and Florence Shipek
1978 Luiseño. In *California*, edited by Robert F. Heizer, pp 550-563. Handbook of North American Indians, vol. 8. Smithsonian Institution, Washington, D.C.

City of Calexico
2020 Water Treatment and Distribution Operations. Official Website of Calexico, California. Available at:https://www.calexico.ca.gov/?SEC=2163A48C-5905-44F8-8DE7-6A8BCC741D08. Accessed 06/03/2022.

Moratto, J. R.
1984 *California Archaeology*. Academic Press, Inc.

Sayles, E.B.
1941 *The Cochise Culture*. Medallion Papers 29, Gila Pueblo, Globe, Arizona.

1983 *The Cochise Cultural Sequence in Southeastern Arizona*. Anthropological Papers of the University of Arizona 42, Tucson.

State of California, Department of Parks and Recreation.
1976 *California Inventory of Historic Resources*. Department of Parks and Recreation, Sacramento, California.

1992 *California Historical Landmarks*. Department of Parks and Recreation, Sacramento California.

True, D.L.
1958 An Early Complex in San Diego County, California. *American Antiquity*, 23(3):255-263.

1959 Department of Parks and Recreation Site Record: CA-SDI-516

1970 *Investigation of a Late Prehistoric Complex in Cuyamaca Rancho State Park, San Diego County, California*. Archaeological Survey Monograph, Department of Anthropology, University of California, Los Angeles.

True, D.L. and Eleanor Beemer
1982 Two Milling Stone Inventories from Northern San Diego County, California. *Journal of California and Great Basin Anthropology*, 4(2):233-261.

True, D. L., C. W. Meighan, and Harvey Crew

1974 Archaeological Investigations at Molpa, San Diego County, California. *University of California Publications in Anthropology Volume 11.* University of California Press, Berkeley.

USDA
N.D. Web Soil Survey. United States Department of Agriculture; Natural Resources Conservation Services. Available online at:
https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.
Date accessed: 06/06/2022.

2015 Official Soil Series Description. Available online at:
https://soilseries.sc.egov.usda.gov/osdname.aspx. Date accessed: 06/06/2022

Willey, G. R., and P. Phillips
1958 *Method and Theory in American Archaeology.* University of Chicago Press.

APPENDIX A

RESUMES OF PRINCIPAL PERSONNEL

CONFIDENTIAL APPENDIX
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APPENDIX B

ARCHAEOLOGICAL RECORDS SEARCH RESULTS

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NOISE STUDY REPORT
FOR
CAL98 CHARGER LOGISTICS PROJECT
CALEXICO, CALIFORNIA

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Job No. 7189

September 2022

This noise analysis was prepared in accordance with § 15063(d)(3) and Appendix G of the *State CEQA Guidelines* to determine the potential significant noise effects on the physical environment that could result from the implementation of the project.

NOISE STUDY REPORT
FOR
CAL98 CHARGER LOGISTICS PROJECT CALEXICO, CALIFORNIA

September 2022

Prepared by: ____________________ Date: ____________
UltraSystems Environmental Inc.

Prepared by: ____________________ Date: ____________
UltraSystems Environmental Inc.

Prepared by: ____________________ Date: ____________
UltraSystems Environmental Inc.

Reviewed by: ____________________ Date: ____________
UltraSystems Environmental Inc.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ATTACHMENT

1.0 INTRODUCTION

Charger Logistics Cal-98 Holdings, the applicant, proposes to build a project that includes 91,881 square feet of warehousing, 16,460 square feet of service space and 11,904 square feet of office space. Additionally, the project proposes to provide 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces.

The proposed project is located on the southwest corner of the State Route 98 (SR-98) and Kemp Road intersection in unincorporated Imperial County, California. The project proposes to provide warehousing, order fulfillment, logistics and transportation services. Trucks will travel to and from Mexico, San Diego, and Imperial County. Refer to **Figure 1.0-1**, **Figure 1.0-2** and **Figure 1.0-3**.

Because the site is in a "noise impact zone" as defined by the Noise Element of the Imperial County General Plan, the County requires that an acoustical analysis be performed. This report satisfies the acoustical analysis requirement. It includes a discussion of the fundamentals of sound; an examination of federal, state, and local noise guidelines and policies; a review of existing conditions; an evaluation of potential noise impacts associated with the project; and the mitigation for all identified significant or potentially significant impacts.

2.0 BACKGROUND INFORMATION

2.1 Characteristics of Sound

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The decibel (dB) scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale is based on a reference pressure level of 20 micropascals (corresponding to zero dBA). The scale ranges from zero (for the average least perceptible sound) to about 130 (for the average human pain level).

The normal range of conversation is between 34 and 66 dBA. Between 70 and 90 dBA, sound is distracting and presents an obstacle to conversation, thinking, or learning. Above 90 dBA, sound can cause permanent hearing loss. Examples of various sound levels in different environments are shown in **Table 2.1-1** (Typical Sound Levels).

Figure 1.0-1
REGIONAL LOCATION MAP

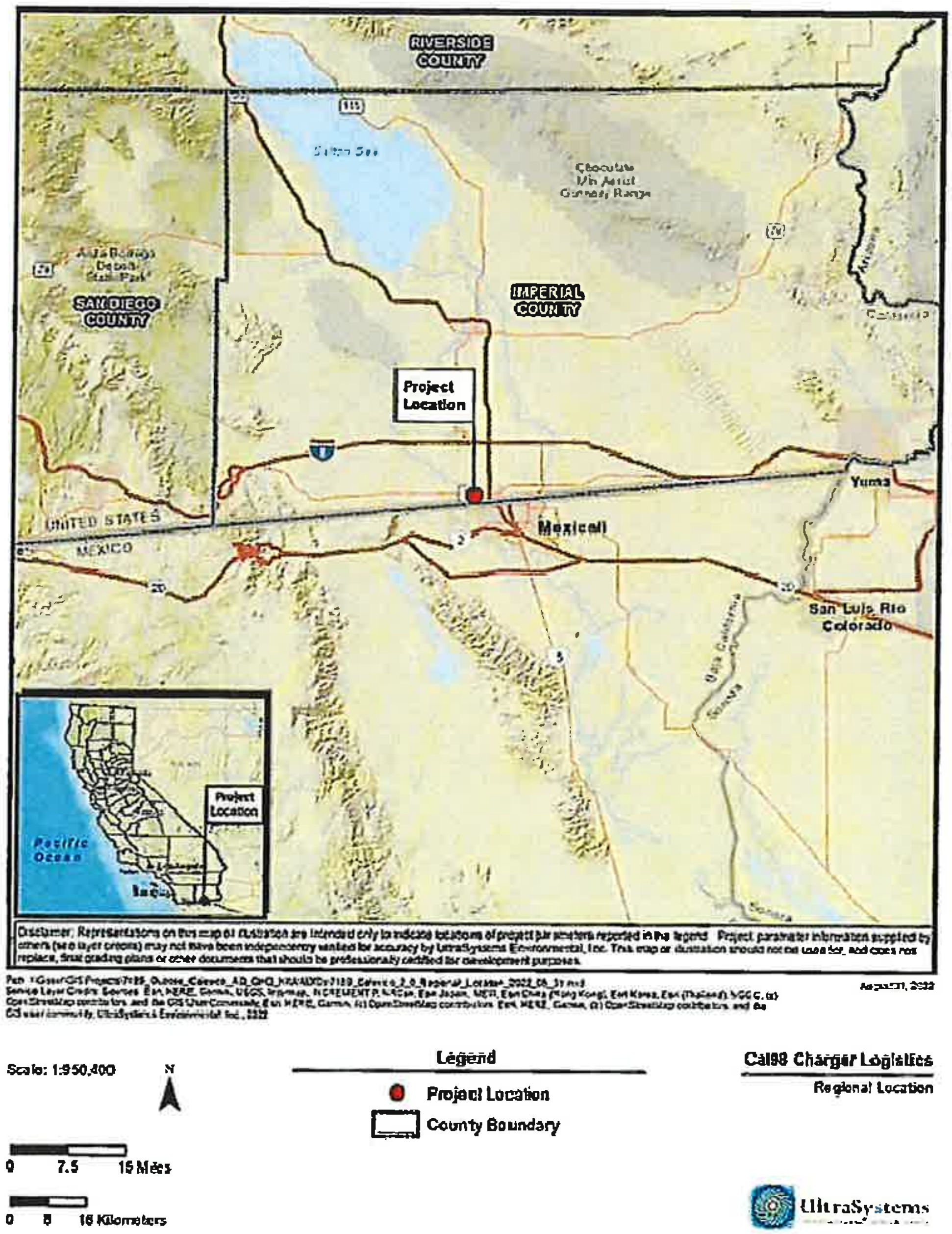

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Figure 1.0-2
PROJECT LOCATION MAP

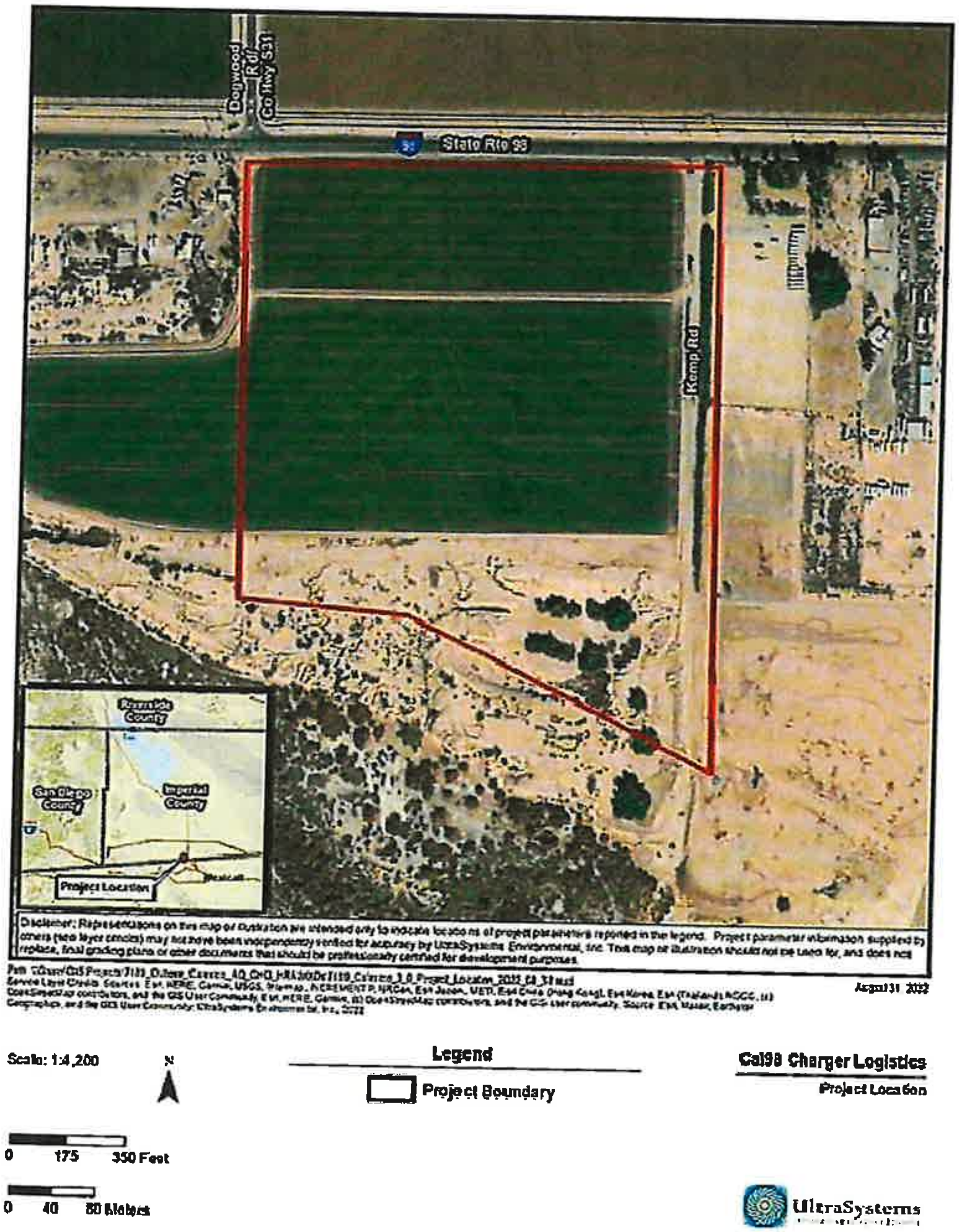

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Figure 1.0-3
PROJECT SITE PLAN

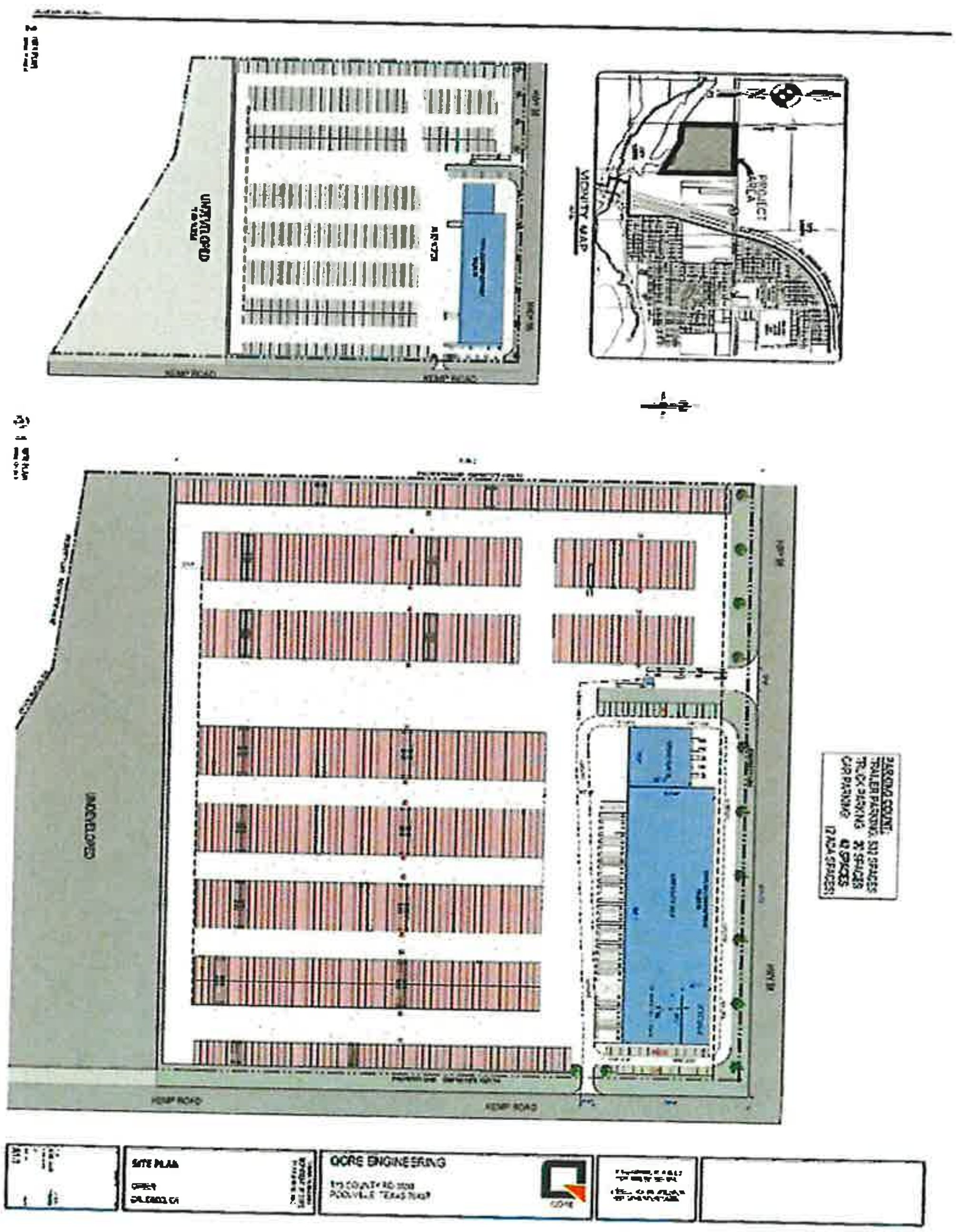

Table 2.1-1
TYPICAL SOUND LEVELS

Common Sounds	A-Weighted Sound Level in Decibels	Subjective Impression
Oxygen Torch	120	Pain Threshold
Rock Band	110	
Pile Driver at 50 feet	100	Very Loud
Ambulance Siren at 100 feet	90	
Garbage disposal	80	
Vacuum Cleaner at 10 feet	70	Moderately Loud
Air Conditioner at 100 feet	60	
Quiet Urban Daytime	50	
Quiet Urban Nighttime	40	Quiet
Bedroom at Night	30	
Recording Studio	20	Just Audible
	10	Threshold of Hearing
	0	

Sources: Aviation Planning Associates. 1978. Calculations of Maximum A-weighted Sound Levels (dBA) Resulting from Civil Aircraft Operations.

2.2 Noise Measurement Scales

Several rating scales have been developed to analyze adverse effects of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise on people depends largely upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq}, the equivalent noise level, is an average of sound level over a defined time period (such as 1 minute, 15 minutes, 1 hour or 24 hours). Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure.
- L_{90} is a noise level that is exceeded 90 percent of the time at a given location; it is often used as a measure of "background" noise.
- CNEL, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 5-dBA "penalty" added to noise during the hours of 7:00 p.m. to 10:00 p.m., and a 10-dBA penalty added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime.[1] The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.

L_{dn}, the day-night average noise, is a 24-hour average L_{eq} with an additional 10-dBA "penalty" added to noise that occurs between 10 p.m. and 7 a.m. The L_{dn} metric yields similar values (within 1 dBA) as does the CNEL metric. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

1 The evening weighting in the CNEL calculation is actually 4.77, but the Imperial County Noise Abatement and Control Ordinance defines it as 5.

A noise environment consists of a base of steady "background" noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway.

When evaluating environmental community noise levels, a 3-dBA increase over 24 hours is barely perceptible to most people. A 5-dBA increase is readily noticeable and is considered a potentially significant impact. A 10-dBA increase is perceived as a doubling of loudness and is a clearly significant impact.[2]

2.3 Noise Attenuation

The noise level from a particular source generally declines as the distance to the receiver increases. Other factors such as the weather and reflecting or shielding also intensify or reduce the noise level at any given location. Typically, a single row of buildings between the receiver and the noise source reduces the noise level by about 5 dBA. Exterior noise levels can normally be reduced by 15 dBA inside buildings constructed with no special noise insulation.[3] The U.S. Environmental Protection Agency (USEPA) estimates that residences in "warm" climates provide at least 12 dBA of exterior-to-interior noise attenuation with windows open and 24 dBA with windows closed.[4]

Noise from traffic on roads depends on the volume and speed of traffic and the distance from the traffic. A commonly used rule of thumb for traffic noise is that for every doubling of distance from the road, atmospheric spreading over "hard" or "soft" sites reduces the noise level by about 3 or 4.5 dBA, respectively. For a stationary source, the noise is reduced by at least 6 dBA for each doubling of distance. Further, because of the logarithmic nature of the decibel scale, a doubling of traffic on any given roadway or doubling a stationary source would cause a noise increase of approximately 3 dBA.

2.4 Noise Sensitive Receivers

This noise analysis focuses primarily upon project impacts on sensitive noise receivers located near the project site or along roadways that would carry project-generated traffic. Such noise-sensitive land uses in the project area are single-family residences.

3.0 PROJECT DESCRIPTION

The project will begin construction in June 2023 and end in February 2024. The total construction duration will be almost nine months. The construction phases include site preparation, grading, building construction, paving and architectural coating.

3.1 Current Operations

The project site is currently used in alfalfa cultivation.

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2 U.S. Environmental Protection Agency (US EPA), 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. March.

3 U.S. Department of Housing and Urban Development (HUD), 1985. Noise Guidebook.

4 U.S. Environmental Protection Agency, Protective Noise Levels. Condensed Version of EPA Levels Document, Office of Noise Abatement and Control, Washington, DC, EPA-550/9-79-100 (November 1978).

3.2 Future Operations

The project consists of adding a warehouse building on the north side of the project area along SR-98, trailer parking (832 spaces), truck parking (20 spaces), car parking (42 spaces), and landscaping bordering the entire project. According to the transportation impact analysis (TIA) for the project,[5] 100 heavy-duty trucks are expected to access the site between 9 a.m. and 9 p.m. daily. Employee commuting, visitors and deliveries are expected to total about 30 average daily trips (ADT). The TIA estimates that 65 percent of the inbound trucks will be from Mexico, 15 percent will be from San Diego and the remainder from the north in Imperial County.[6] Outbound destinations will be to Mexico (30 percent), San Diego (50 percent) and Imperial County (20%).

3.3 Construction Activities and Schedule

Areas of project components are summarized in **Table 3.3-1.**

Table 3.3-1
CONSTRUCTION CHARACTERISTICS

Site Element	Area
Warehouse	91,881 square feet
Two Story Office	5,952 square feet
Service Station	16,460 square feet
Total Building Footprint	**114,293 square feet**
Parking	894 spaces
Landscaping	0.37 acre
Source: Site plan prepared by Qore Engineering, Poolville, TX, July 19, 2022.	

As seen in **Table 3.3-2,** construction will comprise five phases.

Table 3.3-2
PROJECT CONSTRUCTION SCHEDULE

Phase	Construction	
	Start	End
Site Preparation	June 1, 2023	June 21, 2023
Grading	June 22, 2023	July 12, 2023
Building Construction	July 13, 2023	January 4, 2024
Paving	January 5, 2024	January 25, 2024
Architectural Coating	January 26, 2024	February 15, 2024

5 Transportation Impact Analysis. Charger Logistics Cal-98 Holdings Project. County of Imperial California. Prepared by Linscott Law & Greenspan Engineers, San Diego, CA, LLG Ref. 3-22-3596. July 28, 2021.
6 Calexico is in the southernmost part of Imperial County.

3.4 Existing Sensitive Land Uses

The Imperial County General Plan land use for the project site and its immediate surroundings is "Urban Area." The land northwest, west and southwest of the site is designated for agricultural land uses. Large residential neighborhoods are about 2,000 feet northeast and 1,500 feet southeast of the site. Scattered individual residences are nearer the site. The nearest one is about 32 feet due west of the project boundary.[7]

The County of Imperial defines noise sensitive land uses in its General Plan Noise Element. Sensitive noise receivers are, in general, areas of habitation where the intrusion of noise has the potential to impact adversely the occupancy, use or enjoyment of the environment. Sensitive receptors include, but are not limited to, residences, schools, hospitals, parks and office buildings.[8] **Figure 3.4-1** shows sensitive land uses near the project. These uses are described in **Table 3.4-1.**

3.5 Existing Noise Environment

The principal noise sources in Imperial County are transportation sources, which include aircraft, rail lines, and motor vehicles; industrial sources, which include rail switching yards, utilities, and manufacturing facilities; and agricultural operations. In rural areas of the County, mining and off-road vehicle activity also create significant noise, but generally in areas without noise sensitive receptors.[9]

The project site is within a "noise impact zone," which is an area which may be exposed to a noise greater than 60dB CNEL or 75 dB L_{eq}(1 hour).[10] It meets both of the following General Plan criteria for a noise impact zone:[11,12]

- Within 1,100 feet of a state highway.
- Within 750 feet of the centerline of any railroad.
- Within 1,320 feet of existing farmland which is in an agricultural zone.

3.6 Ambient Noise Measurements

On Tuesday, August 20, 2022, UltraSystems conducted ambient noise measurements at the nearest sensitive receiver (a house on the northwest corner of the project boundary) and at four other residential locations. The purpose of the measurements was to obtain information on "existing conditions." **Figure 3.6-1** shows the locations of the measurements. Sampling results are provided in **Attachment 1** and summarized in **Table 3.6-1.** Hourly averages ranged from 49.9 to 67.7 dBA L_{eq}.

7 This distance was not used for the noise impact calculations. See **Section 5.1.**
8 County of Imperial General Plan. Noise Element. Planning and Developmental Services. Approved October 6, 2015., p. 16.
9 Ibid., p.4.
10 Ibid., p.16.
11 Ibid., loc. Cit.
12 Ibid., p. 17.

Figure 3.4-1
SENSITIVE LAND USES NEAR PROJECT SITE

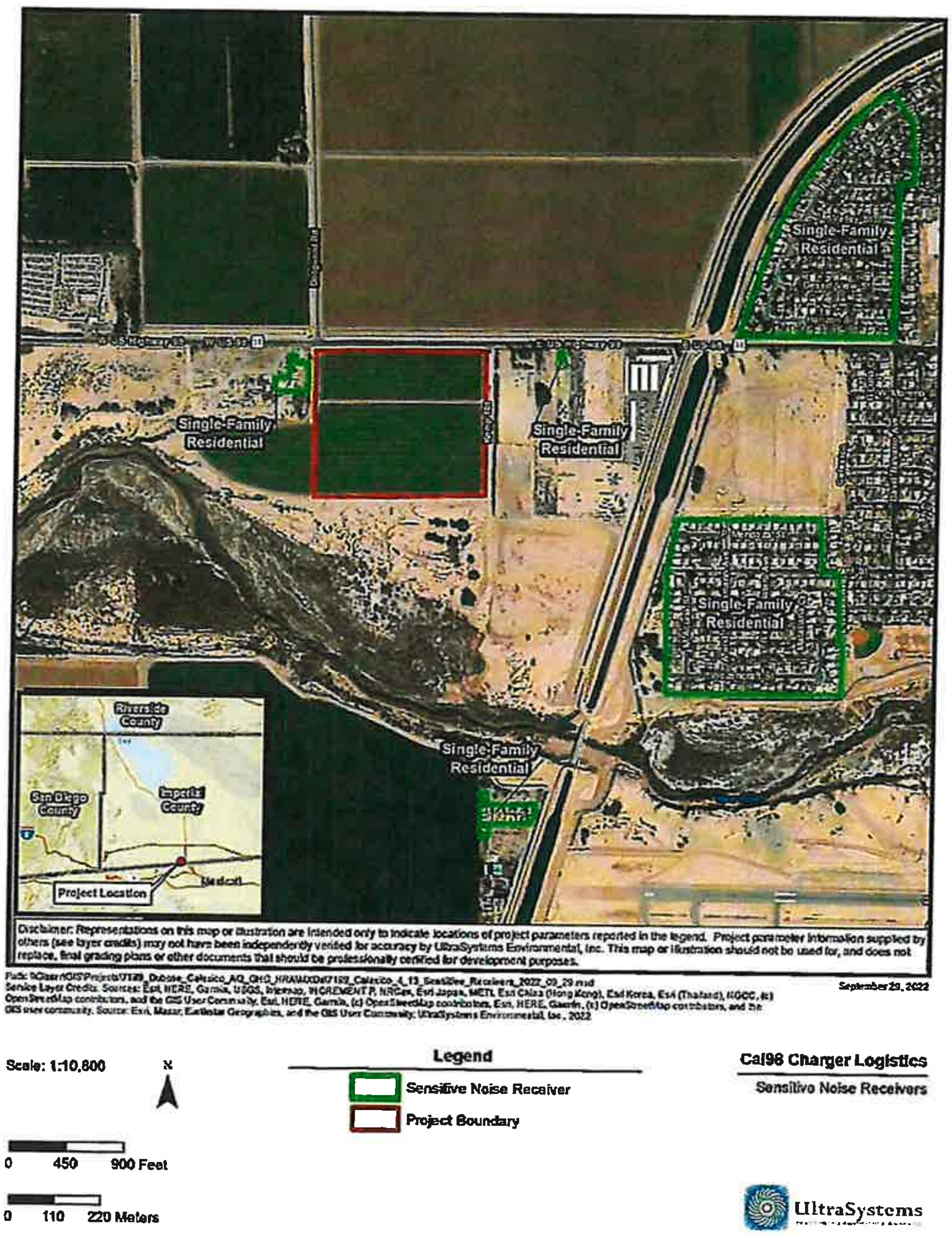

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Table 3.4-1
SENSITIVE RECEIVERS IN PROJECT AREA

Description	Location	Distance From Site Boundary[a] (feet)	Nearest Ambient Sampling Point[a]
Single Family Residence (Northwest)	4 West Highway 98	32	2
Single Family Residence (Northeast)	51 CA 98	578	1
Single Family Neighborhood (Northeast)	1101 Rainbow Ave	1,956	3
Singe Family Neighborhood (Southeast)	1073 Grant Street	1,523	4
Mobile Home Park (South)	52 2nd Street	2,406	5

[a] These distances were not used for the noise impact calculations. See Section 5.1.
[a]See **Figure 3.6-1** for locations of ambient noise sampling points.

Figure 3.6-1
AMBIENT NOISE MEASUREMENT LOCATIONS

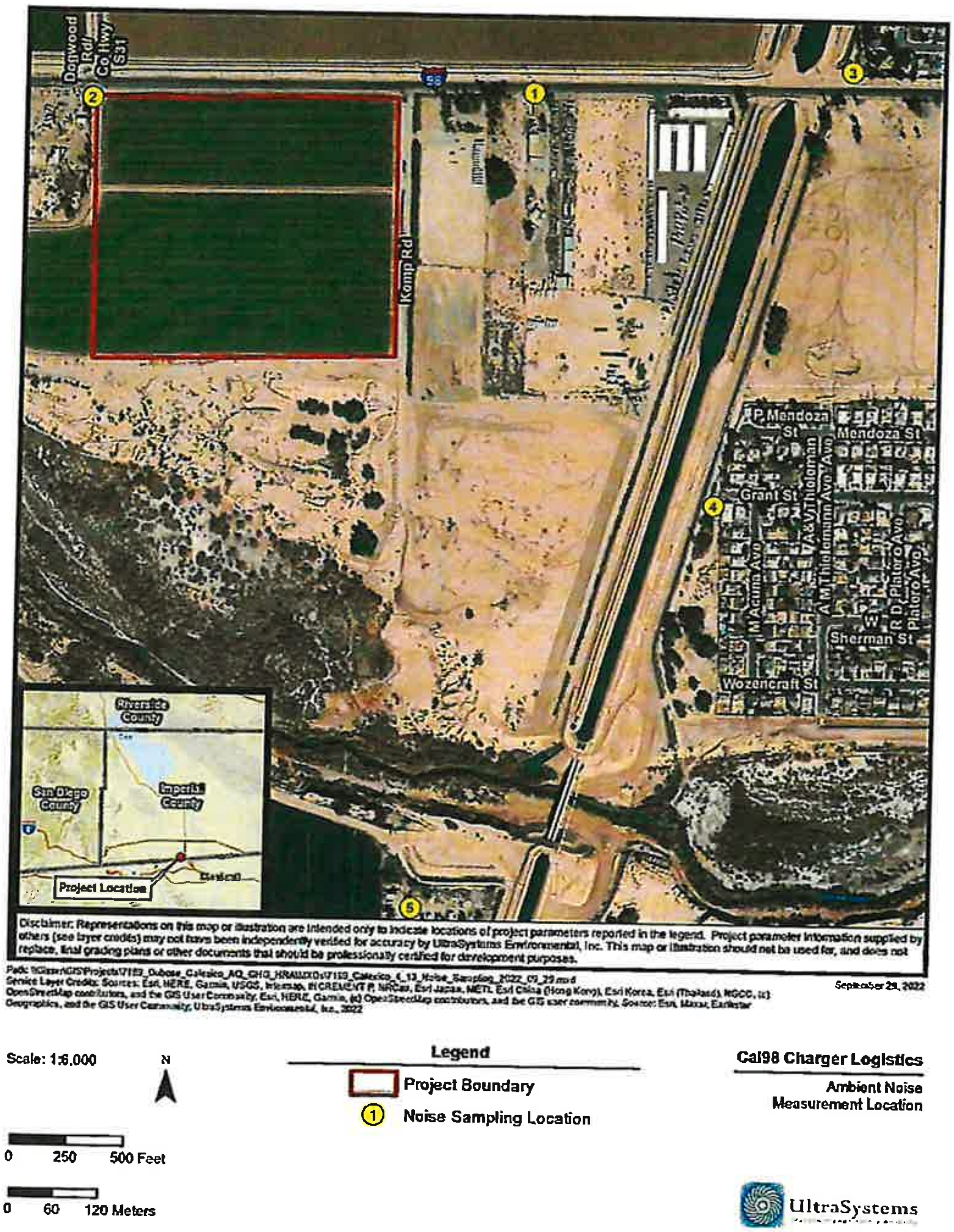

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Table 3.6-1
AMBIENT NOISE MEASUREMENT RESULTS

Point	Data Set	Sampling Time	Address[a]	Sound Level (dBA)		
				L_{eq}	L_{max}	L_{90}
1	S279	1132-1147	51 CA 98	67.7	83.6	39.0
2	S283	1357-1412	4 West Highway 98	49.9	71.7	44.6
3	S282	1330-1345	1101 Rainbow Avenue	54.7	66.5	44.1
4	S281	1257-1312	1073 Grant Street	64.6	81.3	40.7
5	S280	1210-1225	52 2nd Street	66.2	84.0	39.1

Source: UltraSystems, 2022.
[a]All sampling locations were near single-family residences.

4.0 APPLICABLE REGULATIONS

To limit population exposure to noise levels that are physically and/or psychologically damaging or intrusive, the federal government, the State of California, various county governments, and most municipalities in the state have established noise policies, standards, and ordinances.

4.1 Federal

The U.S. Department of Housing and Urban Development (HUD) has set a goal of 45 dBA L_{dn} as a desirable maximum interior standard for residential units developed under HUD funding. While HUD does not specify acceptable exterior noise levels, standard construction of residential dwellings constructed under Title 24 of the California Code of Regulations typically provide 20 dBA of acoustical attenuation with the windows closed and 10 dBA with the windows open. Based on this assumption, the exterior L_{dn} or CNEL should not exceed 65 dBA under normal conditions.

4.2 State of California

The California Department of Health Care Services (DHCS)[13] Office of Noise Control[14] studied the correlation of noise levels and their effects on various land uses. The most current guidelines are contained in the "General Plan Guidelines" issued by the Governor's Office of Planning and Research in 2017.[15] These guidelines establish four categories for judging the severity of noise intrusion on specified land uses:

- Normally Acceptable: Is generally acceptable, with no mitigation necessary.
- Conditionally Acceptable: May require some mitigation, as established through a noise study.

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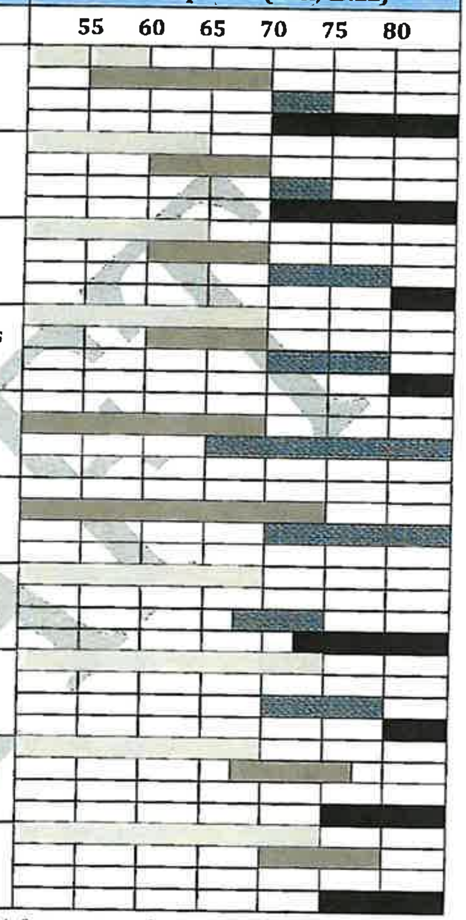
13 Formerly called the California Department of Health Services (DHS).
14 The Office of Noise Control no longer exists.
15 State of California General Plan Guidelines. Appendix D. Guidelines for the Preparation and Content of the Noise Element of the General Plan. Office of Planning and Research, Sacramento, CA. 2017. http://opr.ca.gov/docs/OPR_Appendix_D_final.pdf. Accessed August 23, 2018.

- Normally Unacceptable: Requires substantial mitigation.
- Clearly unacceptable: Probably cannot be mitigated to a less-than-significant level.

The types of land uses addressed by the State standards and the acceptable noise categories for each are presented in **Table 4.2-1.** There is some overlap between categories, which indicates that some judgment is required in determining the applicability of the numbers in some situations. Note that Imperial County has modified this table for the purpose of implementing the noise element of its general plan. The Imperial County version of the table is presented in **Section 4.3.1.**

Table 4.2-1
LAND USE COMPATIBILITY FOR COMMUNITY NOISE SOURCES

Land Use Category	Noise Exposure (dBA, CNEL) 55 60 65 70 75 80
Residential – Low-Density Single-Family, Duplex, Mobile Homes	
Residential – Multiple Family	
Transient Lodging – Motel, Hotels	
Schools, Libraries, Churches, Hospitals, Nursing Homes	
Auditoriums, Concert Halls, Amphitheaters	
Sports Arena, Outdoor Spectator Sports	
Playgrounds, Neighborhood Parks	
Golf Courses, Riding Stables, Water Recreation, Cemeteries	
Office Buildings, Business Commercial and Professional	
Industrial, Manufacturing, Utilities, Agriculture	



Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditionally will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: State of California, *General Plan Guidelines*, Governor's Office of Planning and Research, 2017.

4.3 Local Standards

The primary regulatory documents that establish noise standards in the county are the Imperial County General Plan, Noise Element[16] and the Imperial Noise Abatement and Control Ordinance.[17] Relevant standards from both documents are discussed below by type of standard (e.g., for construction noise or operation noise). Note that the Imperial County General Plan and the Noise Abatement and Control Ordinance apply only to unincorporated area in the county.

4.3.1 Imperial County General Plan, Noise Element

Construction Noise

The Imperial County General Plan limits sound levels from construction activities during specific hours of the day and night through a set of construction noise standards, presented below in **Table 4.3-1.** The standards apply to the noise measured at the nearest sensitive receptor.

<u>Table 4.3-1</u>
COUNTY OF IMPERIAL CONSTRUCTION NOISE STANDARDS

Construction Duration	Sound Level (dB L_{eq})	Averaging Period	Hours of Operation Restriction
Short-Term (days or weeks)	75	8 hours	7:00 a.m. – 7:00 p.m. Monday to Friday 9:00 a.m. – 5:00 p.m. Saturday No commercial construction operation is permitted on Sundays and holidays
Extended Periods	75	1 hour	7:00 a.m. – 7:00 p.m. Monday to Friday 9:00 a.m. – 5:00 p.m. Saturday No commercial construction operation is permitted on Sundays and holidays

Source: County of Imperial, General Plan, Noise Element, 2015, p. 21.

Operational Noise

The Imperial County General Plan, Noise Element includes Property Line Noise Limits, which are listed in **Table 4.3-2**, and apply to noise generation from one property to an adjacent property. The standards imply the existence of a sensitive receptor on the adjacent, or receiving, property. In the absence of a sensitive receptor, an exception or variance to the standard may be appropriate. An analysis is required for any project that has the potential to generate noise in excess of the Property Line Noise Limits. Note that when the ambient noise level equals or exceeds a property line standard, the <u>increase</u> of the existing or proposed noise shall not exceed 3 dB L_{eq}.

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16 Imperial County General Plan, Noise Element. County of Imperial Planning and Development Services, El Centro, CA. Approved October 6, 2015. http://www.icpds.com/CMS/Media/Noise-Element-2015.pdf. Accessed August 30, 2018.

17 Title 9, Land Use Ordinance for the County of Imperial, Division 7: Noise Abatement and Control (Last amended April 18, 2017). http://www.icpds.com/CMS/Media/TITLE9Div7_2015.pdf. Accessed August 30, 2018.

Table 4.3-2
COUNTY OF IMPERIAL OPERATIONAL NOISE STANDARDS

Land Use Zone	Hours	Noise Limit One-hour Average Sound Level (dBA)
Residential	7:00 a.m. – 10:00 p.m.	50
	10:00 p.m. – 7:00 a.m.	45
Multi-residential	7:00 a.m. – 10:00 p.m.	55
	10:00 p.m. – 7:00 a.m.	50
Commercial	7:00 a.m. – 10:00 p.m.	60
	10:00 p.m. – 7:00 a.m.	55
Light Industrial/Industrial Park	Anytime	70
General Industrial	Anytime	75

Source: County of Imperial, General Plan, Noise Element, 2015, p. 21.

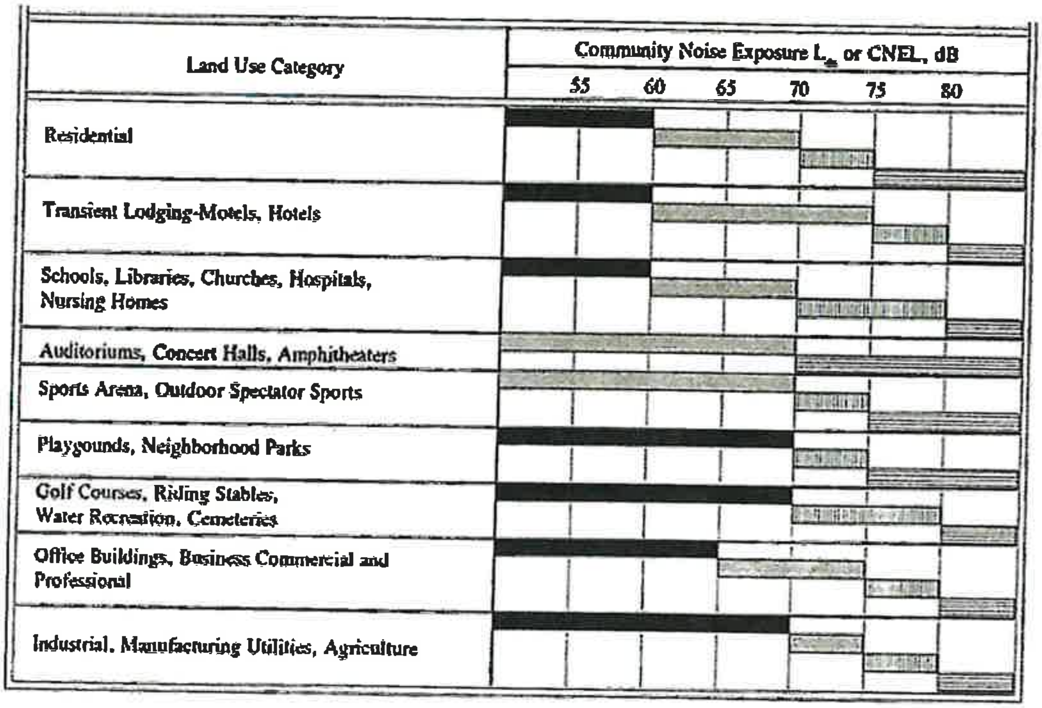
As was discussed in **Section 3.5**, the project site is located in a "noise impact zone," as defined by the Imperial County General Plan, Noise Element. An acoustical analysis is therefore required to "demonstrate project compliance with land use compatibility requirements and other applicable environmental noise standards."[18] The Imperial County-specific land use compatibility guidelines are shown in **Table 4.3-3.**

4.3.2 Imperial County Noise Ordinance

The Imperial County Noise Abatement and Control Ordinance includes property line noise limits that are essentially the same as those listed in **Table 4.3-2.**[19] No other Noise Abatement and Control Ordinance provisions are relevant to the propose project.

18 Imperial County General Plan, Noise Element, p. 16.
19 County of Imperial Codified Ordinances, Title 9, Division 7: Noise Abatement and Control, § 90702.00(A).

Table 4.3-3
IMPERIAL COUNTY NOISE/LAND USE COMPATIBILITY GUIDELINES



Interpretation (For Land Use Planning Purposes)

Normally Acceptable

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

Normally Unacceptable

New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable

New construction or development clearly should not be undertaken.

Source: County of Imperial, General Plan, Noise Element, 2015, p. 18.

4.3.3 Imperial County Right-to-Farm Ordinance

In recognition of the role of agriculture in the county, Imperial County has adopted a right-to-farm ordinance.[20] A "right-to-farm" ordinance creates a legal presumption that ongoing, standard farming practices are not a nuisance to adjoining residences. It requires a disclosure to land owners near agricultural land operations, or areas zoned for agricultural purposes. The disclosure advises persons that discomfort and inconvenience from machinery resulting from conforming and accepted agricultural operations are normal and necessary aspects of living in the agricultural areas of the county.

4.4 Thresholds of Significance

There are two criteria for judging noise impacts. First, noise levels generated by the project must comply with all relevant federal, state, and local standards and regulations. Noise impacts on the surrounding community are limited by local noise ordinances, which are implemented through investigations in response to nuisance complaints. It is assumed that all existing regulations for the construction and operation of the project would be enforced. In addition, the project should not produce noise levels that are incompatible with adjacent noise sensitive land uses as defined in the General Plan.

The second measure of impact used in this analysis is the significant increase in noise levels above existing ambient noise levels as a result of the introduction of a new noise source. An increase in noise level due to a new noise source has a potential to adversely impact people.

Based on the applicable noise regulations stated above, the project would have a significant noise impact if it would:

- Conflict with applicable noise restrictions or standards imposed by regulatory agencies.
- Result in future (operational) noise levels within the "normally acceptable" ranges shown in **Table 4.3-3**, but would also result in an increase of 5 dBA CNEL or greater.
- Result in future (operational) noise levels greater than the "normally acceptable" ranges shown in **Table 4.3-3**, and result in an increase of 3 dBA CNEL or greater.
- Result in a substantial temporary or periodic increase in ambient noise levels above levels existing without the project at sensitive receiver locations.

5.0 PROJECT IMPACTS

Noise impacts associated with land use development projects include short-term and long-term impacts. Construction activities, especially heavy equipment operation, would create noise increases both onsite and offsite adjacent to the construction site.

Long-term noise impacts include project-generated onsite and offsite operational noise sources. Onsite (stationary) noise sources would include operation of trucks, cars, landscape and building maintenance equipment. Offsite noise would be attributable to project-induced traffic, which would cause an incremental increase in noise levels within and near the project vicinity.

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20 County of Imperial Codified Ordinances, Division 2, Title 6: Right to Farm, § 62950-62955.

This section also evaluates potential groundborne vibration that would be generated from the construction or operation of the project.

5.1 Short-Term Noise Impacts

Noise generated during construction of the project could generate noise levels in excess of standards adopted in local ordinances. Noise impacts from construction activities occurring within the project site would be a function of the noise generated by construction equipment, the equipment location, and the timing and duration of the noise-generating activities.

As discussed in **Section 3.3**, construction will comprise five phases. The types and numbers of pieces of equipment to be deployed during each construction phase were determined as part of the air quality and greenhouse gas emissions analysis for this project.[21] Equipment characteristics for the phases are shown in **Table 5.1-1**. No pile driving or blasting would be required for construction of the project.

Table 5.1-1
PHASE 1 CONSTRUCTION EQUIPMENT CHARACTERISTICS

Construction Phase	Equipment Type	Number of Pieces	Maximum Sound Level (dBA @ 50 feet)	Usage Factor	Composite Noise (dBA @ 50 feet)
Site Preparation	Rubber Tired Dozers	3	75	0.40	87.51
	Tractors/Loaders/Backhoes	4	85	0.37	
Grading	Excavators	2	80	0.38	88.65
	Graders	1	85	0.41	
	Rubber-Tired Dozer	1	79	0.40	
	Scrapers	2	97	0.48	
	Tractors/Loaders/Backhoes	2	85	0.37	
Building Construction	Cranes	1	83	0.29	87.13
	Forklifts	3	67	0.20	
	Generator Sets	1	81	0.74	
	Tractors/Loaders/Backhoes	3	85	0.37	
	Welders	1	74	0.45	
Paving	Pavers	2	77	0.42	84.61
	Paving Equipment	2	77	0.36	
	Rollers	2	75	0.38	
Architectural Coating	Air Compressor	1	81	0.48	77.81

Using calculation methods published by the Federal Transit Administration,[22] UltraSystems estimated the average hourly exposures at five sensitive receiver sites, each one of was a residence

[21] Air Quality and Greenhouse Gas Emissions Report for Cal98 Charger Logistics Project, Calexico, California. Prepared by UltraSystems Environmental Inc. for DuBose Design Group, El Centro, CA. September 2022.

[22] Transit Noise and Vibration Impact Assessment Manual. Federal Transit Administration, Office of Planning and Environment, Washington, DC, FTA Report No. 0123. September 2018. Internet: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

near one of the ambient noise measurement sites listed **Table 3.4-1** and shown in **Figure 3.6-1.** To account for the fact that at any given time the various pieces of construction equipment are at different places, the distances used for the calculation were those from the center of each major construction area to each ambient noise measurement point.

The maximum estimated composite hourly L_{eq} values at these receivers during each construction phase were calculated using the noise source values from **Table 5.1-1**. Results are presented in **Table 5.1-2**. The maximum exposure from construction activities would be 67.9 dBA L_{eq}, and the maximum increase in exposure would be 1.1 dBA L_{eq}. Total exposures (ambient plus construction-generated) would be less than the County's limit of 75 dBA. (See **Table 4.3-1**.) Projected increase in exposure would not be detectable by people.

Please note that these estimated construction noise levels represent a conservative (worst-case) scenario, in which the loudest type of construction equipment would be operating on the same schedule and in the same area on the construction site. These worst-case values would not be continuous, nor would they be typical of noise levels throughout the construction period.

Table 5.1-2
MAXIMUM ESTIMATED CONSTRUCTION NOISE LEVELS

Site Preparation	Distance (feet)	15-minute L_{eq} (dBA)		
		Existing	Projected[a]	Change
1 - 51 Highway 98	941	67.7	67.9	0.2
2 - 4 West Highway 98	865	66.2	66.8	0.6
3 - 1101 Rainbow Ave	2,789	64.6	64.6	0.0
4 - 1073 Grant St	2,341	54.7	55.4	0.7
5 - 52 2nd Street	2,883	49.9	51.0	1.1

[a]Existing plus construction-related.

5.2 Long-Term Noise Impacts

5.2.1 Onsite Sources

Onsite noise sources from the proposed warehouse facility would include operation of rooftop mechanical equipment such as air conditioners, parking lot activities, and truck deliveries and departures. Noise levels from these sources are generally lower than from the traffic on streets bordering the project site.

Most of the noise from onsite truck traffic, engine idling, parking and loading and unloading will be on the south side of the proposed warehouse; the structure will block the line of sight to sensitive receivers on the northeast. Finally, the analysis included noise from trucks entering and leaving the facility. As discussed in **Section 3.2**, the average daily traffic would be 130 vehicles. A common formula for hourly noise exposure for a given number of individual arrivals is:

$$L_{eq} = SEL + 10 \log(N) - 35.6$$

where

SEL = sound exposure level of one vehicle[23]

N = number of vehicles per hour

The SEL for parking lot activity has been estimated to be 71 dB at 50 feet.[24] Therefore, for 130 vehicles, L_{eq} would be 71 + 10 log (130) – 35.6 = 56.5 dBA at 50 feet. Increases in L_{eq} at the closest residence used for the construction noise analysis would result in maximum exposure increases of about 0.3 dBA, which would not be detectable by most people. Noise impacts from onsite sources would be less than significant.

5.2.2 Roadway Noise

The principal noise source in the project area is traffic on local roadways. A noise impact would occur if the project contributes to a permanent increase in ambient noise levels affecting sensitive receivers along roadways that would carry project-generated traffic. The traffic study for the project[25] estimates that about 70 percent of the daily traffic (91 vehicles) will travel on SR-98 east of the project site. According to the Caltrans Traffic Census Program database,[26] the average daily traffic along the segment of SR-98 east of Dogwood Road and through a residential area was 11,800 during 2019, the last pre-pandemic year. The maximum increase due to the project would be about 0.8%. Given the logarithmic nature of the decibel, traffic volume needs to be doubled in order for the noise level to increase by 3 dBA,[27] the minimum level perceived by the average human ear. A doubling is equivalent to a 100% increase. Therefore, the onroad noise impact would be less than significant.

5.3 Vibration Impacts

Vibration is sound radiated through the ground. Vibration can result from a source (e.g., subway operations, vehicles, machinery equipment, etc.) that causes the adjacent ground to move, thereby creating vibration waves that propagate through the soil to the foundations of nearby buildings. This effect is referred to as groundborne vibration. The peak particle velocity (PPV) or the root-mean-square (RMS) velocity is usually used to describe vibration levels. PPV is defined as the maximum instantaneous peak of the vibration level, while RMS is defined as the square root of the average of the squared amplitude of the level. PPV is typically used for evaluating potential building damage, while RMS velocity in decibels (VdB) is typically more suitable for evaluating human response.[28]

The background vibration velocity level in residential areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity

23 The sound exposure level (SEL) is equivalent to the total sound energy experienced during a measurement period, as if it had all occurred in one second.

24 Environmental Noise Assessment. City of Citrus Heights City Hall and Medical Office Building Project. Prepared by J.C. Brennan and Associates, Inc., Auburn, California for Dudek, Auburn California. December 11, 2014. Internet: http://www.citrusheights.net/DocumentCenter/View/3049/Appendix-H-PDF?bidId=. Last accessed December 24, 2020.

25 Transportation Impact Analysis. Charger Logistics Cal-98 Holdings Project. County of Imperial California. Prepared by Linscott Law & Greenspan Engineers, San Diego, CA, LLG Ref. 3-22-3596. July 28, 2021, Figure 7-1.

26 Caltrans Traffic Census Program. Internet: https://dot.ca.gov/programs/traffic-operations/census. Last accessed September 30, 2022.

27 Technical Noise Supplement. Prepared by ICF Jones & Stokes, Sacramento, California for California Department of Transportation, Division of Environmental Analysis, Sacramento, California. November 2009.

28 Federal Transit Administration. Transit Noise and Vibration Impact Assessment. Accessed online at https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, pp 110-111.

level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for most people. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.[29]

5.3.1 Construction Vibration

Construction activities for the project have the potential to generate low levels of groundborne vibration. The operation of construction equipment generates vibrations that propagate though the ground and diminishes in intensity with distance from the source. Vibration impacts can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage of buildings at the highest levels. The construction activities associated with the project could have an adverse impact on both sensitive structures (i.e., building damage) and populations (i.e., annoyance).

The construction vibration analysis used formulas published by the Federal Transit Administration (FTA).[30] For a standard reference distance of 25 feet, peak particle velocity is found from:

$$PPV = PPV_{ref} \times (25/D)^{1.5}$$

where

PPV_{ref} = Reference source vibration at 25 feet
D = Distance from source to receiver

The vibration level (VdB) for a standard reference distance of 25 feet is found from:

$$VdB = L_{vref} - 30\log(D/25)$$

where

L_{vref} = Reference source vibration level at 25 feet
D = Distance from source to receiver

The FTA has published standard vibration levels for construction equipment operations, at a distance of 25 feet.[31] The smallest average distance from project construction activity to a residential receiver would be about 735 feet. The calculated vibration levels expressed in VdB and PPV for selected types of construction equipment at distances of 25 and 258 feet are listed in **Table 5.3-1**.

As shown in **Table 5.3-1**, the vibration level of construction equipment at the nearest sensitive receiver is at most 0.0022 inch per second, which is less than the FTA damage threshold of 0.12 inch per second PPV for fragile historic buildings, and 43 VdB, which is less than the FTA threshold

29 Ibid., p. 120.
30 Ibid., p. 185.
31 Ibid., p. 185.

for human annoyance of 80 VdB. Construction vibration impacts would therefore be less than significant.

Table 5.3-1
VIBRATION LEVELS OF CONSTRUCTION EQUIPMENT

Equipment	PPV at 25 feet (in/sec)	Vibration Decibels at 25 feet (VdB)	PPV at 735 feet (in/sec)	Vibration Decibels at 735 feet (VdB)
Loaded trucks	0.076	86	0.0018	42
Jack hammer	0.035	79	0.00085	35
Small bulldozer	0.003	58	0.000073	14
Large bulldozer	0.089	87	0.0022	43

Source: FTA, 2018 and UltraSystems, 2022.

5.3.2 Operational Vibration

Operation of the proposed project would not involve significant sources of ground-borne vibration or ground-borne noise. Thus, operation of the proposed project would result in a less than significant impact.

6.0 MITIGATION MEASURES

As no significant short- or long-term noise impacts due to the project would occur, no mitigation measures are necessary.

7.0 IMPACTS AFTER MITIGATION

As no significant short- or long-term noise impacts are expected for the project, no mitigation measures are necessary.

ATTACHMENT 1

AMBIENT NOISE MEASUREMENT DATA

UltraSystems
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16431 Scientific Way
Irvine, CA 92618
949.788.4900

Noise Measurement Report Form – Part A

Date: 9/20/22 Day of Week: Tuesday Time: 11:32am Project Number: 7189

Monitoring Segment / Area: 1 Monitoring Site Address: 951 CA-98, Calexico

Measurement Taken By: Erik/Michael of UltraSystems Environmental

Average Wind Speed: 4.3 mph [km/hr] Compass Heading (meter ⊥ to source) 340° N

Temp: 93.6 °F Relative Humidity: 23.3% Compass Heading (into wind) 70° E

Cloud Cover Class (1 = heavy overcast, 2 = lightly overcast, 3 = sunny) 3

Approximate distance of sound level meter from receptor location: 32 ft

Approximate distance of sound level meter from construction site: ____
(Leave Blank for Baseline Ambient)

Receptor Land Use (Check One): ☑ Residential ☐ Institutional ☐ Comm./Ind. ☐ Recreational

Sound Level Meter: Make and Model: Quest SoundPro DL-1-1/3 Serial Number: BIN030017

Meter Setting: ☑ A-Weighted Sound Level (SLOW) ☐ A-Weighted Sound Level (FAST)

Measurement Start Time: 11:32am Measurement End Time: 11:47 am

Total Measurement Time: 15 min Session File Name (e.g., S012): S279

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Caltrans ☐ Complaint response

Measurement Results

Measurement Type	Measured Levels (dB)	
Calibration	Pre: 114.0	Post: 114.0
L_{eq} (h)	Slow: 67.7	Fast:
L_{max}	Slow: 83.6	Fast:
L_{90}	Slow: 39.0	Fast:

Field Notes:

1. Road noise from CA-98
2. Birds Chirping
3.

Noise Monitor's Signature: [signature] Date: 9/20/22

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environmental | management | planning

16431 Scientific Way
Irvine, CA 92618
949.788.4900

Noise Measurement Report Form – Part B

Date: 9/20/2022 Day of Week: Tuesday Time: 11:32 Project Number: 7189

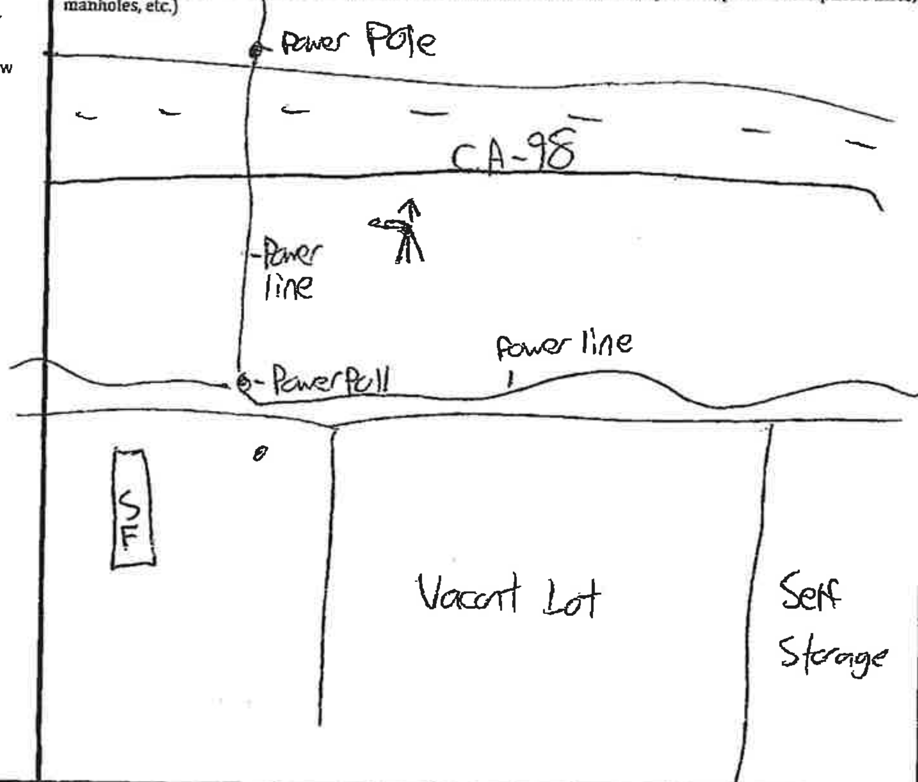
Monitoring Segment / Area: 1 Monitoring Site Address: @ St CA98, Calexico

Site Map

Plan View

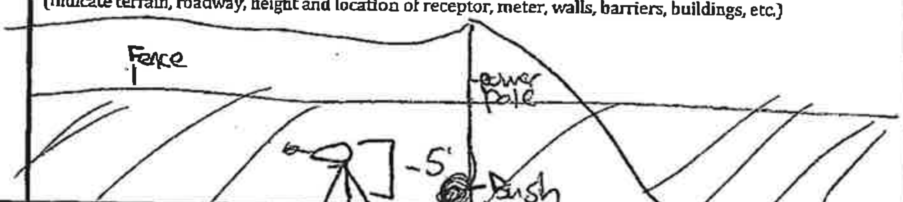
North Arrow (fill-in)

(Indicate site location, receptor location, meter location, distance in feet to landmarks, roadways, travel lane directions, geographical objects: trees, water, buildings, signs, store names, hydrants, power & telephone lines, manholes, etc.)



Elevation View

(Indicate terrain, roadway, height and location of receptor, meter, walls, barriers, buildings, etc.)



Latitude: 32.679151°	**Longitude:** −115.52734°	**Elevation:** ~~[illegible]~~ 0 ft

Noise Monitor's Signature: [signature] Date: 9/20/2022

EEC ORIGINAL PKG

PC ORIGINAL PKG

Session Report

9/23/2022

Information Panel

Name	S279
Start Time	9/20/2022 11:31:31 AM
Stop Time	9/20/2022 11:46:31 AM
Device Name	BIN030017
Model Type	SoundPro DL
Device Firmware Rev	R.13F
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	67.7 dB	L90	1	39 dB
Lmax	1	83.6 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	5 dB	Weighting	2	C
Response	2	FAST			

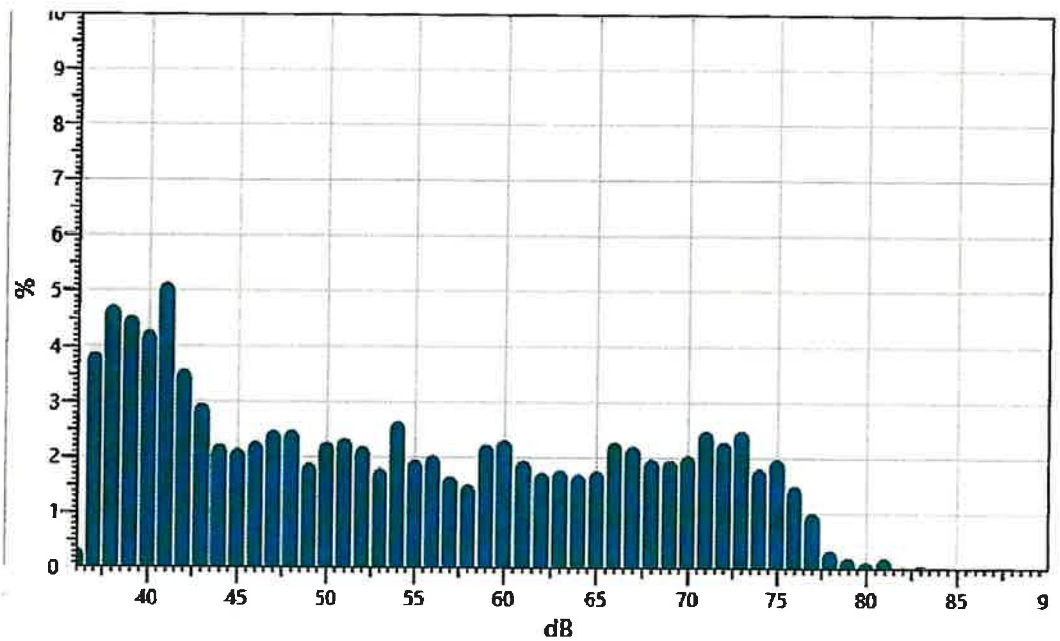
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
36:	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.09	0.14	0.08	0.36
37:	0.28	0.34	0.44	0.37	0.47	0.40	0.44	0.39	0.31	0.45	3.89
38:	0.55	0.45	0.49	0.49	0.44	0.44	0.40	0.34	0.51	0.61	4.73
39:	0.62	0.75	0.55	0.41	0.37	0.35	0.34	0.36	0.41	0.39	4.55
40:	0.36	0.21	0.38	0.48	0.49	0.42	0.46	0.54	0.49	0.45	4.28
41:	0.44	0.43	0.54	0.58	0.70	0.67	0.46	0.41	0.51	0.41	5.15
42:	0.33	0.32	0.34	0.34	0.38	0.32	0.33	0.41	0.39	0.41	3.58
43:	0.40	0.16	0.30	0.31	0.36	0.38	0.34	0.27	0.23	0.22	2.97
44:	0.26	0.19	0.21	0.24	0.24	0.19	0.28	0.23	0.21	0.18	2.23
45:	0.16	0.18	0.19	0.23	0.18	0.21	0.23	0.19	0.29	0.29	2.15
46:	0.25	0.14	0.19	0.19	0.25	0.23	0.29	0.27	0.26	0.21	2.28
47:	0.22	0.23	0.22	0.28	0.26	0.22	0.20	0.20	0.28	0.37	2.48
48:	0.36	0.26	0.21	0.23	0.24	0.22	0.26	0.22	0.28	0.21	2.49

49:	0.24	0.16	0.20	0.19	0.18	0.18	0.19	0.21	0.19	0.18	1.90
50:	0.18	0.19	0.20	0.19	0.25	0.23	0.22	0.26	0.28	0.28	2.27
51:	0.24	0.23	0.20	0.23	0.22	0.19	0.24	0.23	0.25	0.30	2.34
52:	0.34	0.29	0.20	0.20	0.25	0.21	0.20	0.16	0.17	0.17	2.20
53:	0.20	0.16	0.14	0.16	0.17	0.23	0.17	0.19	0.19	0.18	1.80
54:	0.23	0.25	0.27	0.27	0.29	0.36	0.23	0.20	0.30	0.25	2.65
55:	0.22	0.17	0.14	0.18	0.17	0.19	0.19	0.20	0.25	0.27	1.96
56:	0.25	0.20	0.23	0.25	0.21	0.21	0.16	0.15	0.19	0.18	2.03
57:	0.16	0.19	0.19	0.15	0.15	0.17	0.16	0.15	0.18	0.17	1.66
58:	0.17	0.16	0.11	0.15	0.16	0.15	0.17	0.15	0.13	0.17	1.51
59:	0.24	0.28	0.19	0.17	0.21	0.17	0.22	0.28	0.22	0.25	2.24
60:	0.22	0.19	0.23	0.23	0.31	0.24	0.19	0.22	0.23	0.24	2.31
61:	0.23	0.24	0.14	0.20	0.21	0.19	0.19	0.18	0.18	0.19	1.95
62:	0.15	0.18	0.18	0.15	0.17	0.14	0.16	0.20	0.20	0.20	1.74
63:	0.20	0.18	0.16	0.16	0.16	0.16	0.19	0.20	0.19	0.19	1.78
64:	0.20	0.19	0.13	0.17	0.17	0.16	0.17	0.17	0.17	0.18	1.71
65:	0.17	0.18	0.18	0.16	0.18	0.17	0.17	0.17	0.16	0.24	1.77
66:	0.31	0.17	0.21	0.18	0.19	0.20	0.21	0.27	0.26	0.27	2.28
67:	0.26	0.24	0.17	0.21	0.21	0.21	0.23	0.27	0.23	0.18	2.21
68:	0.19	0.19	0.20	0.17	0.19	0.21	0.20	0.18	0.20	0.24	1.98
69:	0.19	0.18	0.18	0.18	0.20	0.19	0.20	0.22	0.20	0.22	1.96
70:	0.22	0.19	0.15	0.17	0.21	0.21	0.23	0.22	0.22	0.22	2.04
71:	0.26	0.27	0.23	0.23	0.24	0.25	0.32	0.25	0.23	0.21	2.49
72:	0.19	0.19	0.19	0.23	0.21	0.23	0.22	0.33	0.24	0.26	2.29
73:	0.34	0.34	0.15	0.19	0.22	0.23	0.19	0.26	0.28	0.28	2.49
74:	0.20	0.20	0.19	0.19	0.20	0.19	0.20	0.15	0.14	0.14	1.81
75:	0.16	0.15	0.17	0.17	0.21	0.18	0.23	0.25	0.22	0.25	1.98
76:	0.22	0.20	0.13	0.17	0.14	0.12	0.11	0.14	0.15	0.12	1.50
77:	0.13	0.16	0.13	0.12	0.09	0.08	0.09	0.06	0.11	0.04	1.01
78:	0.07	0.05	0.03	0.03	0.03	0.05	0.02	0.02	0.02	0.02	0.34
79:	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.01	0.01	0.02	0.22
80:	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.14
81:	0.02	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.01	0.02	0.21
82:	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.05
83:	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.06

Statistics Chart

S279: Statistics Chart

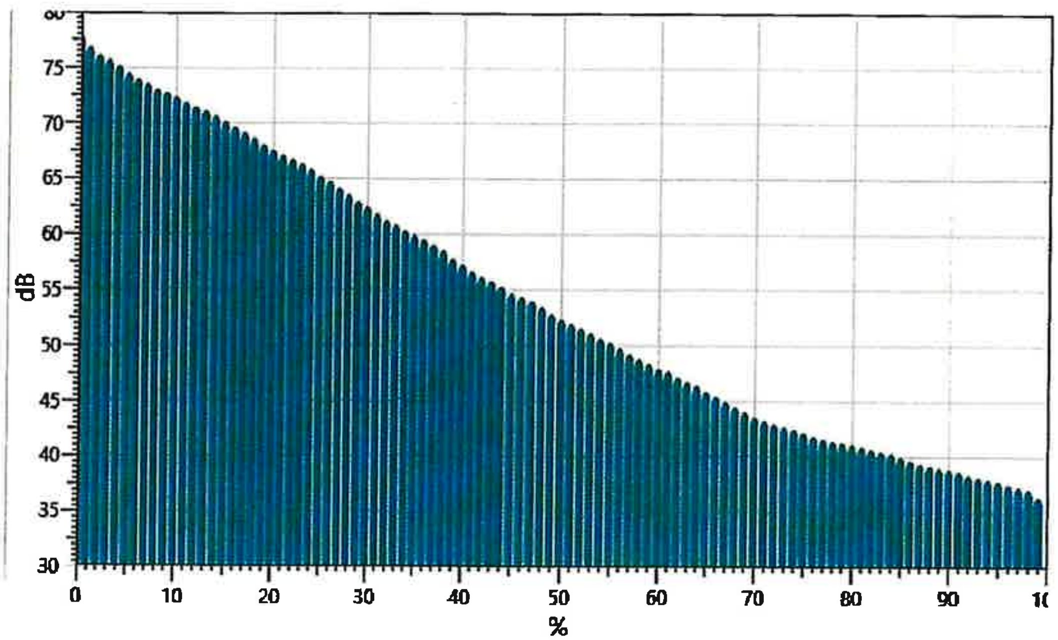


Exceedance Table

•	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		77.9	76.9	76.1	75.7	75.2	74.5	74.0	73.6	73.1
10%:	72.8	72.4	71.9	71.5	71.1	70.7	70.2	69.7	69.2	68.7
20%:	68.1	67.6	67.2	66.8	66.4	65.9	65.3	64.8	64.2	63.6
30%:	63.0	62.5	61.9	61.3	60.9	60.4	60.0	59.6	59.1	58.6
40%:	57.9	57.3	56.7	56.2	55.8	55.3	54.7	54.4	54.0	53.5
50%:	52.9	52.4	52.0	51.6	51.2	50.7	50.3	49.8	49.3	48.8
60%:	48.4	47.9	47.7	47.2	46.8	46.4	45.9	45.5	45.0	44.5
70%:	44.1	43.6	43.3	43.0	42.7	42.5	42.2	41.9	41.6	41.4
80%:	41.3	41.1	40.9	40.7	40.5	40.3	40.0	39.7	39.4	39.2
90%:	39.0	38.9	38.7	38.4	38.2	38.0	37.8	37.5	37.3	37.1
100%:	36.4									

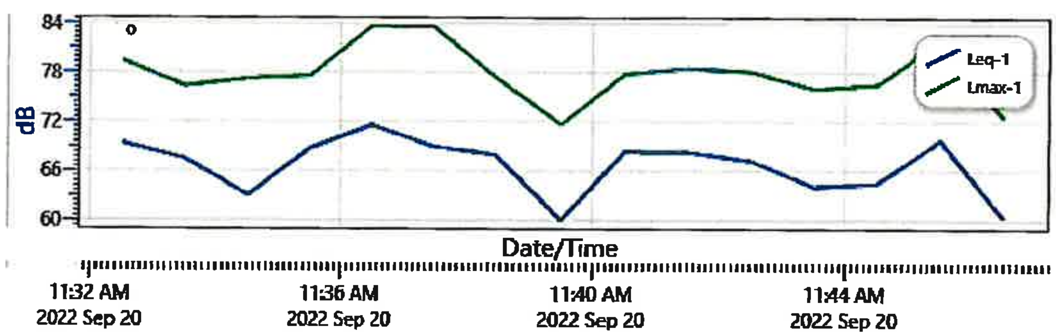
Exceedance Chart

S279: Exceedance Chart



Logged Data Chart

S279: Logged Data Chart



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Noise Measurement Report Form – Part A

Date: 9/20/2022 Day of Week: Tuesday Time: 12:10 Project Number: 7189

Monitoring Segment / Area: 5 Monitoring Site Address: 52 2nd Street, Calexico

Measurement Taken By: Erik / Michael of UltraSystems Environmental

Average Wind Speed: 0.6 mph [km/hr] Compass Heading (meter ⊥ to source) 330° NW

Temp: 95° °F Relative Humidity: 23.4 % Compass Heading (into wind) 62° NE

Cloud Cover Class (1 = heavy overcast, 2 = lightly overcast, 3 = sunny) 3

Approximate distance of sound level meter from receptor location: 65 ft

Approximate distance of sound level meter from construction site: ______
(Leave Blank for Baseline Ambient)

Receptor Land Use (Check One): ☑ Residential ☐ Institutional ☐ Comm./Ind. ☐ Recreational

Sound Level Meter: Make and Model: Quest SoundPro DL-1-1/3 Serial Number: BIN030017

Meter Setting: ☑ A-Weighted Sound Level (SLOW) ☐ A-Weighted Sound Level (FAST)

Measurement Start Time: 12:10 pm Measurement End Time: 12:25 pm

Total Measurement Time: 15 min Session File Name (e.g., S012): S280

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Caltrans ☐ Complaint response

Measurement Results

Measurement Type	Measured Levels (dB)	
Calibration	Pre: 114.0	Post: 114.2
L_{eq} (h)	Slow: 49.9	Fast:
L_{max}	Slow: 71.7	Fast:
L_{90}	Slow: 44.6	Fast:

Field Notes:

1. Dog Barking
2. Air Conditioning from mobile Homes
3.

Noise Monitor's Signature: [signature] Date: 9/20/22

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Noise Measurement Report Form – Part B

Date: 9/20/22 Day of Week: Tuesday Time: 12:10PM Project Number: 7159

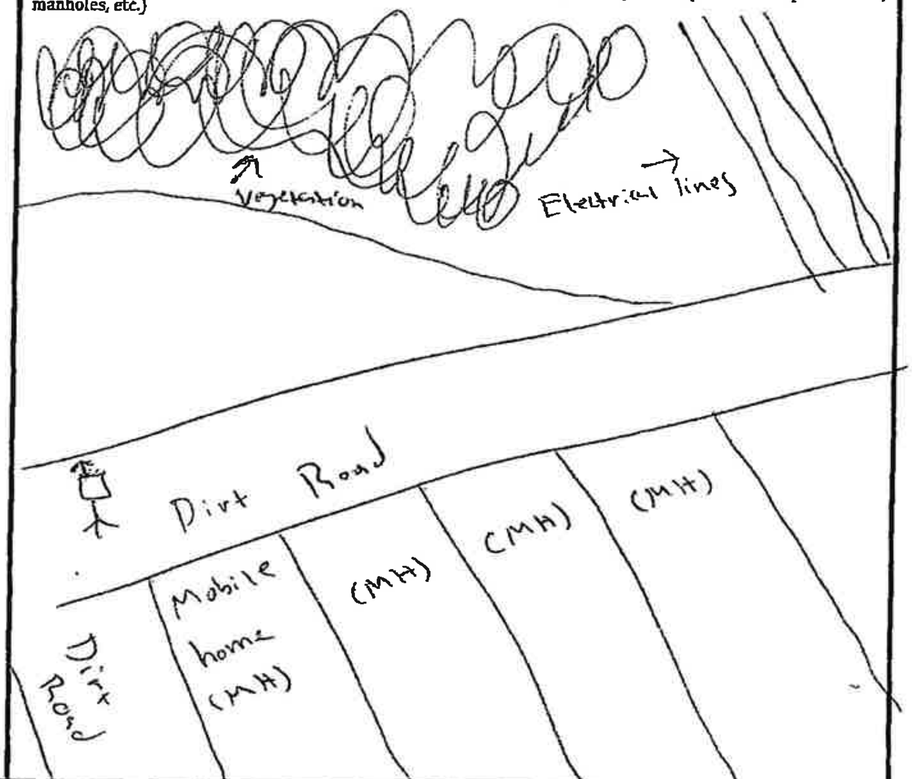
Monitoring Segment / Area: 5 Monitoring Site Address: 52 ~~[illegible]~~ 2nd Street, Calexico

Site Map

Plan View

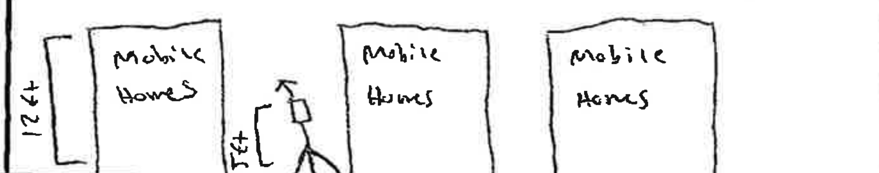
North Arrow (Fill-In)

(Indicate site location, receptor location, meter location, distance in feet to landmarks, roadways, travel lane directions, geographical objects: trees, water, buildings, signs, store names, hydrants, power & telephone lines, manholes, etc.)



Elevation View

(Indicate terrain, roadway, height and location of receptor, meter, walls, barriers, buildings, etc.)



Latitude: 32.669506°	**Longitude:** -115.528889	**Elevation:** 0ft

Noise Monitor's Signature: [signature] Date: 9/20/22

EEC ORIGINAL PKG

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Session Report

9/23/2022

Information Panel

Name	S280
Start Time	9/20/2022 12:09:37 PM
Stop Time	9/20/2022 12:24:37 PM
Device Name	BIN030017
Model Type	SoundPro DL
Device Firmware Rev	R.13F
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	49.8 dB	L90	1	44.6 dB
Lmax	1	71.7 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	5 dB	Weighting	2	C
Response	2	FAST			

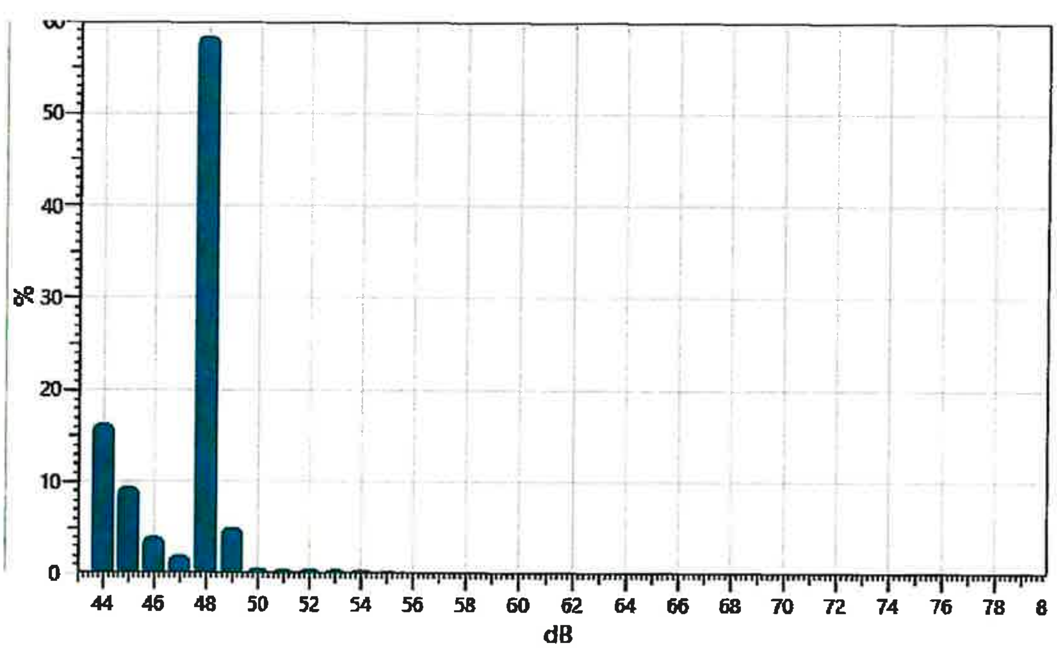
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
43:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.28
44:	1.01	0.64	1.23	1.69	1.45	1.37	1.52	3.01	2.66	1.71	16.31
45:	1.01	0.90	1.30	1.30	0.77	0.39	0.78	0.82	0.82	1.37	9.44
46:	0.83	0.37	0.66	0.46	0.29	0.29	0.30	0.20	0.32	0.32	4.04
47:	0.32	0.26	0.24	0.13	0.10	0.12	0.18	0.20	0.15	0.35	2.03
48:	0.66	1.26	3.76	4.71	7.68	10.00	9.26	10.11	6.89	4.09	58.41
49:	1.70	0.57	0.56	0.82	0.52	0.31	0.18	0.13	0.13	0.11	5.04
50:	0.15	0.09	0.07	0.05	0.06	0.04	0.03	0.04	0.03	0.04	0.60
51:	0.03	0.04	0.04	0.04	0.04	0.03	0.05	0.09	0.06	0.06	0.48
52:	0.06	0.05	0.05	0.04	0.05	0.06	0.05	0.05	0.05	0.06	0.53
53:	0.06	0.06	0.05	0.05	0.04	0.05	0.05	0.04	0.03	0.04	0.48
54:	0.05	0.05	0.04	0.05	0.04	0.04	0.04	0.05	0.05	0.04	0.44
55:	0.04	0.03	0.02	0.04	0.04	0.03	0.04	0.04	0.03	0.02	0.33

56:	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.01	0.02	0.19
57:	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.03	0.01	0.02	0.22
58:	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.15
59:	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.15
60:	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.17
61:	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.12
62:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08
63:	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.11
64:	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.11
65:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09
66:	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.07
67:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
68:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
69:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
70:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03
71:	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.03

Statistics Chart

S280: Statistics Chart



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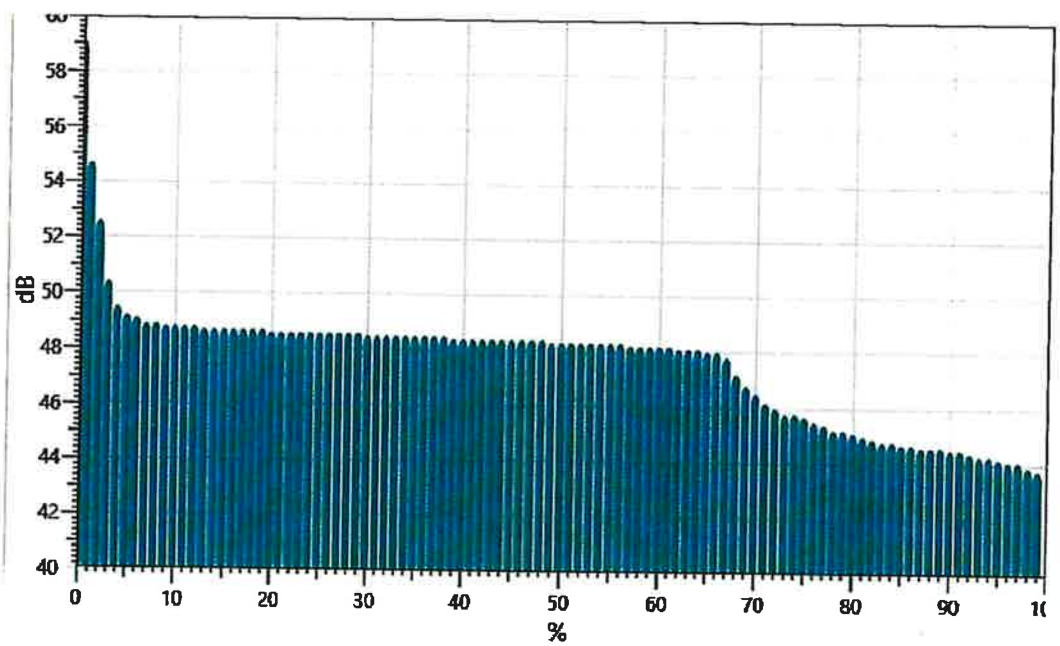
Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		59.1	54.7	52.6	50.4	49.5	49.2	49.1	48.9	48.9
10%:	48.8	48.8	48.8	48.8	48.7	48.7	48.7	48.7	48.7	48.7
20%:	48.7	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6
30%:	48.6	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5
40%:	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4
50%:	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.3	48.2	48.2
60%:	48.2	48.2	48.2	48.1	48.1	48.1	48.0	48.0	47.8	47.2
70%:	46.8	46.5	46.2	46.0	45.8	45.8	45.7	45.5	45.4	45.2
80%:	45.2	45.1	45.0	44.9	44.8	44.8	44.7	44.7	44.6	44.6
90%:	44.6	44.5	44.5	44.4	44.3	44.3	44.2	44.1	44.1	43.9
100%:	43.8									

Exceedance Chart

S280: Exceedance Chart



EEC ORIGINAL PKG

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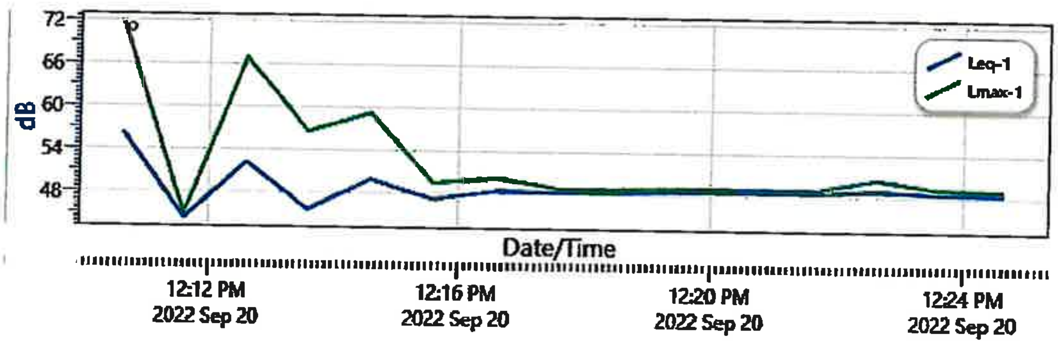
Logged Data Chart

S280: Logged Data Chart



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Noise Measurement Report Form – Part A

Date: 09/20/2022 Day of Week: Tuesday Time: 12:57pm Project Number: 7189

Monitoring Segment / Area: 4 Monitoring Site Address: 1073 Grant Street calex.cc

Measurement Taken By: Erik/Michael of UltraSystems Environmental

Average Wind Speed: 0 mph [km/hr] Compass Heading (meter ⊥ to source) 336 NW

Temp: 98.3° F Relative Humidity: 24.1 % Compass Heading (into wind) ~~336 NW~~ 63° NE

Cloud Cover Class (1 = heavy overcast, 2 = lightly overcast, 3 = sunny) 3

Approximate distance of sound level meter from receptor location: 33ft

Approximate distance of sound level meter from construction site: ______
(Leave Blank for Baseline Ambient)

Receptor Land Use (Check One): ☑ Residential ☐ Institutional ☐ Comm./Ind. ☐ Recreational

Sound Level Meter: Make and Model: Quest SoundPro DL-1-1/3 Serial Number: ______

Meter Setting: ☐ A-Weighted Sound Level (SLOW) ☐ A-Weighted Sound Level (FAST)

Measurement Start Time: 12:57pm Measurement End Time: 1:12pm

Total Measurement Time: 15 Session File Name (e.g., S012): S281

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Caltrans ☐ Complaint response

Measurement Results

Measurement Type	Measured Levels (dB)	
Calibration	Pre: 114.0	Post: 114.2
L_{eq} (h)	Slow: 54.7	Fast:
L_{max}	Slow: 66.5	Fast:
L_{90}	Slow: 44.1	Fast:

Field Notes:

1. Dirt Hill
2. cars starting
3.

Noise Monitor's Signature: [signature] Date: 09/20/22

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Noise Measurement Report Form – Part B

Date: 09/20/22 Day of Week: Tuesday Time: 12:52pm Project Number: 2189

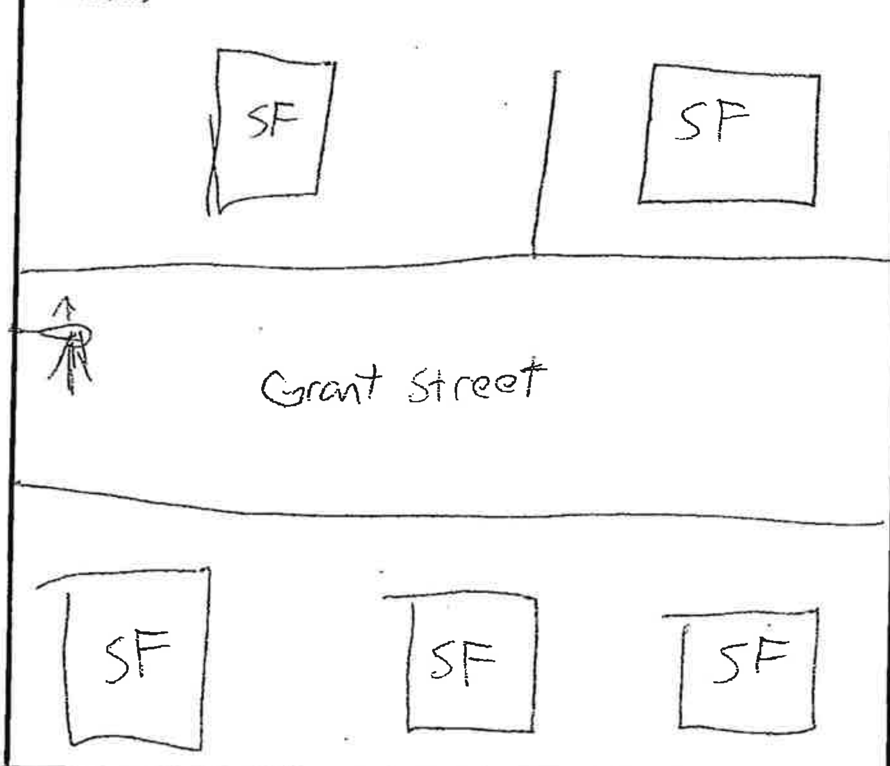
Monitoring Segment / Area: 4 Monitoring Site Address: 1023 Grant Street

Site Map

Plan View

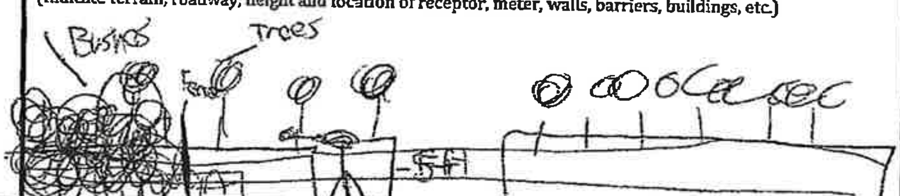
North Arrow (fill-in)

(Indicate site location, receptor location, meter location, distance in feet to landmarks, roadways, travel lane directions, geographical objects: trees, water, buildings, signs, store names, hydrants, power & telephone lines, manholes, etc.)



Elevation View

(Indicate terrain, roadway, height and location of receptor, meter, walls, barriers, buildings, etc.)



Latitude: 32.674298°	**Longitude:** −115.524768°	**Elevation:** 0ft

Noise Monitor's Signature: [signature] Date: 09/20/22

EEC ORIGINAL PKG

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Session Report

9/23/2022

Information Panel

Name	S281
Start Time	9/20/2022 12:57:03 PM
Stop Time	9/20/2022 1:12:03 PM
Device Name	BIN030017
Model Type	SoundPro DL
Device Firmware Rev	R.13F
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	54.7 dB	L90	1	41.1 dB
Lmax	1	66.5 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	5 dB	Weighting	2	C
Response	2	FAST			

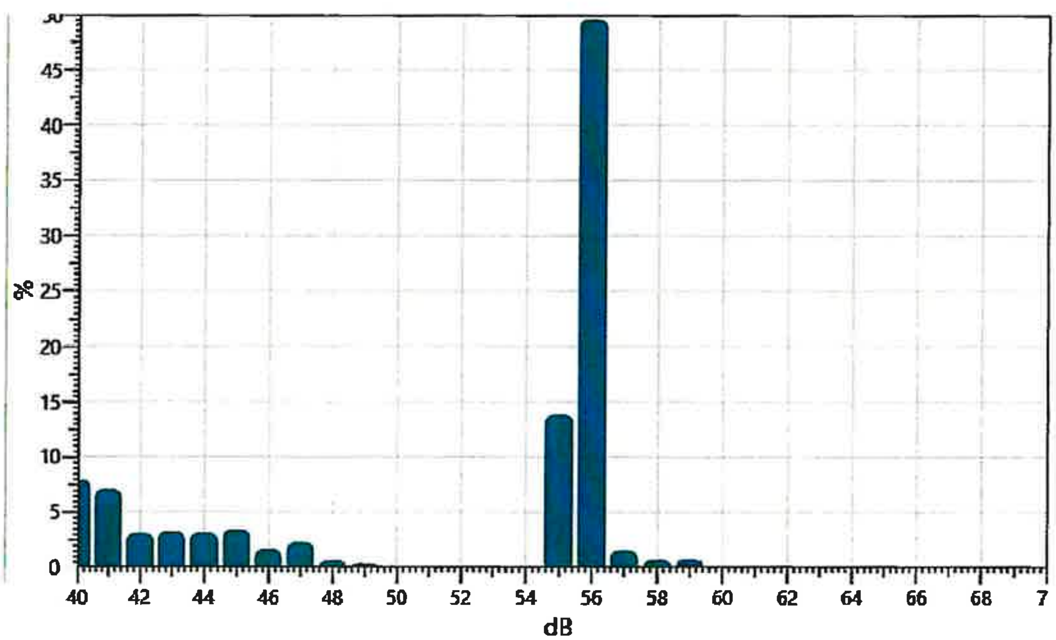
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
40:	0.00	0.02	0.10	0.16	0.41	1.65	1.76	1.65	1.18	0.98	7.92
41:	0.79	1.04	0.81	0.80	0.69	0.63	0.68	0.61	0.53	0.52	7.10
42:	0.36	0.34	0.27	0.23	0.20	0.27	0.27	0.32	0.35	0.44	3.05
43:	0.48	0.12	0.38	0.38	0.41	0.41	0.31	0.28	0.19	0.27	3.23
44:	0.30	0.23	0.22	0.21	0.23	0.25	0.33	0.41	0.37	0.54	3.09
45:	0.41	0.39	0.43	0.37	0.28	0.21	0.22	0.45	0.40	0.26	3.43
46:	0.31	0.15	0.17	0.15	0.15	0.14	0.12	0.14	0.13	0.17	1.62
47:	0.14	0.16	0.41	0.47	0.61	0.14	0.12	0.09	0.07	0.06	2.29
48:	0.09	0.06	0.07	0.06	0.06	0.06	0.05	0.05	0.04	0.05	0.60
49:	0.05	0.04	0.05	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.38
50:	0.03	0.02	0.02	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.17
51:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.14
52:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.12

53:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.11
54:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08
55:	0.01	0.01	0.05	0.18	0.41	0.68	1.19	2.24	3.42	5.69	13.87
56:	6.50	8.94	8.45	8.30	5.86	3.84	3.50	2.40	1.03	0.76	49.60
57:	0.43	0.25	0.18	0.11	0.12	0.16	0.06	0.10	0.08	0.07	1.56
58:	0.11	0.07	0.03	0.05	0.06	0.12	0.05	0.04	0.07	0.08	0.68
59:	0.12	0.20	0.16	0.13	0.07	0.03	0.01	0.01	0.01	0.00	0.72
60:	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.04
61:	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04
62:	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03
63:	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.03
64:	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
65:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
66:	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.03

Statistics Chart

S281: Statistics Chart



Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		58.8	57.4	56.9	56.7	56.7	56.6	56.6	56.5	56.5

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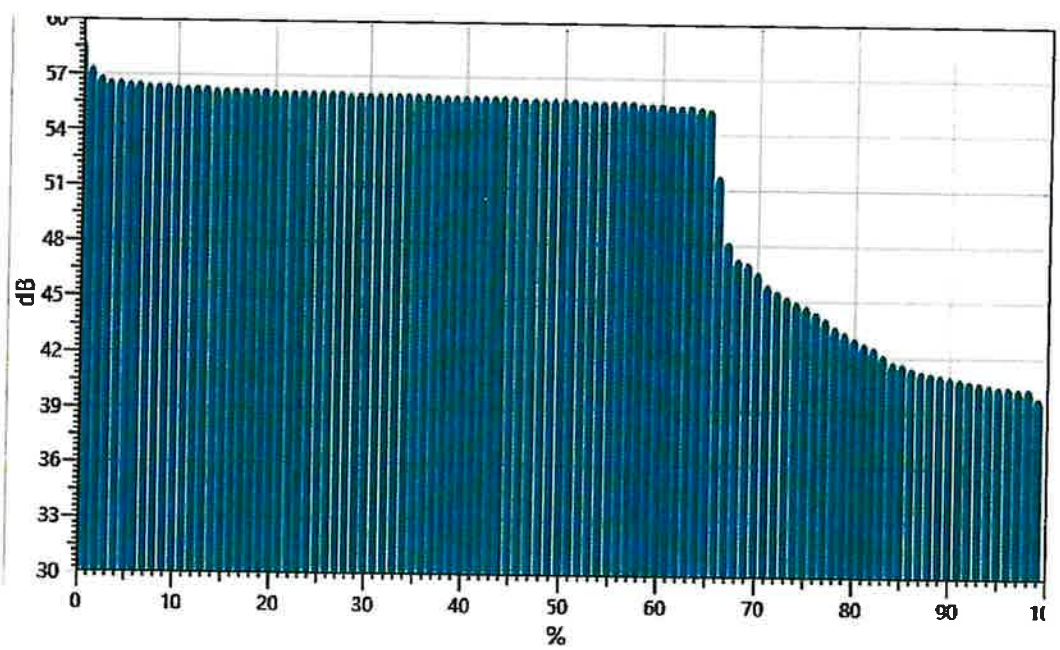
10%:	56.5	56.4	56.4	56.4	56.4	56.3	56.3	56.3	56.3	56.3
20%:	56.3	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.1
30%:	56.1	56.1	56.1	56.1	56.1	56.1	56.1	56.1	56.0	56.0
40%:	56.0	56.0	56.0	56.0	56.0	56.0	56.0	55.9	55.9	55.9
50%:	55.9	55.9	55.9	55.8	55.8	55.8	55.8	55.8	55.8	55.7
60%:	55.7	55.7	55.6	55.6	55.6	55.5	55.4	51.8	48.2	47.3
70%:	47.1	46.6	45.9	45.6	45.3	45.0	44.8	44.5	44.1	43.7
80%:	43.4	43.1	42.8	42.6	42.2	41.8	41.7	41.5	41.3	41.2
90%:	41.1	41.0	40.9	40.8	40.7	40.6	40.5	40.5	40.4	40.4
100%:	39.9									

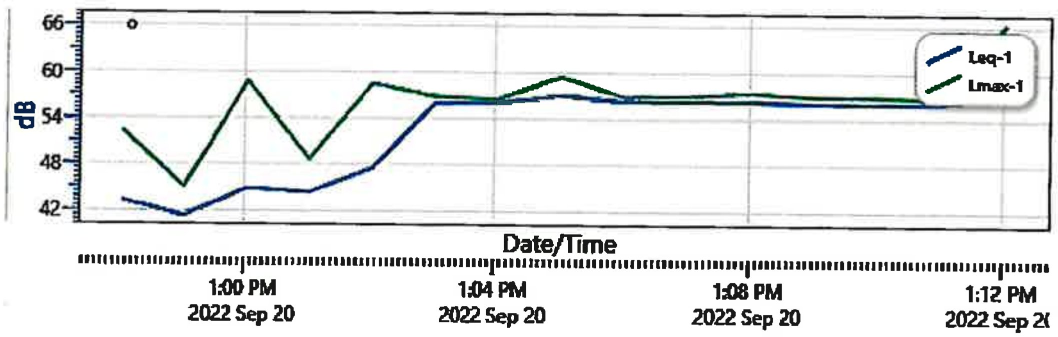
Exceedance Chart

S281: Exceedance Chart



Logged Data Chart

S281: Logged Data Chart



EEC ORIGINAL PKG

PC ORIGINAL PKG

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Noise Measurement Report Form – Part A

Date: 9/20/22 Day of Week: Tuesday Time: 1:30 Project Number: 7189

Monitoring Segment / Area: 3 Monitoring Site Address: 1101 Rainbow Ave

Measurement Taken By: Erik / Michael of UltraSystems Environmental

Average Wind Speed: 0 mph [km/hr] Compass Heading (meter ⊥ to source) ____

Temp: 98.6 °F Relative Humidity: 27.5 % Compass Heading (into wind) 218° SW

Cloud Cover Class (1 = heavy overcast, 2 = lightly overcast, 3 = sunny) 3

Approximate distance of sound level meter from receptor location: 101 ft

Approximate distance of sound level meter from construction site: ____
(Leave Blank for Baseline Ambient)

Receptor Land Use (Check One): ☑ Residential ☐ Institutional ☐ Comm./Ind. ☐ Recreational

Sound Level Meter: Make and Model: Quest SoundPro DL-1-1/3 Serial Number: BIN030017

Meter Setting: ☑ A-Weighted Sound Level (SLOW) ☐ A-Weighted Sound Level (FAST)

Measurement Start Time: 1:30pm Measurement End Time: 1:45pm

Total Measurement Time: 15min Session File Name (e.g., S012): S282

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Caltrans ☐ Complaint response

Measurement Results

Measurement Type	Measured Levels (dB)	
Calibration	Pre: 114.0	Post: 114.0
$L_{eq (h)}$	Slow: 64.6	Fast:
L_{max}	Slow: 81.3	Fast:
L_{90}	Slow: 40.7	Fast:

Field Notes:

1. Traffic along Hwy 98
2.
3.

Noise Monitor's Signature: [signature] Date: 9/20/22

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Noise Measurement Report Form – Part B

Date: 9/20/22 Day of Week: Tuesday Time: 1:30 Project Number: 7189

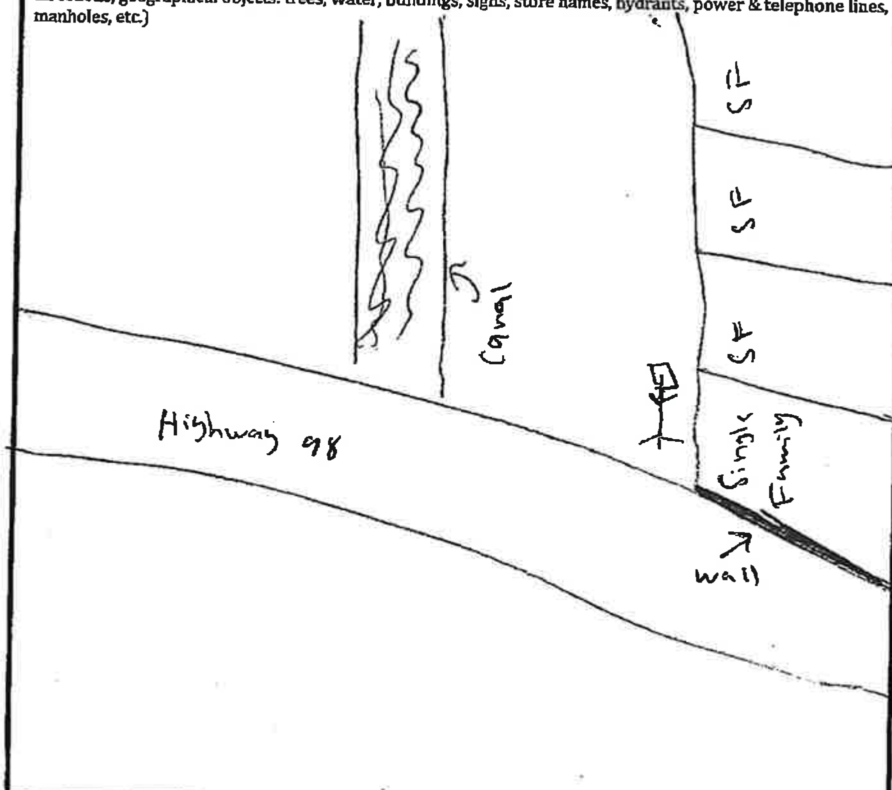
Monitoring Segment / Area: 3 Monitoring Site Address: 1101 Rainbow Avenue

Site Map

Plan View

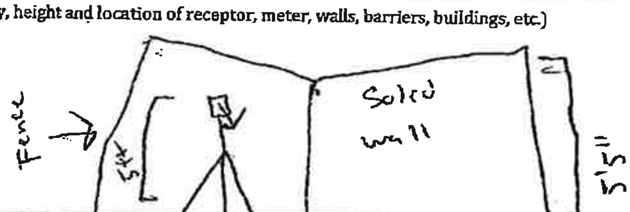
North Arrow (fill-in)

(Indicate site location, receptor location, meter location, distance in feet to landmarks, roadways, travel lane directions, geographical objects: trees, water, buildings, signs, store names, hydrants, power & telephone lines, manholes, etc.)



Elevation View

(Indicate terrain, roadway, height and location of receptor, meter, walls, barriers, buildings, etc.)



Latitude: 32.679503°	Longitude: -115.522573°	Elevation: 0ft

Noise Monitor's Signature: [signature] Date: 9/20/2022

EEC ORIGINAL PKG

PC ORIGINAL PKG

Session Report

9/23/2022

Information Panel

Name	S282
Start Time	9/20/2022 1:30:05 PM
Stop Time	9/20/2022 1:45:05 PM
Device Name	BIN030017
Model Type	SoundPro DL
Device Firmware Rev	R.13F
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	64.6 dB	L90	1	40.7 dB
Lmax	1	81.3 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	5 dB	Weighting	2	C
Response	2	FAST			

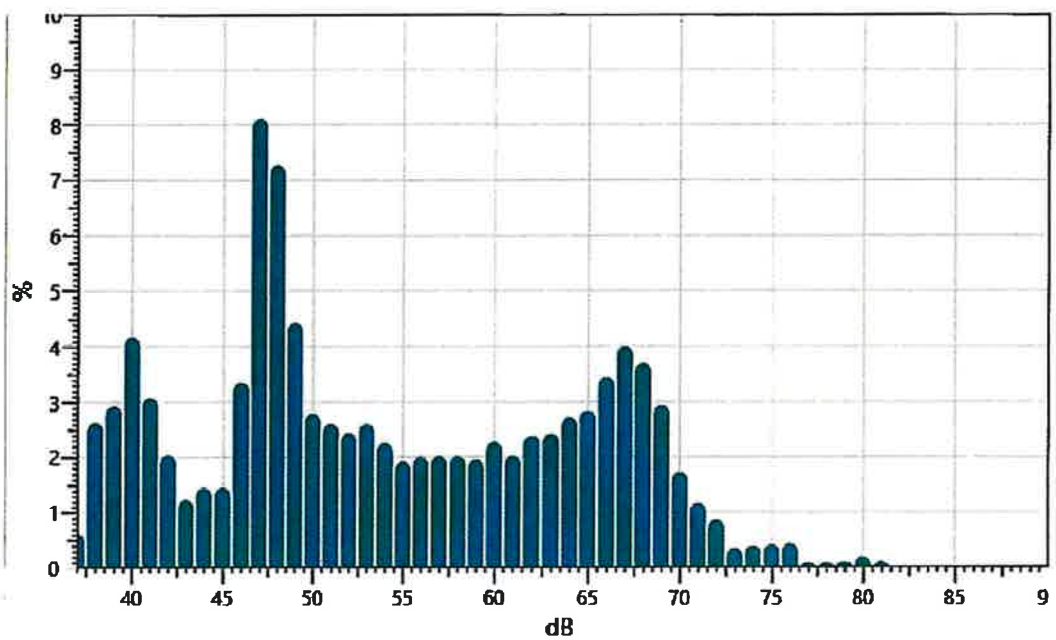
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
37:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.14	0.42	0.62
38:	0.60	0.37	0.29	0.32	0.25	0.19	0.18	0.16	0.10	0.16	2.63
39:	0.27	0.27	0.26	0.19	0.21	0.28	0.36	0.38	0.35	0.36	2.93
40:	0.54	0.22	0.42	0.47	0.41	0.42	0.52	0.39	0.45	0.34	4.18
41:	0.22	0.32	0.35	0.32	0.27	0.40	0.29	0.37	0.25	0.28	3.07
42:	0.22	0.22	0.24	0.18	0.25	0.20	0.18	0.21	0.17	0.16	2.03
43:	0.16	0.06	0.12	0.13	0.13	0.12	0.13	0.13	0.13	0.13	1.24
44:	0.11	0.12	0.11	0.14	0.17	0.16	0.18	0.16	0.16	0.14	1.44
45:	0.14	0.15	0.15	0.16	0.17	0.14	0.12	0.12	0.16	0.14	1.45
46:	0.14	0.08	0.12	0.21	0.35	0.37	0.31	0.60	0.68	0.50	3.35
47:	0.55	0.92	0.80	0.79	0.43	0.61	1.20	1.05	0.76	1.00	8.11
48:	1.03	1.25	0.96	0.98	0.72	0.49	0.41	0.47	0.48	0.47	7.27
49:	0.64	0.41	0.60	0.53	0.54	0.43	0.38	0.28	0.29	0.34	4.43

50:	0.26	0.29	0.28	0.26	0.27	0.26	0.31	0.30	0.22	0.33	2.79
51:	0.27	0.27	0.26	0.25	0.23	0.27	0.25	0.26	0.30	0.25	2.61
52:	0.32	0.24	0.24	0.26	0.23	0.25	0.23	0.22	0.22	0.21	2.43
53:	0.20	0.26	0.26	0.22	0.24	0.26	0.24	0.26	0.36	0.30	2.60
54:	0.28	0.24	0.21	0.22	0.26	0.20	0.19	0.21	0.20	0.24	2.26
55:	0.26	0.20	0.15	0.19	0.19	0.18	0.18	0.16	0.21	0.20	1.92
56:	0.19	0.17	0.19	0.18	0.22	0.20	0.25	0.21	0.19	0.20	2.00
57:	0.20	0.20	0.19	0.19	0.19	0.18	0.24	0.18	0.22	0.23	2.01
58:	0.28	0.24	0.14	0.22	0.20	0.19	0.19	0.19	0.19	0.18	2.01
59:	0.18	0.19	0.19	0.18	0.21	0.21	0.21	0.20	0.19	0.19	1.95
60:	0.20	0.22	0.25	0.23	0.24	0.24	0.23	0.22	0.22	0.23	2.27
61:	0.23	0.24	0.14	0.22	0.20	0.18	0.23	0.21	0.19	0.18	2.02
62:	0.20	0.20	0.19	0.24	0.23	0.27	0.24	0.25	0.28	0.28	2.38
63:	0.25	0.26	0.28	0.23	0.23	0.22	0.23	0.23	0.24	0.25	2.41
64:	0.34	0.33	0.23	0.26	0.26	0.27	0.25	0.25	0.27	0.27	2.72
65:	0.26	0.26	0.26	0.26	0.29	0.31	0.30	0.31	0.30	0.30	2.84
66:	0.31	0.32	0.35	0.28	0.28	0.26	0.32	0.39	0.40	0.54	3.44
67:	0.45	0.57	0.35	0.43	0.34	0.36	0.36	0.40	0.38	0.36	4.00
68:	0.32	0.35	0.36	0.38	0.39	0.36	0.38	0.38	0.39	0.39	3.69
69:	0.39	0.29	0.26	0.27	0.31	0.25	0.29	0.30	0.33	0.26	2.94
70:	0.19	0.22	0.13	0.17	0.19	0.14	0.17	0.21	0.16	0.14	1.73
71:	0.15	0.19	0.19	0.14	0.10	0.08	0.08	0.09	0.07	0.08	1.17
72:	0.09	0.09	0.09	0.13	0.14	0.08	0.06	0.05	0.07	0.07	0.86
73:	0.06	0.04	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.35
74:	0.03	0.03	0.04	0.04	0.04	0.06	0.06	0.04	0.03	0.03	0.39
75:	0.02	0.05	0.03	0.05	0.04	0.02	0.06	0.04	0.05	0.05	0.42
76:	0.04	0.04	0.11	0.04	0.07	0.03	0.03	0.03	0.03	0.01	0.44
77:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09
78:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09
79:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.11
80:	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.19
81:	0.02	0.03	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.11

Statistics Chart

S282: Statistics Chart

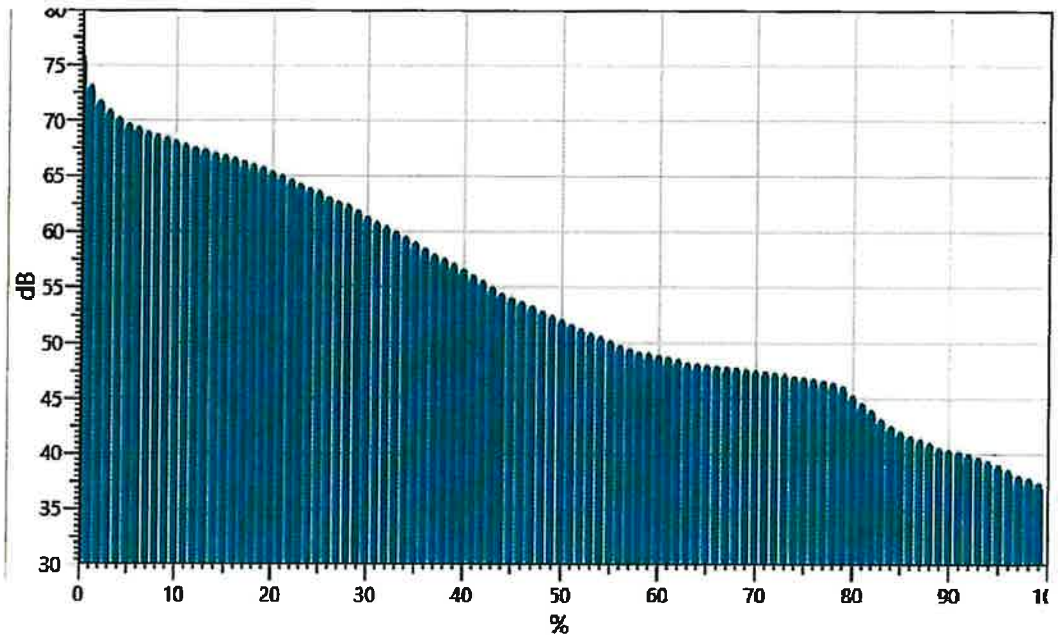


Exceedance Table

.	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		75.9	73.3	71.9	71.0	70.4	69.8	69.5	69.1	68.8
10%:	68.6	68.3	68.0	67.7	67.5	67.2	67.0	66.8	66.5	66.2
20%:	65.9	65.5	65.2	64.8	64.4	64.0	63.7	63.2	62.8	62.5
30%:	62.0	61.5	61.0	60.6	60.1	59.7	59.2	58.6	58.1	57.7
40%:	57.2	56.7	56.2	55.7	55.1	54.6	54.2	53.8	53.4	53.0
50%:	52.6	52.2	51.8	51.4	51.0	50.7	50.3	49.9	49.6	49.3
60%:	49.2	49.0	48.8	48.6	48.3	48.2	48.1	48.0	47.9	47.8
70%:	47.7	47.6	47.5	47.4	47.3	47.1	47.0	46.9	46.7	46.5
80%:	46.2	45.4	44.7	44.1	43.3	42.6	42.1	41.7	41.4	41.1
90%:	40.7	40.5	40.3	40.1	39.8	39.5	39.1	38.7	38.2	37.9
100%:	37.5									

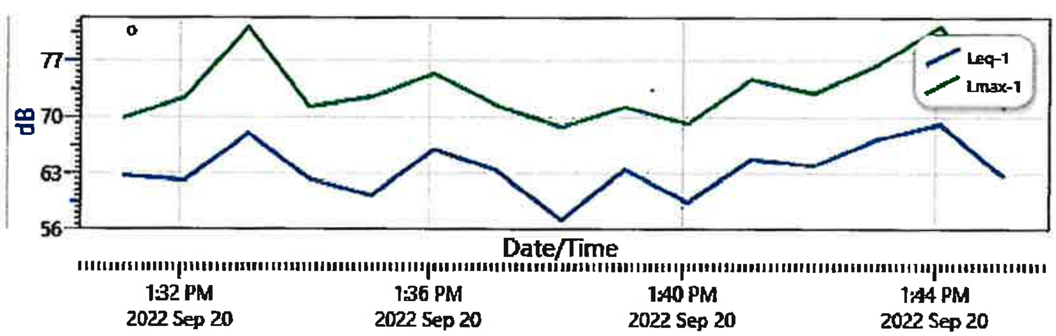
Exceedance Chart

S282: Exceedance Chart



Logged Data Chart

S282: Logged Data Chart



EEC ORIGINAL PKG

PC ORIGINAL PKG

UltraSystems
environmental | management | planning

16431 Scientific Way
Irvine, CA 92618
949.788.4900

Noise Measurement Report Form – Part A

Date: 9/20/2022 Day of Week: Tuesday Time: 1:57 Project Number: 7159

Monitoring Segment / Area: 2 Monitoring Site Address: 4 W Highway 98

Measurement Taken By: Erik / Michael of UltraSystems Environmental

Average Wind Speed: 3.3 mph [km/hr] Compass Heading (meter ⊥ to source) 19° N

Temp: 96.8 °F Relative Humidity: 30.6 % Compass Heading (into wind) 185° S

Cloud Cover Class (1 = heavy overcast, 2 = lightly overcast, 3 = sunny) 3

Approximate distance of sound level meter from receptor location: 12 ft

Approximate distance of sound level meter from construction site: ______
(Leave Blank for Baseline Ambient)

Receptor Land Use (Check One): ☑ Residential ☐ Institutional ☐ Comm./Ind. ☐ Recreational

Sound Level Meter: Make and Model: Quest SoundPro DL-1-1/3 Serial Number: BIN030017

Meter Setting: ☑ A-Weighted Sound Level (SLOW) ☐ A-Weighted Sound Level (FAST)

Measurement Start Time: 1:57 pm Measurement End Time: 2:12 pm

Total Measurement Time: 15 min Session File Name (e.g., S012): S283

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Caltrans ☐ Complaint response

Measurement Results

Measurement Type	Measured Levels (dB)	
Calibration	Pre: 114.0	Post: 114.1
L_{eq} (h)	Slow: 66.2	Fast:
L_{max}	Slow: 84.0	Fast:
L_{90}	Slow: 39.1	Fast:

Field Notes:

1. Traffic along Hwy 98
2.
3.

Noise Monitor's Signature: [signature] Date: 9/20/22

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PC ORIGINAL PKG

UltraSystems
environmental | management | planning

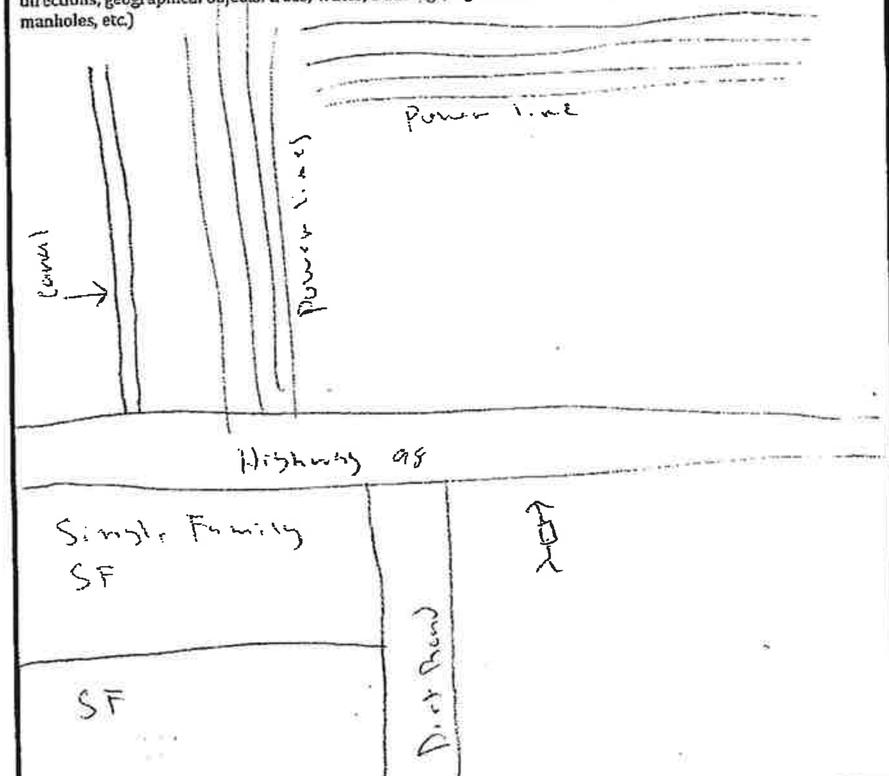
16431 Scientific Way
Irvine, CA 92618
949.788.4900

Noise Measurement Report Form – Part B

Date: 9/20/22 Day of Week: Tuesday Time: 1:57 Project Number: 7184

Monitoring Segment / Area: 2 Monitoring Site Address: Hw highway 98

Site Map

Plan View North Arrow (fill-in)	(Indicate site location, receptor location, meter location, distance in feet to landmarks, roadways, travel lane directions, geographical objects: trees, water, buildings, signs, store names, hydrants, power & telephone lines, manholes, etc.) 
Elevation View	(Indicate terrain, roadway, height and location of receptor, meter, walls, barriers, buildings, etc.) 

Latitude: 32.679182°	Longitude: -115.533357	Elevation: 0 ft

Noise Monitor's Signature: [signature] Date: 9/20/2022

EEC ORIGINAL PKG

PC ORIGINAL PKG

Session Report

9/23/2022

Information Panel

Name	S283
Start Time	9/20/2022 1:55:44 PM
Stop Time	9/20/2022 2:10:44 PM
Device Name	BIN030017
Model Type	SoundPro DL
Device Firmware Rev	R.13F
Comments	

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	66.2 dB	L90	1	39.1 dB
Lmax	1	84 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	SLOW	Bandwidth	1	OFF
Exchange Rate	2	5 dB	Weighting	2	C
Response	2	FAST			

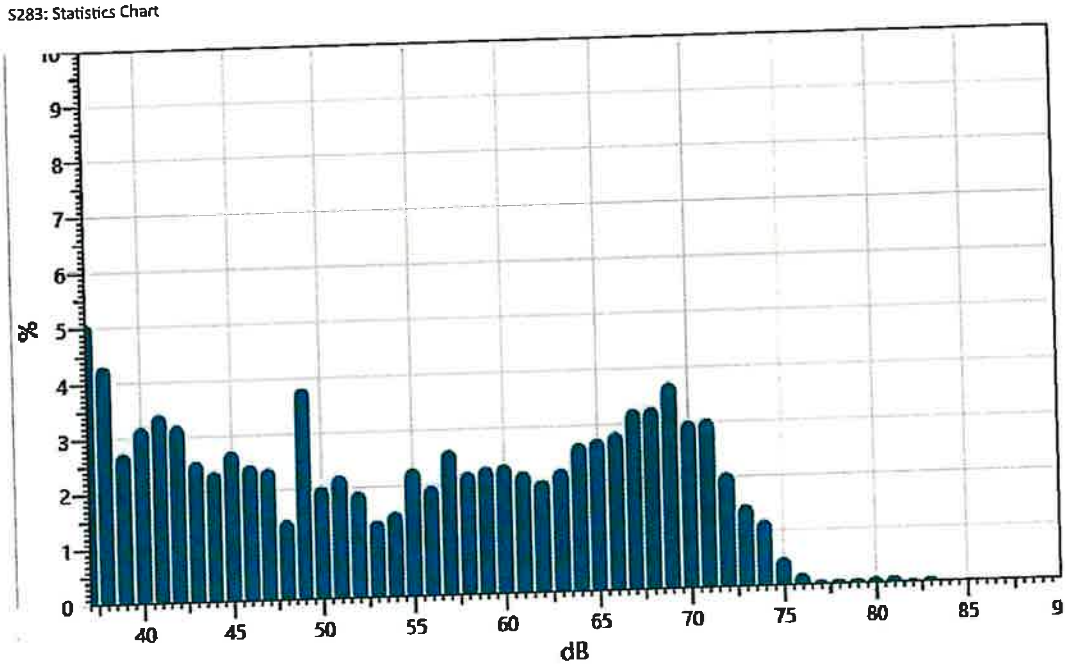
Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
37:	0.08	0.24	0.59	0.55	0.58	0.56	0.75	0.48	0.59	0.66	5.10
38:	0.72	0.57	0.41	0.54	0.36	0.29	0.43	0.39	0.30	0.30	4.32
39:	0.24	0.32	0.28	0.33	0.25	0.47	0.22	0.25	0.20	0.17	2.74
40:	0.26	0.27	0.33	0.26	0.35	0.31	0.36	0.43	0.33	0.29	3.20
41:	0.28	0.25	0.20	0.22	0.30	0.30	0.61	0.47	0.43	0.38	3.42
42:	0.50	0.51	0.35	0.29	0.21	0.21	0.26	0.31	0.27	0.32	3.22
43:	0.31	0.11	0.23	0.24	0.25	0.29	0.35	0.28	0.25	0.24	2.55
44:	0.27	0.25	0.27	0.27	0.31	0.25	0.19	0.20	0.17	0.17	2.36
45:	0.17	0.26	0.33	0.34	0.27	0.24	0.28	0.37	0.24	0.24	2.73
46:	0.20	0.15	0.20	0.24	0.30	0.24	0.28	0.31	0.28	0.26	2.47
47:	0.26	0.31	0.32	0.36	0.25	0.18	0.21	0.22	0.15	0.13	2.39
48:	0.13	0.13	0.14	0.17	0.14	0.14	0.15	0.17	0.16	0.14	1.46
49:	0.15	0.21	0.33	0.33	0.34	0.40	0.55	0.57	0.43	0.52	3.83

50:	0.37	0.23	0.20	0.20	0.20	0.22	0.18	0.13	0.14	0.15	2.03
51:	0.17	0.20	0.19	0.16	0.17	0.22	0.30	0.21	0.28	0.32	2.22
52:	0.27	0.28	0.22	0.20	0.17	0.17	0.16	0.15	0.15	0.14	1.93
53:	0.17	0.15	0.13	0.14	0.13	0.15	0.14	0.14	0.13	0.11	1.41
54:	0.14	0.14	0.15	0.16	0.15	0.14	0.14	0.16	0.18	0.18	1.54
55:	0.18	0.37	0.22	0.20	0.24	0.27	0.23	0.20	0.17	0.24	2.31
56:	0.26	0.26	0.20	0.19	0.21	0.18	0.18	0.18	0.17	0.15	1.99
57:	0.19	0.28	0.33	0.31	0.31	0.24	0.26	0.23	0.21	0.26	2.63
58:	0.26	0.27	0.17	0.19	0.19	0.18	0.16	0.20	0.33	0.28	2.22
59:	0.22	0.26	0.21	0.25	0.25	0.24	0.22	0.24	0.22	0.20	2.30
60:	0.27	0.24	0.23	0.23	0.20	0.23	0.20	0.24	0.25	0.23	2.34
61:	0.25	0.28	0.17	0.23	0.21	0.22	0.21	0.22	0.19	0.22	2.20
62:	0.22	0.22	0.20	0.20	0.20	0.21	0.19	0.19	0.20	0.20	2.03
63:	0.18	0.19	0.21	0.23	0.24	0.24	0.25	0.23	0.23	0.23	2.23
64:	0.24	0.27	0.16	0.24	0.27	0.27	0.27	0.27	0.35	0.34	2.69
65:	0.37	0.33	0.31	0.27	0.26	0.24	0.26	0.24	0.24	0.24	2.76
66:	0.25	0.26	0.26	0.28	0.30	0.28	0.28	0.31	0.30	0.35	2.86
67:	0.35	0.36	0.24	0.35	0.35	0.33	0.30	0.35	0.34	0.30	3.27
68:	0.31	0.31	0.33	0.35	0.36	0.33	0.37	0.31	0.31	0.31	3.29
69:	0.38	0.40	0.41	0.34	0.43	0.39	0.38	0.33	0.33	0.34	3.72
70:	0.38	0.37	0.26	0.28	0.30	0.28	0.30	0.29	0.28	0.27	3.02
71:	0.35	0.34	0.32	0.30	0.28	0.26	0.30	0.35	0.28	0.28	3.05
72:	0.25	0.20	0.24	0.20	0.26	0.23	0.21	0.19	0.14	0.14	2.07
73:	0.20	0.18	0.12	0.16	0.17	0.13	0.12	0.12	0.14	0.16	1.49
74:	0.17	0.16	0.11	0.11	0.10	0.10	0.14	0.10	0.10	0.11	1.20
75:	0.11	0.07	0.08	0.08	0.04	0.02	0.02	0.03	0.03	0.03	0.51
76:	0.03	0.05	0.02	0.02	0.02	0.03	0.02	0.01	0.01	0.01	0.22
77:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09
78:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09
79:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10
80:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.11
81:	0.02	0.01	0.01	0.01	0.03	0.02	0.00	0.01	0.01	0.01	0.13
82:	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.06
83:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.09
84:	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03

Statistics Chart

S283: Statistics Chart

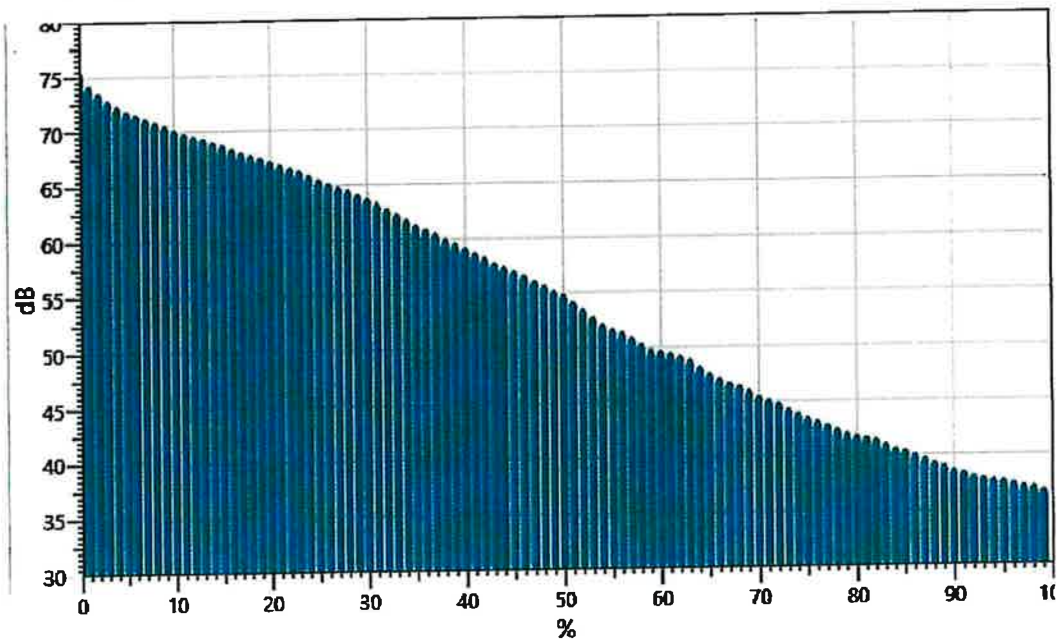


Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		75.6	74.3	73.6	72.9	72.4	71.9	71.6	71.2	70.9
10%:	70.6	70.2	69.9	69.6	69.4	69.1	68.8	68.5	68.2	67.9
20%:	67.6	67.3	67.0	66.7	66.4	66.0	65.6	65.2	64.9	64.6
30%:	64.2	63.8	63.4	62.9	62.4	61.9	61.4	61.0	60.6	60.1
40%:	59.7	59.3	58.8	58.4	57.9	57.5	57.1	56.7	56.2	55.8
50%:	55.3	54.9	54.3	53.6	52.9	52.2	51.8	51.5	51.0	50.4
60%:	49.9	49.7	49.5	49.3	48.9	48.2	47.6	47.2	46.8	46.5
70%:	46.1	45.6	45.2	44.9	44.4	44.0	43.6	43.3	42.9	42.5
80%:	42.1	41.9	41.7	41.5	41.1	40.7	40.5	40.1	39.8	39.4
90%:	39.1	38.7	38.5	38.2	38.0	37.8	37.7	37.5	37.3	37.2
100%:	36.9									

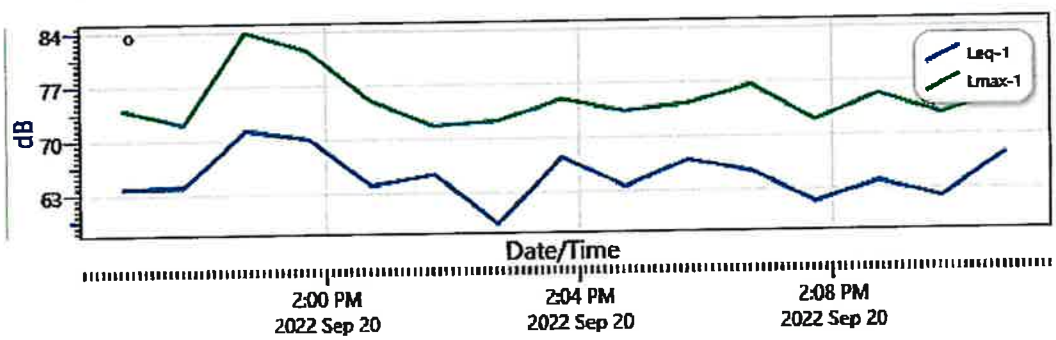
Exceedance Chart

S283: Exceedance Chart



Logged Data Chart

S283: Logged Data Chart



ALUC LETTER OF DETERMINATION

EEC ORIGINAL PKG

PC ORIGINAL PKG

Imperial County Planning & Development Services
Planning / Building

Jim Minnick
DIRECTOR

February 29, 2024

Cal 98 Holdings
8861 Houghton Road
Bakersfield, CA 93331

SUBJECT: Airport Land Use Commission Determination for Cal 98 Holdings
ZC #23-0007/CUP #23-0027

Dear Applicant:

The Airport Land Use Commission (ALUC) on November 15, 2023, held a public hearing on the proposed Zone Change #23-0007 and Conditional Use Permit #23-0027 for a trucking and warehouse facility for consistency or inconsistency with the 1996 Airport Land Use Compatibility Plan (ALUCP). Tom Dubose was present on the applicant's behalf.

After conducting a public hearing, and hearing all the opponents and proponents of the proposed Zone Change and trucking and warehouse facility, the Commission found it consistent with the 1996 Airport Land Use Compatibility Plan (ALUCP).

If you should have any questions, please contact Derek Newland, Planner III, at (442) 265-1736 or via email at dereknewland@co.imperial.ca.us

Sincerely,

Jim Minnick
ALUC Secretary

By:____________
Derek Newland
Planner III

CC: Tom Dubose, tom@dubosedesigngroup.com
Jim Minnick, Planning & Dev. Services Director
Michael Abraham, AICP, Assistant ICPDS Director
Diana Robinson, Planning Division Manager
ZC#23-0007/CUP#23-0027, APN 058-180-001
File: 10.102; 10.101; 10.104; 10.141

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EEC ORIGINAL PKG

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PC ORIGINAL PKG

July 3, 2024

Planning & Development Services Dept, County of Imperial
801 Main Street
El Centro, CA 92243

RE: Cal 98 Holdings – Zone Change #23-0007 / Conditional Use Permit #23-0027 / Initial Study #23-0033

This is in response to your "Notice of Public Hearing" set for July 10, 2024, at 9:00 am. As a resident at 1041 Horizon St, Calexico, I am interested in this project and would like to formally comment.

From what I can see, Cal 88 Holdings wants to convert land zoned as Agriculture to Light Industrial. Given that this conversion will increase traffic and all the negative environmental issues that come with increased traffic, I do not believe this will have a positive effect on the quality of life in my neighborhood. On the contrary, I only see this operation having a negative effect on health issues and property values. This "massive parking lot" will not only be ugly, it will also be unhealthy given the increased pollution (specifically air particulate matter) generated from the increased traffic.

We already have two such operations in our neighborhood – both are located north of Cole Rd and west of Highway 111. Because they are ugly and very dusty, I believe they are appropriately zoned as industrial. Furthermore, they are not as close to our neighborhood as this proposed operation. As is, the dust in our neighborhood has increased significantly over the past 30 years ago. I attribute this dust increase specifically to these two trailer storage operations. As such, we do not want another similar operation that is even closer to our house.

As for this notification, why wait until June 29 to announce a meeting for July 10th? Such short notice gives little time to respond. As is, this notice could have easily not been read until after July 10th. Also, was this notice sent to everyone in English? I ask because my neighbors primarily speak Spanish. Given the short time-frame of a notice written only in English, it feels like the goal is <u>not</u> to receive many comments.

Respectfully,

William Bush
1041 Horizon St.
Calexico, CA 92231

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July 2, 2024

Via Email

Rudy Schaffner, Chairman
Carson Kalin, Vice Chairman
Russel Roben, Commissioner
Dennis Bergh, Commissioner
Sergio Cabanas, Commissioner
Kathryn Dunn, Commissioner
Ernesto Medina, Commissioner
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Re: Comment on the Initial Study/Mitigated Negative Declaration prepared for the Zone Change #23-0007 /Conditional Use Permit #23-0027 /Initial Study #23-0033 Cal 98 Holdings Project

Dear Chairman Rudy Schaffner, Vice Chairman Carson Kalin, Honorable Commissioners, and Planner Newland:

I am writing on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Initial Study/Mitigated Negative Declaration ("IS/MND") prepared for Zone Change #23-0007 /Conditional Use Permit #23-0027 /Initial Study #23-0033 Cal 98 Holdings Project ("Project").

SAFER's review of the IS/MND was assisted by expert wildlife biologist Dr. Shawn Smallwood, Ph.D., air quality expert James Clark of Clark and Associates Environmental Consulting, Inc., and acoustics, noise, and vibration experts Jack Meighan and Nicole Kolak at Wilson Ihrig whose written comments and CVs are attached as Exhibits A, B, and C respectively.

As discussed below, there is substantial evidence supporting a fair argument that the Project may have significant and unmitigated impacts on biological resources, air quality, and noise necessitating the preparation of an EIR.

PROJECT DESCRIPTION

The proposed Project requires a zoning change from A-2-U (General Agriculture within Urban Area) to M-1-U (Light Industrial within Urban Area) and a Conditional Use Permit (CUP) to allow for the construction and operation of a 120,245 square foot warehouse with 832 trailer parking spaces, 20 truck spaces, and 42 car parking spaces. In order to access the property, the Project requires the creation of a north and south lane onto Dogwood Road and left turn only lane on to Highway 98. The addition of a left turn only lane on Highway 98 would add Highway 98 on to Kemp Road, which would need to be paved. The Project site is surrounded by agricultural lands to the north, and the New River to the south.

LEGAL STANDARD

As the California Supreme Court held, "[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result in significant adverse impacts, the proper remedy is to order preparation of an EIR." (*Communities for a Better Env't v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-20.) "Significant environmental effect" is defined very broadly as "a substantial or potentially substantial adverse change in the environment." (Pub. Res. Code ["PRC"] § 21068; see also 14 CCR § 15382.) An effect on the environment need not be "momentous" to meet the CEQA test for significance; it is enough that the impacts are "not trivial." (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 83.) "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Communities for a Better Env't v. Cal. Res. Agency* (2002) 103 Cal.App.4th 98, 109.)

The EIR is the very heart of CEQA. (*Bakersfield Citizens for Local Control v. City of Bakersfield (*2004) 124 Cal.App.4th 1184, 1214 (*Bakersfield Citizens*); *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927.) The EIR is an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return." (*Bakersfield Citizens, supra*, 124 Cal.App.4th at 1220.) The EIR also functions as a "document of accountability," intended to "demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." (*Laurel Heights Improvements Assn. v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 392.) The EIR process "protects not only the environment but also informed self-government." (*Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927.)

An EIR is required if "there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment." (PRC § 21080(d); see also *Pocket Protectors*, *supra*, 124 Cal.App.4th at 927.) An MND instead of an EIR is proper only if project revisions would avoid or mitigate the potentially significant effects identified in the initial study "to a point where clearly no significant effect on the environment would occur, and . . . there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment." (*Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331 [quoting PRC §§ 21064.5, 21080(c)(2)].) In that context, "may" means a reasonable possibility of a significant effect on the environment. (PRC §§ 21082.2(a), 21100, 21151(a); *Pocket Protectors, supra*, 124 Cal.App.4th at 927; *League for Protection of Oakland's etc. Historic Res. v. City of Oakland* (1997) 52 Cal.App.4th 896, 904-05.)

An EIR must be prepared rather than an MND "whenever it can be fairly argued on the basis of substantial evidence that the project may have a significant environmental impact." (*No Oil, Inc. v City of Los Angeles* (1974) 13 Cal.3d 68, 75.) Under this "fair argument" standard, an EIR is required if any substantial evidence in the record indicates that a project may have an adverse environmental effect—even if contrary evidence exists to support the agency's decision. (14 CCR § 15064(f)(1); *Pocket Protectors*, *supra*, 124 Cal.App.4th at 931; *Stanislaus Audubon Society v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-51; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602.) The "fair argument" standard creates a "low threshold" favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. (*Pocket Protectors, supra*, 124 Cal.App.4th at 928.)

The "fair argument" standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains:

> This 'fair argument' standard is very different from the standard normally followed by public agencies in making administrative determinations. Ordinarily, public agencies weigh the evidence in the record before them and reach a decision based on a preponderance of the evidence. [Citations]. The fair argument standard, by contrast, prevents the lead agency from weighing competing evidence to determine who has a better argument concerning the likelihood or extent of a potential environmental impact. The lead agency's decision is thus largely legal rather than factual; it does not resolve conflicts in the evidence but determines only whether substantial evidence exists in the record to support the prescribed fair argument.

(Kostka & Zishcke, Practice Under CEQA, §6.29, pp. 273-74.) The Courts have explained that "it is a question of law, not fact, whether a fair argument exists, and the courts owe no deference to the lead agency's determination. Review is de novo, with a preference for resolving doubts in favor of environmental review." (*Pocket Protectors*, *supra*, 124 Cal.App.4th at 928.)

DISCUSSION

1. An EIR is Required Because there is a Fair Argument that the Project May Have a Significant Impact on Wildlife.

Expert wildlife biologist Dr. Shawn Smallwood, Ph.D., identified several deficiencies in the IS/MND's analysis of the Project's impacts on wildlife species. Dr. Smallwood's comment and CV are attached as Exhibit A. As discussed below, Dr. Smallwood concluded that: (1) the IS/MND's biological report underestimated the diversity of species occurring on the Project site; (2) the IS/MND failed to disclose and adequately mitigate the Project's impacts on habitat loss, wildlife movement, and vehicle collisions; and (3) the IS/MND's proposed mitigation measures are inadequate.

A. The IS/MND underestimated the diversity of species occurring on the Project site.

The Initial Study fails to accurately describe the range of special status species on the Project site, which forms part of the "environmental setting" of the Project, and without which the Project's impacts cannot be accurately analyzed.

CEQA requires the agency to describe the "environmental setting" of the Project. (CEQA Guidelines §15063(d)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal. App. 4th 322.) The "environmental setting" is defined as "the physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." (Guidelines, § 15360; see § 21060.5; *Lighthouse Field Beach Rescue v. City of Santa Cruz*, 131 Cal. App. 4th 1170, 1192 (2005).) Section 15125(a) of the CEQA Guidelines (14 C.C.R., § 15125(a)) states in pertinent part that a lead agency's environmental review under CEQA:

> "…must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant." (Emphasis added.)

(See, *Communities for a Better Envt. v. So. Coast Air Qual. Mgmt. Dist*. (2010) 48 Cal. 4th 310, 321.) As the court of appeal has explained, "the impacts of the project must be measured against the 'real conditions on the ground,'" (*Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 121-123.)

Dr. Smallwood and his associate, wildlife biologist Noriko Smallwood, M.S., conducted a 2.8-hour site visit on April 28, 2024, and a 3.4-hour site visit on April 29, 2024, and detected 43 species of vertebrate wildlife, including 9 to 10 special-status species. (Ex. A, pp. 1-4.) The

Biological Resources Report prepared by Barrett's Biological Enterprises ("BBE") only detected 11 species of vertebrate wildlife, including 2 special-status species which BBE failed to note in their report. (Ex. A, pp. 20-21.) BBE failed to detect 34 species detected by Dr. Smallwood and Noriko Smallwood, including, verdin, Costa's hummingbird, and Whimbrel, which are all listed as Birds of Conservation Concern by the U.S. Fish & Wildlife Service. (Ex. A, pp. 4, 9.) Additionally, Noriko Smallwood was able to capture photographs of many of these species on the Project site, as shown below:

Photos 5 and 6. *American kestrel and verdin at the project site, 29 April 2024. Photos by Noriko Smallwood.*

Photos 7 and 8. *Costa's hummingbird and Anna's hummingbird at the project site, 29 April 2024. Photos by Noriko Smallwood.*

Photos 19 and 20. *Whimbrel and great-tailed grackle flew across the project site, 28-29 April 2024. Photos by Noriko Smallwood.*

BBE's failure to detect these special-status species, as well as its failure to note that it detected two additional special-status species (Cooper's hawk and black-tailed gnatcatcher) in its report demonstrates the inadequacy of the IS/MND's analysis and the need for an EIR. (Ex. A, pp. 21.)

While Dr. Smallwood and Noriko Smallwood were able to detect several species during their site visits, Dr. Smallwood noted that "at least a year's worth of surveys would be needed to more accurately report the number of vertebrate species that occur at the [P]roject site." (Ex. A, pp. 17.) If given more time to conduct further site visits, Dr. Smallwood calculated that he would have observed 126 species of vertebrate wildlife, including 29 special-status species of vertebrate wildlife. (*Id.*) Dr. Smallwood's prediction demonstrates the need for a an EIR as Dr. Smallwood concluded that "the site is far richer in special-status species than is characterized in the IS/MND." (Ex. A, pp. 23.)

B. The IS/MND failed to disclose and adequately mitigate the Project's impacts on habitat loss, wildlife movement, and vehicle collisions.

Dr. Smallwood found that the IS/MND failed to adequately discuss and mitigate numerous significant impacts that the Project may have on biological resources, including habitat loss and fragmentation, wildlife movement, road mortality, and cumulative impacts. Dr. Smallwood's analysis and findings constitute a fair argument that the Project may have significant unmitigated impacts, necessitating an EIR prior to the approval of the Project.

1. <u>Habitat loss and fragmentation</u>

Dr. Smallwood found that BBE's analysis of the Project's impact on habitat loss was inadequate because it failed to address how habitat loss resulting from the Project would impact the productive capacity of species occurring on the Project site. (Ex. A, pp. 29.) BBE also failed to address how "habitat fragmentation multiplies the negative effects of habitat loss on the productive capacities of biological species." (*Id.*) Dr. Smallwood noted that the habitat value of the Project site is high given the fact that much of the Imperial Valley has recently been developed to support utility-scale solar projects and additional industrialization. (*Id.*) Thus "[t]he loss of habitat on the [P]roject site would result in substantial reductions in species richness and the number of wild animals in the area." (*Id.*) Given that the IS/MND failed to address the potentially significant impacts on habitat loss and fragmentation, an EIR is necessary to ensure these impacts are adequately mitigated.

2. <u>Wildlife Movement</u>

Dr. Smallwood found that BBE failed to analyze the Project's potential interference with wildlife movement, and instead offered an unsupported conclusion that "[t]he proposed [P]roject will not interfere with the currently restricted 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." (Ex. A, pp. 30.) However, Dr. Smallwood's analysis determined that "the site's landscape setting likely increases wildlife traffic on it due to its island-like setting of open space" and given the development currently surrounding the Project site, the site "can be accurately characterized as a[n] [anthropogenic] wildlife movement corridor." (Ex. A, pp. 30-31.) Therefore, an EIR is required to analyze the potentially significant impacts on wildlife movement.

3. Vehicle Collisions

Dr. Smallwood found that the IS/MND failed to consider potentially significant [P]roject-generated traffic impacts to wildlife. (Ex. A, pp. 33.) Based on the IS/MND's projected annual 424,924 VMT, Dr. Smallwood calculated that such an annual VMT would lead to an estimated 233 vertebrate wildlife fatalities per year, yet the IS/MND proposed no measures to mitigate this impact. (*Id.*) Dr. Smallwood's calculations and analysis constitute a fair argument that an EIR is necessary to address and mitigate this impact.

4. Cumulative Impacts

Dr. Smallwood found that the IS/MND provided no analysis on the Project's cumulative impacts to biological resources. (Ex. A, pp. 33.) Instead, the IS/MND concludes that the cumulative impacts will be "[l]ess than significant with mitigation incorporated." (*Id.*) Dr. Smallwood found that the IS/MND "implies that cumulative impacts are really just residual impacts left over by inadequate mitigation of project-level impacts . . . [however,] individually mitigated projects do not negate the significance of cumulative impacts." (Ex. A, pp. 33-34.) Dr. Smallwood concluded that a cumulative impacts analysis is needed to address the habitat fragmentation since the Project "would eliminate a major portion of what remains of the [wildlife] movement corridor . . . [and such an] outcome would surely contribute significantly to cumulative impacts in the region." (Ex. A, pp. 34.) Therefore, the IS/MND's conclusion that the cumulative impacts would be less than significant is unsupported and such impacts must be adequately analyzed in an EIR.

C. The IS/MND's proposed mitigation measures are inadequate.

Dr. Smallwood determined that the IS/MND's proposed mitigation measures were inadequate to reduce impacts to ground-nesting birds, including burrowing owls. (Ex. A, pp. 34-36.)

Dr. Smallwood found that MM BIO 1 and 5 are inconsistent with the mitigation guidelines set out by the California Department of Fish & Wildlife ("CDFW). (Ex. A, pp. 34.) The IS/MND improperly relies on preconstruction nesting surveys as opposed to detection surveys to protect special-status species, such as burrowing owls. (*Id.*) As Dr. Smallwood explains:

> A preconstruction survey is only intended as a follow-up survey to breeding-season detection surveys to ensure that no burrowing owls have repopulated the site since a negative finding from the detection survey or since the passive or active relocations of burrowing owls as a mitigation measure. What is needed prior to the preconstruction survey, and prior to the circulation of an EIR, are breeding-season detection surveys that meet the standards of CDFW. (*Id.*)

Therefore, and EIR should be prepared requiring detection surveys ahead of preconstruction surveys since "[p]reconstruction surveys can do nothing to mitigate the loss of productivity capacity that ensues construction." (Ex. A, pp. 35.)

Dr. Smallwood also found MM BIO 2 and 3, which involves the passive relocation of burrows to be inconsistent with the CDFW guidelines, which warn against such measures as it could lead to the take of burrowing owls. (Ex. A, pp. 35.) In fact, Dr. Smallwood noted that passive relocation of burrows has "contributed to a rapid statewide decline of burrowing owls, prompting the recent petition to list the burrowing owl as Threatened under the California Endangered Species Act. (*Id.*) Thus, an EIR should be prepared requiring mitigation measures that are consistent with CDFW guidelines.

Dr. Smallwood critiqued MM BIO 4, which addresses occupied burrows. (*Id.*) Under this proposed mitigation measure, a biologist would "ensure that the project complies with these mitigation measures and will have the authority to halt activities if they are not in compliance." (*Id.*) Furthermore, the "biologist will inspect the construction areas periodically for the presence of BUOWs [burrowing owls]." (*Id.*) However, according to Dr. Smallwood, such a measure is problematic because it would allow "a single individual to make a subjective decision, outside the public's view, to determine whether and how long construction work would need to be stopped." (*Id.*) Ultimately, "[t]his measure lacks objective criteria, and is unenforceable." (*Id.*) An EIR should be prepared requiring enforceable mitigation measures, based on objective criteria.

Lastly, Dr. Smallwood took issue with MM BIO 6, which addresses employee training on burrowing owls. (Ex. A, pp. 35-36.) Dr. Smallwood noted that while "a worker awareness program should be implemented . . . this measure would prevent few if any of the impacts" mentioned above. (*Id.*) Importantly, "aware workers" would have no control over impacts relating to habitat loss, wildlife movement, or vehicle collisions. (*Id.*)

Dr. Smallwood's critique and analysis demonstrates that the mitigation measures set forth in the IS/MND are inadequate to mitigate impacts to biological resources. Therefore, an EIR should be prepared requiring measures to ensure that impacts to biological resources are minimized to the extent possible.

2. The IS/MND's Air Quality Analysis is Not Supported by Substantial Evidence

Air quality expert, Dr. James Clark, Ph.D., identified several deficiencies in the IS/MND's analysis of the Project's impacts on air quality. Dr. Clark's comment and CV are attached as Exhibit B. As discussed below, Dr. Smallwood concluded that the IS/MND: (1) underestimated the Project's mobile emissions and (2) failed to assess emissions from stationary sources on the Project site. As a result of these errors, the IS/MND's mobile and stationary source emission estimates cannot be relied upon to determine the significance of the Project's air quality impacts.

A negative declaration must accurately describe the proposed project and its impacts. (*Christward Ministry v. Superior Court* (1986) 184 Cal.App.3d 180; CEQA Guidelines §15071(a).) The initial study must "provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment." (CEQA Guidelines § 15063(c)(5).)

a. The MND underestimated the Project's mobile emissions and therefore cannot be relied on as substantial evidence that impacts are less than significant.

1. <u>The IS/MND mischaracterized the Project's truck fleet.</u>

Dr. Clark found that the IS/MND inaccurately characterized the Project's truck fleet by not accounting for trucks entering from Mexico, even though 65 percent of inbound trips are expected to come from Mexico. (Ex. A, pp. 6.) As Dr. Clark explains:

> The IS/MND fails to consider that there are three major truck border crossings with Mexico, averaging 4,000 trucks in each direction daily. Over 90% of these border crossings are made by Mexican-domiciled motor carriers. Currently, there's a lack of data on the environmental impact and activity of border-crossing trucks. The most impacted are the Calexico-El Centro-Heber Community near the Calexico Border Crossing and the International Border Community near the Otay Mesa Border Crossing. Mexican trucks entering California often have dual license plate registrations. This data gap hinders the understanding of fleet characteristics, such as age distribution and fleet size, which CARB needs to estimate the emissions profile of Mexican trucks in California. (*Id.*)

By not accounting for the trucks coming from Mexico, the IS/MND failed to accurately analyze the Project's mobile emissions. An EIR should be prepared, including the characteristics of trucks coming from Mexico, so that the Project's mobile emissions can be accurately accounted for and analyzed.

2. <u>The IS/MND underestimated the average truck trip length for the operational phase of the Project.</u>

Dr. Clark found that the IS/MND underestimated the average truck trip length for heavy duty trucks. (Ex. B, pp. 9.) Based on the vehicle miles traveled ("VMT") per day, and the average number of trips per day provided by the IS/MND, Dr. Clark was able to calculate that the average truck trip length assumed for the Project in the IS/MND would be 4.21 miles. (*Id.*) However, according to the South Coast Air Quality Management District ("SCAQMD"), the average truck trip length for heavy duty trucks is 39.9 miles. (Ex. B, pp. 10.) Using SCAQMD's average "increases the NOx values by an order of magnitude," taking truck emissions from an estimated 0.79 pounds per day to 13.89 pounds per day. (*Id.*) Therefore, an EIR should be prepared to "accurately calculate emissions using fact-based, reasonably foreseeable truck trip lengths." (Ex. B, pp.12.)

b. The IS/MND failed to assess emissions from the stationary sources and therefore cannot be relied on as substantial evidence that impacts are less than significant.

Dr. Clark found that IS/MND failed to account for and analyze stationary sources, such as fire pumps and backup generators. (Ex. B, pp. 8.) According to Dr. Clark, this error must be corrected since the Project will require fire pumps and backup generators. (*Id.*) Thus, there is no substantial evidence to support the IS/MND's determination that emissions from stationary sources will not be significant.

3. The IS/MND Failed to Address the Project's Disproportionate Health Risk Impact to Surrounding Communities.

Dr. Clark determined that the Project would "add to the already heavily impacted regional problem of particulate matter ("PM"), ozone ("O3"), and toxic air contaminants. (Ex. B, pp. 4.) Dr. Clark consulted the California Environmental Protection Agency's CalEnviroScreen screening tool, which ranks each census tract in the State for pollution and socioeconomic vulnerability. (*Id.*) According to CalEnviroScreen 4.0, the Project site located in is in the top 16% of polluted areas in California. (Ex. B, pp, 6.) Given the severity of the air impacts already imposed on the communities surrounding the Project site, an EIR should be prepared to assess the additional pollution burden on these communities. (See *Golden Door Properties, LLC v. Cnty. of San Diego* (2020) 50 Cal. App. 5th 467, 553–55 (CEQA document should analyze health impacts and environmental justice impacts in overburdened communities).)

4. An EIR is Required Because there is a Fair Argument that the Project May Have a Significant Noise Impacts.

Acoustics, noise and vibration experts at Wilson Ihrig identified several deficiencies in the IS/MND's noise impacts analysis including failure to provide adequate operational noise, baseline noise level characterization, parking lot noise, and construction vibration analysis.

1. Operational Noise

Wilson Ihrig found that the Project's operational noise analysis to be incomplete. The noise analysis contains no discussion of expected noise levels from mechanical equipment. (Ex. C, pp. 2-3.) In order to confirm that noise levels from mechanical equipment will not be significant, the "Project Applicant should demonstrate that the level generated by mechanical equipment is below appropriate significance thresholds." (Id. at pp. 3.) Therefore, potentially significant noise impacts from the Project's operations must be analyzed in an EIR. (Id.)

2. Baseline Noise Level Characterizations

Wilson Ihrig found that the Project's baseline noise level characterizations were incomplete. (Id.) The Project's noise analysis relies on measurements taken between 11:30 a.m. and 12:3 p.m., despite the fact that the parking lot will be accessible between 9 a.m. and 9 p.m. daily. (Id.) Therefore, the measurements taken during the daytime "do not provide an accurate representation of evening and nighttime noise levels, which are expected to be lower compared to daytime hours." (Id.) By only taking noise measurements during the day, the IS/MND's "current noise measurements overestimate the noise thresholds . . . and thus miss potential noise impacts due to an improperly high noise threshold." (Id.)

Wilson Ihrig found that the IS/MND's reliance on five short-term measurements of 15-minute duration without any discussion of how these measurements would apply to evening conditions to be inadequate. Given that noise can vary widely throughout the day, "relying on measurements that represent only 2% of the time on one particular day during only afternoon hours is not a sound basis for a technical analysis." (Id.) Therefore, an EIR should be prepared to include "thorough baseline measurements taken at key locations over multi-day period" and an analysis which is based on the existing ambient noise conditions. (Id.)

3. Parking Lot Noise

Wilson Ihrig found that the IS/MND's parking lot noise analysis and findings were unsupported. (Id.) While the IS/MND states that the SEL for parking lot activity has been estimated to be 71 dB at 50 feet, "[t]he article that was linked to cite these findings is no longer available to verify the assumptions used in the parking lot analysis." (Id.) Furthermore, the SEL of 71 dB at 50 feet estimated in the noise analysis is significantly lower than the Federal Transit Administration's (FTA) estimate (an SEL of 92 dB at 50 feet) for a parking garage with a similar capacity. (Id. at pp. 4.) Therefore, an EIR should be prepared to include a thorough and supported analysis for parking lot noise levels.

4. Construction Vibration

Wilson Ihrig found that the IS/MND failed to assess the vibration impact of construction-related activities, such as the use of a roller during road paving. (Id.) The IS/MND indicates the use of two rollers but does not include Peak Particle Velocity (PPV vibration levels, nor does it state what type of roller will be used. (Id.) This is important because if a highly intrusive vibratory roller is used, nearby structures could be damaged. Therefore, "[a] vibration analysis and assessment should be included for rollers during construction as they are some of the most vibration generating activities." (Id.) Since the "use of a vibratory roller has the potential to cause significant vibration impact," this impact should be studied in an EIR. (Id.)

CONCLUSION

SAFER respectfully requests that the Planning Commission recommend that an EIR be prepared for the Cal 98 Holdings Project in order to analyze and mitigate potentially significant impacts and to ensure compliance with CEQA.

Sincerely,

Kylah Staley

Kylah Staley
Lozeau | Drury LLP

EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Attn: Derek Newland, Planner III
Imperial County Planning & Development Services Department
801 Main Street
El Centro, CA 92243 3 May 2024

RE: Cal 98 Holdings

Dear Mr. Newland,

I write to comment on the analysis of potential project impacts to wildlife that is presented in the Initial Study/Mitigated Negative Declaration (IS/MND prepared for the proposed zone change and conditional use permit for the Cal 98 Holdings warehouse project, which I understand would convert 44.6 acres of agricultural land and part of the upper embankment of the New River to 120,245-square foot warehouse and 36.57 acres of asphalt paving for parking spaces at 15 SR-98. I am concerned that the characterization of the existing environmental setting is grossly deficient and the impacts analysis is incomplete and inaccurate.

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I also worked as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, wildlife interactions with the anthrosphere, and conservation of rare and endangered species. I authored many papers on these and other topics. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and Raptor Research Foundation, and I've lectured part-time at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-seven years. My CV is attached.

SITE VISIT

Noriko Smallwood, who is a wildlife biologist with a Master's Degree from California State University Los Angeles, accompanied me during a visual-scan survey visit to the east side of the project site on 28 and 29 April 2024. We visited the site for 2.8 hours starting at 16:38 hours on the 28th, and for 3.42 hours starting at 05:45 hours on the 29th. We visually scanned the site with the aid of binoculars for 6.22 hours total. Starting at 21:10 hours on the 28th, we also performed a 0.5-hour bat survey using a Petterson D500 bat detector with Sonobat software.

We recorded all species of vertebrate wildlife we detected, including those whose members flew over the site or were seen nearby, off the site. Animals of uncertain species identity were either omitted or, if possible, recorded to the Genus or higher taxonomic level.

Conditions were clear both days, and 91° to 84° F with a 4 mph East wind on the 28th, and 61° to 78° F with no wind on the 29th. The site proposed for the project was mostly in alfalfa, which had been mowed and windrowed (Photo 1). The alfalfa was bailed toward the end of our survey on the 29th. The site's southern portion supported patches of salt cedar along the upper bank of the New River (Photos 2 and 3). Arundo lined the east side of the project, separating the project site from homes landscaped with palms and other ornamental trees (Photo 4). Homes with palms and other ornamental trees also bordered the west side of the site.

Photos 1 and 2. *Westerly view of alfalfa and Southward view of salt cedar on the project site, 29 April 2024.*

Photo 3. *South-southwestward view of salt cedar on the project site, 29 April 2024.*

Photo 4. *Northerly view of salt cedar bordering the project site, 29 April 2024.*

Noriko and I saw a monarch fly across the alfalfa of the project site, but we could not capture a sharable photo of it. Monarch is a candidate for listing under the federal Endangered Species Act. We also saw American kestrel and verdin (Photos 5 and 6), Costa's hummingbird and Anna's hummingbird (Photos 7 and 8), long-billed curlew and lesser nighthawk (Photos 9 and 10), cattle egret and Eurasian collared-dove (Photos 11 and 12), great egret and great blue heron (Photos 13 and 14), red-winged blackbird and lazuli bunting (Photos 15 and 16), mourning dove and white-winged dove (Photos 17 and 18), whimbrel and great-tailed grackle (Photos 19 and 20), common raven and turkey vulture (Photos 21 and 22), mallard, northern mockingbird and Gambel's quail (Photos 23-25), western meadowlark (Photo 26), Caspian tern and desert cottontail (Photos 27 and 28), and other wildlife species of which we failed to take adequate photos for sharing. We also captured calls of Mexican free-tailed bat (Photo 29). In total we detected 43 species of vertebrate wildlife, including 9 to 10 special-status species depending on whether the warbler we saw was a Yellow Warbler (Table 1).

Photos 5 and 6. *American kestrel and verdin at the project site, 29 April 2024. Photos by Noriko Smallwood.*

Photos 7 and 8. *Costa's hummingbird and Anna's hummingbird at the project site, 29 April 2024. Photos by Noriko Smallwood.*

Photos 9 and 10. *Long-billed curlew and lesser nighthawks both flew across the project site, 28 April 2024.*

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Photos 11 and 12. *Cattle egret and Eurasian collared-dove at the project site, 28 April 2024.*

Photos 13 and 14. *Great egret and great blue heron at the project site, 28-29 April 2024. Lower photo by Noriko Smallwood.*

Photos 15 and 16. *Red-winged blackbird and lazuli bunting over the project site, 29 April 2024. Photos by Noriko Smallwood.*

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Photos 17 and 18. *Mourning doves and white-winged doves flew across the project site, 28-29 April 2024. Photos by Noriko Smallwood.*

Photos 19 and 20. *Whimbrel and great-tailed grackle flew across the project site, 28-29 April 2024. Photos by Noriko Smallwood.*

Photos 21 and 22. *Common raven and turkey vulture flew across the project site, 28 April 2024. Photos by Noriko Smallwood.*

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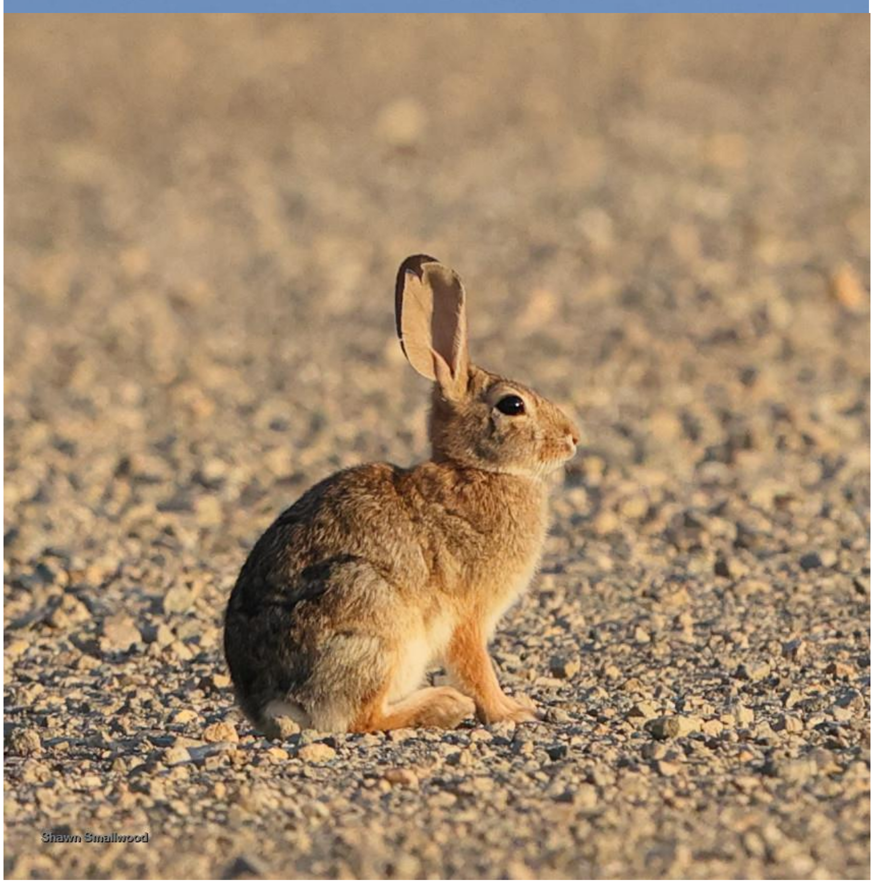
Photo 23. *Mallards on the project site, 29 April 2024. Photo by Noriko Smallwood.*

Photos 24 and 25. *Northern mockingbird and Gambel's quail on the project site, 29 April 2024.*

Photos by Noriko Smallwood.

Photo 26. *Western meadowlark on the project site, 29 April 2024.*



Photos 27 and 28. *Caspian tern and desert cottontail at the project site, 29 April 2024. Top photo by Noriko Smallwood.*

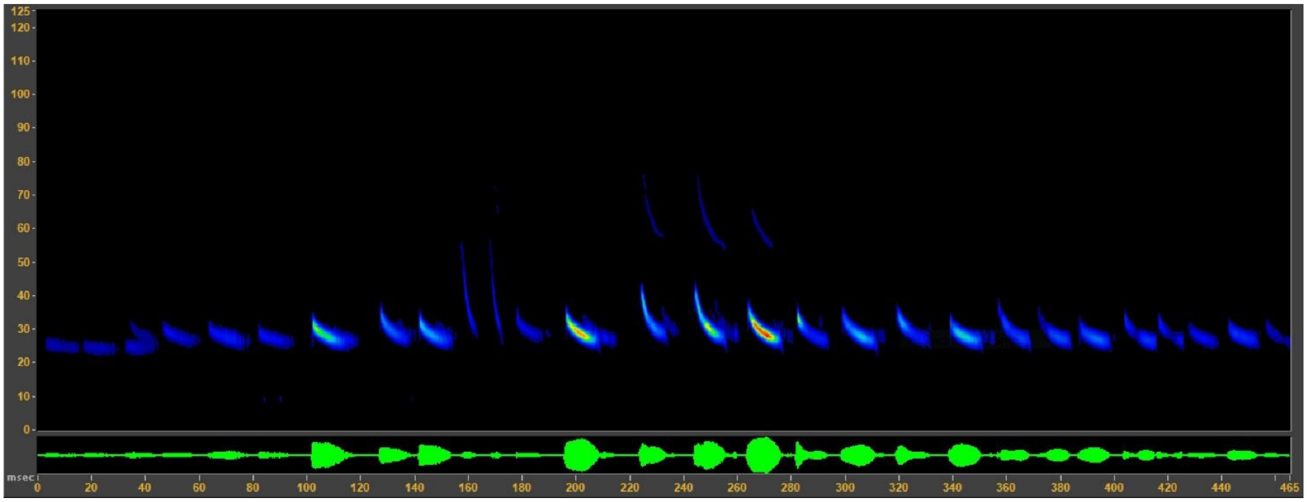


Photo 29. *Sonogram of a Mexican-free-tailed bat at the project site, 28 April 2024, recorded using a Petterson D500 detector and Sonobat.*

Table 1. *Species of wildlife Noriko and I observed during 2.8 hours of survey on 28 April 2024 and 3.42 hours of survey on 29 April 2024.*

Common name	***Species name***	**Status[1]**	**Notes**
Monarch	*Danaus plexippus*	FC	Flew low over site
Mallard	*Anas platyrhynchos*		Pair
Gambel's quail	*Callipepla gambelii*		Two coveys
Rock pigeon	*Columba livia*	Non-native	
Eurasian collared-dove	*Streptopelia decaocto*	Non-native	
White-winged dove	*Zenaida asiatica*		
Mourning dove	*Zenaida macroura*		
Lesser nighthawk	*Chordeiles acutipennis*		
Anna's hummingbird	*Calypte anna*		
Costa's hummingbird	*Calypte costae*	BCC	
Killdeer	*Charadrius vociferus*		Calling just off site
Whimbrel	*Numenius phaeopus*	BCC	Flew over
Long-billed curlew	*Numenius americanus*	TWL	Flew over
Herring gull	*Larus argentatus*		Flew over
Caspian tern	*Hydroprogne caspia*		Flew over
Double-crested cormorant	*Nannopterum auritum*	TWL	Flew over
Great blue heron	*Ardea herodias*		Flew over
Great egret	*Ardea alba*		Flew over
Cattle egret	*Bubulcus ibis*		Many
Turkey vulture	*Cathartes aura*	BOP	
Great horned owl	*Bubo virginianus pacificus*	BOP	Pellet
American kestrel	*Falco sparverius*	BOP	Hunted on site
Monk parakeet	*Myiopsitta monachus*	Non-native	
Cassin's kingbird	*Tyrannus vociferans*		

Common name	***Species name***	**Status**[1]	**Notes**
Western kingbird	*Tyrannus verticalis*		
Common raven	*Corvus corax*		
Verdin	*Auriparus flaviceps*	BCC	Juvenile begged for food; likely nested on site
Tree swallow	*Tachycineta bicolor*		Foraged
Barn swallow	*Hirundo rustica*		Foraged
Cliff swallow	*Petrochelidon pyrrhonota*		Foraged
Northern mockingbird	*Mimus polyglottos*		Two pairs foraged in alfalfa
European starling	*Sturnus vulgaris*	Non-native	Food deliveries to nearby nest
House finch	*Haemorphous mexicanus*		
Western meadowlark	*Sturnella neglecta*		
Red-winged blackbird	*Agelaius phoeniceus*		
Great-tailed grackle	*Quiscalus mexicanus*		
Yellow warbler or Wilson's warbler	*Setophaga petechia* or *Wilsonia pusilla*	Possible SSC2	In the arundo
Western tanager	*Piranga ludoviciana*		
Lazuli bunting	*Passerina amoena*		
Mexican free-tailed bat	*Tadaridus brasiliensis*		Detected via Sonobat
Desert cottontail	*Sylvilagus audubonii*		Many
Coyote	*Canis latrans*		Tracks
California vole	*Microtus californicus*		Burrows
Botta's pocket gopher	*Thomomys bottae*		Burrows

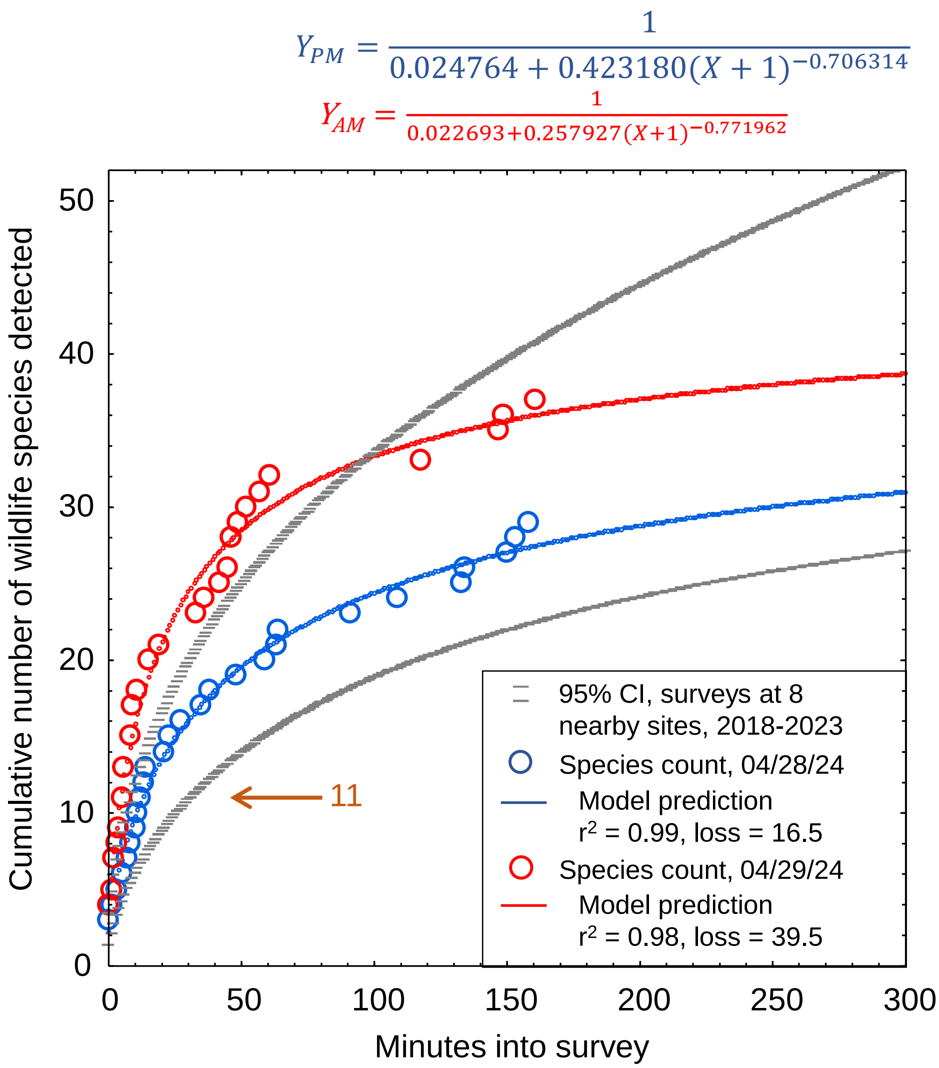
[1] Listed as FC = candidate for federal listing, SSC = California Species of Special Concern, BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, TWL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (California Fish and Game Code 3503.5).

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

Noriko Smallwood

We saw evidence of a high abundance and diversity of wildlife at the project site. Considering that the site abuts the New River and that most of it is covered in alfalfa, which is known to support many species of wildlife (Smallwood and Geng 1993, Smallwood 1995, Smallwood et al. 1996), the many wild animals of many species we detected at the site should be of no surprise. However, I must point out that the species of wildlife we detected at the project site comprised only a sampling of the species that were present during our survey. I fit a nonlinear regression model to the cumulative number of vertebrate species detected with time into each of our surveys to predict the number of species that we would have detected with a longer survey or perhaps with additional biologists available to assist. The model is a logistic growth model which reaches an asymptote that corresponds with the maximum number of vertebrate wildlife species that could have been detected during the surveys. In this case, the models predict that 40 and 44 species of vertebrate wildlife were available to be detected during the evening of the 28th and the morning of the 29th, respectively, which numbered 12 and 7 more species than we actually detected (Figure 1).

Figure 1. *Actual and predicted relationships between the number of vertebrate wildlife species detected and the elapsed survey time based on our visual-scan surveys on 28 (blue) and 29 (red) April 2024. Note that the relationship would differ if the surveys were based on another method or during another season.* The arrow corresponds with the number of species detected by Barret Biological and points to the 4 to 13 minutes it took us to detect the same number.



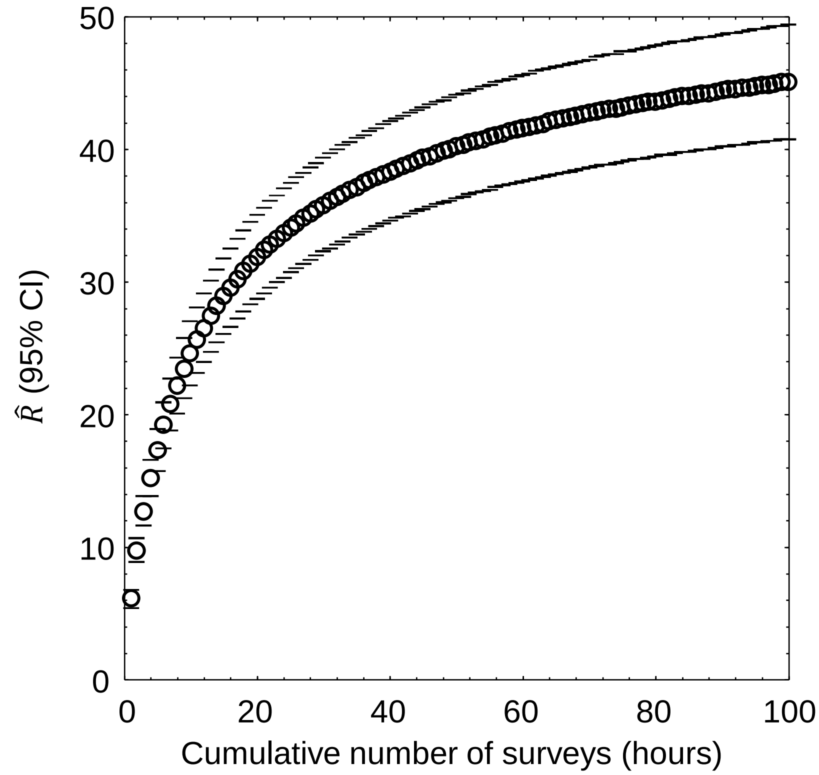
I do not know the identities of the undetected species, but the patterns in our data indicate relatively high use of the project site compared to 8 surveys at other sites we have completed in the Imperial Valley (Figure 1). Compared to models fit to data we collected from other sites in the Valley between 2019 and 2023, the data from the morning survey on the project site follows along the upper bound of the 95% confidence interval of the rate of accumulated species detections with time into the survey (Figure 1). Importantly, however, the species that we did and did not detect on 28 and 29 April 2024 composed only a fraction of the species that would occur at the project site over the period of a year or longer. This is because many species are seasonal in their occurrence.

At least a year's worth of surveys would be needed to more accurately report the number of vertebrate species that occur at the project site, but I only have Noriko's one survey. However, by use of an analytical bridge, a modeling effort applied to a large, robust data set from a research site can predict the number of vertebrate wildlife species that likely make use of the site over the longer term. As part of my research, I completed a much larger survey effort across 167 km^2 of annual grasslands of the Altamont Pass Wind Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods I and other consulting biologists use for surveys at proposed project sites. At each of the 46 survey stations, I tallied new species detected with each sequential survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of the number of cumulative species detected regressed on hours of survey (number of surveys) at the station: $\hat{R} = \frac{1}{1/a + b \times (Hours)^c}$, where $\hat{R}$ represented cumulative species richness detected. The coefficients of determination, r^2, of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data.

I projected the predictions of each model to thousands of hours to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57 after 11,857 hours of visual-scan surveys among the 46 stations of my research site. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I would have detected 19.5 species over my first 6.22 hours of surveys at my research site in the Altamont Pass (6.22 hours to match the 6.22 hours we surveyed at the project site on 28-29 April 2024), which composed 34.2% of the predicted total number of species we would detect with a much larger survey effort at the research site. Given the example illustrated in Figure 2, the 45 species we detected after 6.22 hours of survey at the project site on 28-29 April 2024 likely represented 34.2% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, we would likely detect ${}^{43}/_{0.342} = 126$ species of vertebrate wildlife at the site. Assuming our ratio of special-status to non-special-status species was to hold through the detections of all 126 predicted species, then continued surveys would eventually detect 29 special-status species of vertebrate wildlife.

Because my prediction of 126 species of vertebrate wildlife, including 29 special-status species of vertebrate wildlife, is derived from daytime visual-scan surveys, and would detect few nocturnal mammals such as bats, the true number of species composing the wildlife community of the site must be larger. In fact, our brief nocturnal survey for bats added one more species to our total, even though bat activity in April is much lower than what will be experienced in late summer and fall. Our reconnaissance survey should serve only as a starting point toward characterization of the site's wildlife community, but it certainly cannot alone inform of the inventory of species that use the site. More surveys are needed than hers to inventory use of the project site by wildlife.

Figure 2. *Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019. Note that the location of the study is largely irrelevant to the utility of the graph to the interpretation of survey outcomes at the project site. It is the pattern in the data that is relevant, because the pattern is typical of the pattern seen elsewhere.*



EXISTING ENVIRNMENTAL SETTING

The first step in analysis of potential project impacts to biological resources is to accurately characterize the existing environmental setting, including the biological species that use the site, their relative abundances, how they use the site, key ecological relationships, and known and ongoing threats to those species with special status. A reasonably accurate characterization of the environmental setting can provide the basis for determining whether the site holds habitat value to wildlife, as well as a baseline against which to analyze potential project impacts. For these reasons, characterization of the environmental setting, including the project site's regional setting, is one of CEQA's essential analytical steps. Methods to achieve this first step typically include (1) surveys of the site for biological resources, and (2) reviews of literature, databases and local experts for documented occurrences of special-status species. In the case of the proposed project, these needed steps were not completed.

Environmental Setting informed by Field Surveys

To CEQA's primary objective to disclose potential environmental impacts of a proposed project, the analysis should be informed of which biological species are known to occur at the proposed project site, which special-status species are likely to occur, as well as the limitations of the survey effort directed to the site. Analysts need this information to characterize the environmental setting as a basis for opining on, or predicting, potential project impacts to biological resources.

Barrett's Biological Enterprises (BBE 2023) surveyed the site on 13 and 20 December 2022. According to BBE (2022), "The purpose of the studies was to determine the inventory of biological resources at the time of the survey; the possibility of the existence of endangered, threatened, sensitive or species of concern within project area: map habitats, and ascertain the probability of the presence of sensitive species on site. The survey was intended to assess presence or the potential for species to occur based on habitat suitability." However, there exist several problems with these objectives. First, an inventory of the biological resources at the time of the survey was highly unlikely, as exemplified by Figure 1 above. The best that any biologist can hope to accomplish with one or two reconnaissance surveys is to sample the biological resources.

Second, the assessment needed to determine the occurrence likelihoods of special-status species requires a much more rigorous survey effort than is typically committed by reconnaissance survey. To achieve this objective, experts on particular special-status species formulate protocol-level detection surveys. An example of such a survey is CDFW (2012) for burrowing owls. BBE did not implement the survey guidelines of CDFW (2012), nor the guidelines or parallel scientific standards to any other special-status species. Simply put, BBE did not perform the types of surveys needed to achieve the stated objective.

Third, the objective to assess habitat suitability was probably unachievable because there exists no range of habitat suitability *per se*. Habitat is that part of the environment in which members of a species find opportunities for forage, cover, refuge, movement and reproduction (Hall et al. 1997). That part of the environment that is habitat is by default suitable to the species, which qualifies the term "suitable habitat" as tautological. Just as there is no such thing as unsuitable habitat, there is no such thing as suitable habitat. There is no such thing as a gradation of habitat, nor is there any metric of which I am aware that expresses suitability.

The tautology of habitat suitability aside, habitat assessment requires methods and standards, neither of which are summarized in BBE (2022). The most fundamental method of habitat assessment is to attempt to detect a particular species at a defined location, because the confirmed presence of the species provides certainty of the presence of habitat. However, failing to detect the species leaves uncertain whether habitat is present, because wildlife populations are spatially dynamic, meaning that activity centers typically shift locations every generation of so (Taylor and Taylor 1979). At any given time, 75% of a species' habitat is typically unoccupied (vacant) because members of the species need to temporarily escape predator or parasite loads, allow forage to rest, or because young of the year naturally disperse away from natal areas to form new activity centers in unoccupied habitat. Whatever the reason(s), seemingly unoccupied habitat is still habitat and is still available to be occupied at a later date. Developing a project on "unoccupied habitat" is just as destructive to the species as developing it on occupied habitat.

For the foregoing reasons, biologists often rely on habitat associations, which are documented occurrences, or ideally measured intensities of use (Smallwood 2002), of environmental categories such as vegetation complexes, soils, or terrain. Such habitat associations are used to assess occurrence likelihoods of the species based on how closely the existing environmental setting matches the habitat associations of the species. In assessing habitat in this manner, it is also important to err on the side of caution because wildlife habitat associations have never been perfectly characterized and surprises are therefore common.

BBE (2022) relies on habitat associations to assess occurrence likelihoods of special-status species. However, BBE applies no standard methodological approach to doing so, and its purported habitat associations lack citations to source. Although 15 references that might have served as sources to purported habitat associations appear under Works Referenced (page 16), only one of these (Sawyer and Keeler-Wolf 2009) appears in the text of BBE (2022).

The most important shortfall of BBE's (2022) habitat association analysis is its reliance on the false standard that failure to detect a species on the project site qualifies as evidence of absence of habitat. This standard could be applied only to those species for which protocol-level detection surveys were implemented, or alternatively it could be applied to those species for which the completion of many reconnaissance-level surveys provided a reasonable likelihood of detection of the species. No detection surveys were completed, and the two reconnaissance surveys that were completed did not provide a reasonable probability of detection of any given special-status species. BBE should not assert that habitat is lacking because BBE's biologists failed to see tracks or scat of flat-tailed horned lizard, or any prey of loggerhead shrike, or any individual California brown pelicans, as examples. The probabilities of detection of any of these species after 5.75 person-hours of reconnaissance surveys is much too low to conclude from failure to detect them that the project site supports no habitat.

Another reason to reject determinations of occurrence likelihood based on whether BBE detected species on the project site is that BBE failed to detect much of the wildlife community that occurs at the site. BBE started its surveys at 08:30 hours, which is a busy time of day for wildlife, especially in December (an earlier start time would be busier in spring, summer and fall). However, although BBE committed 43% of the person-hours we committed, they only detected 11 species of vertebrate wildlife. Assuming BBE's species detection rates equaled our own during our morning survey, then the model applied to our morning survey in Figure 1 would predict 39 vertebrate wildlife species detections after 5.75 person-hours. BBE detected only 11 species, or only 28% of the number predicted. Whereas there might be some seasonal variation in rates of species detections at a given site, I know from testing for this variation at other sites I have surveyed many times across all seasons that seasonal variation cannot account for the large difference between the detection rates of BBE and ourselves. In no way did BBE (2022:7) "inventory [the] biological resources at the time of the survey." In fact, BBE failed to detect most of the species that were available to be detected.

Although the number of species occurring at the site would not have differed substantially between BBE's December surveys and ours in April, species composition would have. In fact, BBE (2022) detected four species of vertebrate wildlife that we did not, including Cooper's hawk (*Accipiter cooperii*), black-tailed gnatcatcher (*Polioptila melanura*), black phoebe (*Sayornis nigricans*), and Say's phoebe (*Sayornis saya*). Both Cooper's hawk and black-tailed gnatcatcher are special-status species (see Table 2), a detail that BBE (2022) neglects to point out. Nevertheless, BBE's results combined with ours brings the tally of vertebrate wildlife species known to the site to 48, including 11 to 12 special-status species depending on whether the yellow warbler I saw was a Yellow Warbler.

BBE (2022) provides only very cursory reports of what it found and what its findings mean to a characterization of the wildlife community as part of the existing environmental setting. For example, BBE (2022:10) reports, "Invertebrates (insects) would be expected." This is not much of an analysis. More important would be an analysis of the types and abundances of insects. For example, it would help to know whether BBE expected Monarch to occur on the site. In fact, Monarch does occur on the project site, as we observed. Which other special-status species of insects would be expected on the site?

According to BBE (2022:10), "Reptiles utilize habitat dependent upon their dietary requirements." This can be said of all of Earth's biological species. The conclusion is so general as to be of no informative value to the IS/MND. The same can be said of the subsequent conclusion, "Some species diet includes vegetation while others consume insects." An the next, "All require vegetation for shelter." The last two statements might be factual, but again they are of no value: "Vegetation is available on site and could support reptiles. None were observed." That no reptiles were observed is merely a reflection of insufficient survey effort. Unfortunately, the last statement is left to imply that because no reptiles were observed, none occur on the project site. This last statement of fact is pseudoscientific and therefore misleading.

According to BBE (2022:10), "Bird species diversity varies with seasons, variety and quality of vegetative communities. … Birds were observed in the vicinity." Again, this level of reporting is of no informative value to the IS/MND. It is widely known that bird species diversity varies seasonally and with vegetation, although it is unclear what BBE means by variety and quality of vegetation. I am unfamiliar with any metric of vegetation quality other than perhaps of vegetation health or of the ecological integrity of species composition, but I am unaware of either of these general classes of vegetation having been associated with bird species diversity. As for the last statement that birds were seen in the vicinity, I must point out that BBE observed many fewer species of birds than we did.

According to BBE (2022:10), "Signs of mammals were observed on sites but were assumed to be coyotes, rabbits." I fail to understand why the statement devalues sign representative of coyotes and rabbits. (The proper term for "rabbits" is desert cottontail.) Both of these species are vertebrate wildlife. These species are not lesser than any other. But these were not the only species of mammals we found on the project site. Rather obvious to us were signs of California vole and Botta's pocket gopher.

According to BBE (2022:10), "Bats are not expected; roosting sites are not available." I cannot understand why bats are not expected. Certainly, the large salt cedars on the site could serve as roost sites, and certainly the site is surrounded by potential roost sites from which bats could originate to forage over the project site. In fact, we detected Mexican free-tailed bats on the project site three times within a 30-minute survey. BBE's expectation is unfounded and readily refutable.

There is at least a fair argument to be made for the need to prepare an EIR to accurately characterize the existing environmental setting and to appropriately analyze the project impacts to wildlife from habitat loss and habitat fragmentation and from wildlife-automobile collision mortality (see below).

Environmental Setting informed by Desktop Review

The purpose of literature and database review and of consulting with local experts is to inform the field survey, and to augment interpretation of its outcome. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and migration flight paths.

The IS/MND's desktop analysis is incomplete and often composed of determinations of occurrence likelihood based on unfounded habitat determinations such as "no habitat." In the case of mountain plover, BBE (2022) reports the species "Could be found in alfalfa fields that have been pastured by sheep." However, no reference is provided in support of this assertion. Mountain plover could also occur on patches of bare ground on the south side of the project or in alfalfa during the winter months with or without sheep.

In the case of California brown pelican, BBE (2022) points out that the project site includes no open water. Whereas I will not dispute the lack of open water, I will point out that California brown pelicans typically travel far to reach open water, and they use those portions of the aerosphere over open space to do so. The availability of open space in the southern aspect of the Imperial Valley has been severely fragmented due to the development of utility-scale solar projects, leaving the project site as one of the few remaining patches of open space over which California brown pelicans can safely travel.

The same applies to California least tern, of which BBE asserts there is no habitat. However, we observed a Caspian tern fly over the project site. Caspian terms forage over open bodies of water, similar to California least terns, so if a Caspian tern flies over the open space of the project site, then it is reasonable to expect California least tern do the same. Most likely, we just happened to not be on the site when a California least tern flew over.

Volant animals such as pelicans and terns and loons and cormorants and grebes and ducks and geese are often associated with bodies of water rather than alfalfa fields. However, the construction of utility-scale solar projects has in the Mojave Desert and the Imperial Valley has revealed that these types of birds traverse vast open spaces devoid of water, likely on the edge of darkness or at night. This revelation came from scientific fatality searches completed at 14 utility-scale solar projects, where these types of birds were found to have fatally collied with the PV panels (Smallwood 2022). The leading hypothesis to explain this collision mortality is referred to as the "Lake effect," in which flying birds are fooled into perceiving the solar PV arrays as bodies of water, upon which they attempt to land. So now we know that the types of birds that BBE (2022) asserts lack habitat on the project site in the form of water bodies actually do find habitat on spaces such as the project site in form of the aerosphere through which they travel long distances. The utility-scale solar projects west of the project site pose considerable collision hazard to these birds, whereas the movement corridor in which the project is situated continues to provide these birds safe passage.

BBE (2022) says of the Palm Springs pocket mouse, "Could be found hunting in area." Not reported is that if the species is hunting in the area, then the area is habitat.

The IS/MND, relying on BBE (2022), analyzes the occurrence likelihoods of only 51 species of wildlife. Of these 51 species, BBE determines 15 to have no habitat on the site or to be not expected, 2 to be of very low occurrence likelihood, 30 to be of low occurrence likelihood, and 4 to have ambiguous statements of occurrence likelihood. Overall, BBE (2022) downplays the likelihood of occurrence of all 51 species it considers. However, we found 3 and possibly 4 of these species on the project site, and we found occurrence records of another 4 of these species within 1.5 miles of the site, and of another 12 of these species between 1.5 and 4 miles of the site. Our findings fail to comport with BBE's (2022) occurrence likelihood determinations, which appear arbitrary and overly pessimistic.

In my assessment based on database reviews and site visits, 118 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 2). Of these 118 species, 11 to 12 were recorded on or just off of the project site, and another 8 species have been documented within 1.5 miles of the site ('Very close'), another 23 within 1.5 and 4 miles ('Nearby'), and another 66 within 4 to 30 miles ('In region'). More than a third (36%) of the species in Table 2 have been reportedly seen within 4 miles of the project site. The site therefore supports multiple special-status species of wildlife and carries the potential for supporting many more special-status species of wildlife based on proximity of recorded occurrences. The site is far richer in special-status species than is characterized in the IS/MND.

Considering the inaccuracies of the IS/MND's characterization of the existing environmental setting, a fair argument can be made for the need to prepare an EIR to appropriately characterize the existing environmental setting. The County needs to better understand the wildlife community on the project site as a baseline for analyzing potential project impacts to wildlife.

Table 2. *Occurrence likelihoods of special-status bird species at or near the proposed project site, according to eBird/iNaturalist records (https://eBird.org, https://www.inaturalist.org) and on-site survey findings, where 'Very close' indicates within 1.5 miles of the site, "nearby" indicates within 1.5 and 4 miles, and "in region" indicates within 4 and 30 miles, and 'in range' means the species' geographic range overlaps the site. Entries in bold font identify species we detected.*

Common name	***Species name***	**Status[1]**	**IS/MND occurrence potential**	**Data base records, Site visits**
Monarch	*Danaus plexippus*	FC		**On site**
Desert pupfish	*Cyprinodon macularius*	FE, CE	No habitat	In region
Mojave desert tortoise	*Gopherus agassizii*	FT, CT	Habitat not favorable	In region
Couch's spadefoot	*Scaphiopus couchii*	SSC		In region
Flat-tailed horned lizard	*Phrynosoma mcallii*	SSC	No habitat	In region
Lowland leopard frog	*Lithobates yavapaiensis*	SSC	Not expected	In range
Colorado Desert fringe-toed lizard	*Uma notata*	SSC	No habitat	In region
Fulvous whistling-duck	*Dendrocygna bicolor*	SSC1		In region
Brant	*Branta bernicla*	SSC2		In region
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL		In region
Redhead	*Aythya americana*	SSC2		In region
Barrow's goldeneye	*Bucephala islandica*	SSC		In region
Western grebe	*Aechmophorus occidentalis*	BCC		Nearby
Clark's grebe	*Aechmophorus clarkii*	BCC		Nearby
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE, BCC	Low. No habitat	In region
Black swift	*Cypseloides niger*	SSC3, BCC	Low	In region
Vaux's swift	*Chaetura vauxi*	SSC2, BCC		Nearby
Costa's hummingbird	*Calypte costae*	BCC	Low	**On site**
Rufous hummingbird	*Selasphorus rufus*	BCC	Low	Nearby
Allen's hummingbird	*Selasphorus sasin*	BCC	Low	In region
Yuma Ridgway's rail	*Rallus obsoletus yumanensis*	FE, CT, CFP		In region
Lesser sandhill crane	*Antigone canadensis canadensis*	SSC3		In region
American avocet	*Recurvirostra americana*	BCC		In region

Common name	***Species name***	**Status[1]**	**IS/MND occurrence potential**	**Data base records, Site visits**
Mountain plover	*Charadrius montanus*	SSC2, BCC	Low. Could be found in alfalfa fields that have been pastured by sheep	In region
Snowy plover	*Charadrius nivosus*	BCC	Low	In region
Whimbrel	*Numenius phaeopus*	BCC	Low	**On site**
Long-billed curlew	*Numenius americanus*	WL	Low	**On site**
Marbled godwit	*Limosa fedoa*	BCC		In region
Red knot (Pacific)	*Calidris canutus*	BCC		In region
Short-billed dowitcher	*Limnodromus griseus*	BCC	Low	In region
Willet	*Tringa semipalmata*	BCC		In region
Laughing gull	*Leucophaeus atricilla*	WL		In region
Heermann's gull	*Larus heermanni*	BCC		In region
Western gull	*Larus occidentalis*	BCC		In region
California gull	*Larus californicus*	BCC, WL		**Nearby**
California least tern	*Sternula antillarum browni*	FE, CE, FP	Low. No habitat	In region
Gull-billed tern	*Gelochelidon nilotica*	BCC, SSC3	Low	In region
Black tern	*Chlidonias niger*	SSC2, BCC		In region
Elegant tern	*Thalasseus elegans*	BCC, WL		In region
Black skimmer	*Rynchops niger*	BCC, SSC3	Low	In region
Common loon	*Gavia immer*	SSC		In region
Wood stork	*Mycteria americana*	SSC1		In region
Double-crested cormorant	*Phalacrocorax auritus*	WL		**On site**
American white pelican	*Pelacanus erythrorhynchos*	SSC1, BCC		Nearby
California brown pelican	*Pelecanus occidentalis californicus*	CFP	None observed. No open water	Nearby
Least bittern	*Ixobrychus exilis*	SSC2		Nearby
White-faced ibis	*Plegadis chihi*	WL		Very close
Turkey vulture	*Cathartes aura*	BOP		**On site**

Common name	***Species name***	**Status[1]**	**IS/MND occurrence potential**	**Data base records, Site visits**
Osprey	*Pandion haliaetus*	WL, BOP		Nearby
White-tailed kite	*Elanus luecurus*	CFP, BOP	Low	Nearby
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP, WL		In region
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP	Low	Very close
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP	Low	Nearby
Cooper's hawk	*Accipiter cooperii*	WL, BOP		On site
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, CFP	No habitat	In region
Red-shouldered hawk	*Buteo lineatus*	BOP		Nearby
Swainson's hawk	*Buteo swainsoni*	CT, BOP	Low	In region
Red-tailed hawk	*Buteo jamaicensis*	BOP		Very close
Ferruginous hawk	*Buteo regalis*	WL, BOP	Low	Nearby
Zone-tailed hawk	*Buteo albonotatus*	BOP		In region
Harris' hawk	*Parabuteo unicinctus*	WL, BOP		In region
Rough-legged hawk	*Buteo lagopus*	BOP		In region
Barn owl	*Tyto alba*	BOP		Nearby
Western screech-owl	*Megascops kennicotti*	BOP		In region
Great horned owl	*Bubo virginianus*	BOP		**On site**
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP	Low. No owls/burrows found	Very close
Long-eared owl	*Asio otus*	BCC, SSC3, BOP		In region
Short-eared owl	*Asia flammeus*	BCC, SSC3, BOP		In region
Lewis's woodpecker	*Melanerpes lewis*	BCC	Low	Nearby
American kestrel	*Falco sparverius*	BOP		**On site**
Merlin	*Falco columbarius*	WL, BOP		Nearby
Gila woodpecker	*Melanerpes uropygialis*	CE, BCC	Very low	Nearby
Peregrine falcon	*Falco peregrinus*	BOP	Low	Very close
Prairie falcon	*Falco mexicanus*	WL, BOP		Very close
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2	Low	Nearby

Common name	***Species name***	**Status[1]**	**IS/MND occurrence potential**	**Data base records, Site visits**
Willow flycatcher	*Empidonax trailii*	CE	Low	Nearby
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2	No habitat	Nearby
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE	Low/No habitat	In region
Gray vireo	*Vireo vicinior*	SSC2, BCC	Low	In region
Loggerhead shrike	*Lanius ludovicianus*	SSC2	Not expected/Very low	Very close
Verdin	*Auriparus flaviceps*	BCC		**On site**
Bank swallow	*Riparia riparia*	CT		In region
Purple martin	*Progne subis*	SSC2		In region
Black-tailed gnatcatcher	*Polioptila melanura*	WL		On site
Bendire's thrasher	*Toxostoma bendirei*	SSC3, BCC		In region
LeConte's thrasher	*Toxostoma lecontei*	SSC1, BCC	Very low	In region
Crissal thrasher	*Toxostoma crissale*	SSC3		In region
Cassin's finch	*Haemorhous cassinii*	BCC		In region
Lawrence's goldfinch	*Spinus lawrencei*	BCC	Low	In region
Grasshopper sparrow	*Ammodramus savannarum*	SSC2		In region
Black-chinned sparrow	*Spizella atrogularis*	BCC	Low	In region
Gray-headed junco	*Junco hyemalis caniceps*	WL		In region
Large-billed savannah sparrow	*Passerculus sandwichensis rostratus*	SSC2		In region
Yellow-breasted chat	*Icteria virens*	SSC3		In region
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	SSC3		Very close
Bullock's oriole	*Icterus bullockii*	BCC		Nearby
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1	Low	In region
Lucy's warbler	*Leiothlypis luciae*	SSC3, BCC		In region
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC		In region
Yellow warbler	*Setophaga petechia*	SSC2	Low. None observed	**Possibly on site**
Summer tanager	*Piranga rubra*	SSC1	Not expected	Nearby
California leaf-nosed bat	*Macrotus californicus*	WBWG:H	Not expected	In region

Common name	***Species name***	**Status**[1]	**IS/MND occurrence potential**	**Data base records, Site visits**
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H	Not expected	In region
Mexican long-tongued bat	*Choeronycteris mexicana*	SSC, WBWG:M		In range
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H		In range
Spotted bat	*Euderma maculatum*	SSC, WBWG:H		In range
Western red bat	*Lasiurus blossevillii*	SSC, WBWG:H		In region
Hoary bat	*Lasiurus cinereus*	WBWG:M		In region
Western yellow bat	*Lasiurus xanthinus*	SSC, WBWG:H	Not expected	In region
Western small-footed myotis	*Myotis cililabrum*	WBWG:M		In range
Miller's myotis	*Myotis evotis*	WBWG:M		In range
Western mastiff bat	*Eumops perotis*	SSC, WBWG:H	No habitat	In range
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	SSC, WBWG:M	No habitat	In region
Big free-tailed bat	*Nyctinomops macrotis*	SSC, WBWG:MH	Not expected	In region
Palm Springs pocket mouse	*Perognathus longimembris bangsi*	SSC	Could be found hunting in area	In range
American badger	*Taxidea taxus*	SSC	None seen; no burrows observed	Nearby
Desert bighorn sheep	*Ovis canadensis nelsoni*	CFP	Low	In region
Yuma hispid cotton rat	*Sigmodon hispidus eremicus*	SSC	No habitat	In range

[1] Listed as FT or FE = federal threatened or endangered, FC = federal candidate for listing, BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, CT or CE = California threatened or endangered, CCT or CCE = Candidate California threatened or endangered, CFP = California Fully Protected (California Fish and Game Code 3511), SSC = California Species of Special Concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent), SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively (Shuford and Gardali 2008), WL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (CFG Code 3503.5), and WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H).

POTENTIAL BIOLOGICAL IMPACTS

An impacts analysis should consider whether and how a proposed project would affect members of a species, larger demographic units of the species, the whole of a species, and ecological communities. The accuracy of this analysis depends on an accurate characterization of the existing environmental setting. In the case of the proposed project, the existing environmental setting has not been accurately characterized, and several important types of potential project impacts have been inadequately analyzed. These types of impacts include habitat loss, interference with wildlife movement, and wildlife-automobile collision mortality.

HABITAT LOSS AND HABITAT FRAGMENTATION

Vast areas of the Imperial Valley have recently been converted to utility-scale solar projects, and additional industrialization has also been developed. Geothermal projects have also been expanding, including the Heber 1 project only 1.5 miles north-northeast of the project site. Therefore, the habitat value of the site is especially high to species of wildlife that find breeding, refuge, and foraging opportunities there, as well as opportunities for stop-over during migration or dispersal. The loss of the habitat on the project site would result in substantial reductions in species richness and the number of wild animals in the area (Smallwood and Smallwood 2023).

To measure the impacts of habitat loss to wildlife caused by development projects, Noriko Smallwood and I revisited 80 sites of proposed projects that we had originally surveyed in support of comments on CEQA review documents (Smallwood and Smallwood 2023). We revisited the sites to repeat the survey methods at the same time of year, the same start time in the day, and the same methods and survey duration in order to measure the effects of mitigated development on wildlife. We structured the experiment in a before-after, control-impact experimental design, as some of the sites had been developed since our initial survey and some had remained undeveloped. All of the developed sites had included mitigation measures to avoid, minimize or compensate for impacts to wildlife. Nevertheless, we found that mitigated development resulted in a 66% loss of species on site, and 48% loss of species in the project area. Counts of vertebrate animals declined 90%. "Development impacts measured by the mean number of species detected per survey were greatest for amphibians (-100%), followed by mammals (-86%), grassland birds (-75%), raptors (-53%), special-status species (-49%), all birds as a group (-48%), non-native birds (-44%), and synanthropic birds (-28%). Our results indicated that urban development substantially reduced vertebrate species richness and numerical abundance, even after richness and abundance had likely already been depleted by the cumulative effects of loss, fragmentation, and degradation of habitat in the urbanizing environment," and despite all of the mitigation measures and existing policies and regulations. We also found that impacts to wildlife were most severe at infill project sites, where wildlife lacked habitat options on adjacent land areas.

Habitat loss not only results in the immediate numerical decline of wildlife, but it also results in permanent loss of productive capacity. Habitat fragmentation multiplies the negative effects of habitat loss on the productive capacities of biological species

(Smallwood 2015). None of these impacts, however, are specifically addressed in the IS/MND. In the case of birds, two methods exist for estimating the loss of productive capacity that would be caused by the project. One method would involve surveys to count the number of bird nests and chicks produced. The alternative method is to infer productive capacity from estimates of total nest density elsewhere. Two study sites in grassland-wetland-woodland complexes had total bird nesting densities of 32.8 and 35.8 nests per acre (Young 1948, Yahner 1982). These densities, however, are probably too high for the project site, which lacks wetlands. Assuming the total nest density of the project site is a tenth of the estimates reported by Young (1948) and Yahner (1982), then I predict 3.43 nest sites per acre and a total 153 nest sites. Assuming 1.39 broods per nest site based on Noriko's review of 322 North American bird species, which averaged 1.39 broods per year, then I predict the project supports 213 nest attempts/year. Assuming Young's (1948) study result2.9 fledglings per year typifies productivity on the project site, then I predict 618 fledglings are produced annually on the project site. Assuming an average bird generation time of 5 years, the lost capacity of both breeders and annual fledgling production can be estimated from an equation in Smallwood (2022): {(nests/year × chicks/nest × number of years) + (2 adults/nest × nests/year) × (number of years ÷ years/generation)} ÷ (number of years) = 679 birds per year denied to California.

A fair argument can be made for the need to prepare and EIR to appropriately analyze the impacts of habitat loss and to formulate appropriate mitigation measures.

INTERFERENCE WITH WILDLIFE MOVEMENT

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would interfere with wildlife movement in the region. Unfortunately, BBE (2022) provides its own definition of habitat connectivity as it relates to wildlife movement, but other than a conclusory statement it then neglects to share an analysis of the project's potential interference with wildlife movement in the region. The conclusory statement is "The proposed project will not interfere with the currently restricted 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." The only foundation for this conclusion is to note that the project site "is a vacant lot surrounded by agricultural, vacant lots and commercial development." No evidence is presented that the landscape setting of the project site has disqualified the site as important to wildlife movement in the region. In fact, we documented 43 species of vertebrate wildlife on the site, members of which many species moved across the site. Many animals originated from offsite before moving across the site. We observed a Monarch fly from west to east across the project site, and we watched long-billed curlew and whimbrel fly across it from east to west.

If anything, the site's landscape setting likely increases wildlife traffic on it due to its island-like setting of open space (Figure 3). The narrow open space in which the project site is now located on the landscape following expansive development of utility-scale solar to the west is a space that can be accurately characterized as a wildlife movement corridor (Smallwood 2015). Most wildlife movement corridors are anthropogenic in their origin, as this one is.

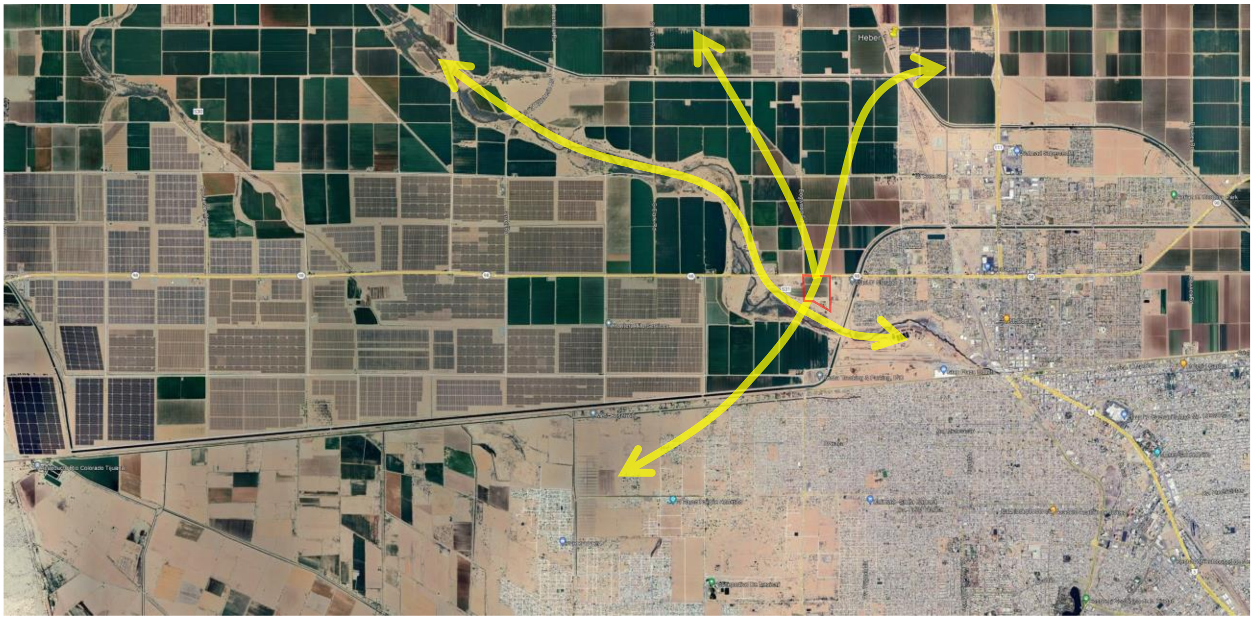


Figure 3. *The project site (red polygon) in the context of being sandwiched between vast arrays of solar PV panels to the west and Calexico to the east, leaving the site and immediate surrounds the likely passageway (yellow arrows) for wildlife needing to move through the region without traversing industrialized spaces.*

I will also point out that the County conducted no program of observation to characterize wildlife movement on or around the project site. BBE (2022) describes no field methods implemented to determine whether and to what degree the site is important to wildlife movement. Nor does BBE (2022) summarize any of its reconnaissance survey observations relevant to wildlife movement. The animals seen by BBE biologists were unlikely to have been static, so BBE should have been capable of reporting something about the site's role in wildlife movement patterns.

TRAFFIC IMPACTS TO WILDLIFE

Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic to get to and from the project site (Photos 30–32), including along roads far from the project footprint. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Photo 30. *A Gambel's quail dashes across a road* on *3 April 2021. Such road crossings are usually successful, but too often prove fatal to the animal. Photo by Noriko Smallwood.*

Photo 31. *Mourning dove killed by vehicle on a California road. Photo by Noriko Smallwood, 21 June 2020.*

Photo 32. *Raccoon killed on Road 31 just east of Highway 505 in Solano County. Photo taken on 10 November 2018.*

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study next to Vasco Road (Brown et al. 2016). Brown et al.'s (2016) adjustment factors for carcass persistence resembled those of Santos et al. (2011). Also applying searcher detection rates from Brown et al. (2016), the adjusted total number of fatalities was estimated at 12,187 animals killed by traffic on the road. This fatality number over 1.25 years and 2.5 miles of road translates to 3,900 wild animals per mile per year. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 243,740 animals killed per 100 km of road per year, or 29 times that of Loss et al.'s (2014) upper bound estimate and 68 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,900 animals killed per mile along a county road in Contra Costa County. Two percent of the estimated number of fatalities were birds, and the balance was composed of 34% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 52.3% amphibians (large numbers of California tiger salamanders and California red-legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 11.7% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009), hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

Predicting project-generated traffic impacts to wildlife

The IS/MND predicts 424,924 annual VMT. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 12,187 wildlife fatalities, or 1,825 vehicle miles per fatality. This rate divided into the predicted annual VMT, above, would predict 233 vertebrate wildlife fatalities per year.

Based on my analysis, the project-generated traffic would cause significant impacts to wildlife. The IS/MND does not address this potential impact, let alone propose to mitigate it. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project. Given the predicted level of project-generated, traffic-caused mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts. A fair argument can be made for the need to prepare an EIR to appropriately analyze the potential impacts of project-generated automobile traffic on wildlife.

CUMULATIVE IMPACTS

The IS/MND includes no analysis of potential project contributions to cumulative impacts to biological resources. This missing analysis is a CEQA shortfall, and leaves the IS/MND incomplete and inadequate.

All that is provided is a checked box under the CEQA Checklist column heading of "Less than significant with mitigation incorporated." The implication is that the mitigation proposed for project-level impacts would leave no residual impacts that could be considered cumulatively considerable. That is, the IS/MND implies that cumulative impacts are really just residual impacts left over by inadequate mitigation of project-level impacts. This notion of residual impacts being the source of cumulative impacts is inconsistent with CEQA's definition of cumulative effects. Individually mitigated projects do not negate the significance of cumulative impacts. If they did, then CEQA would not require a cumulative effects analysis. To summarize, the IS/MND presents no cumulative effects analysis as defined in two ways by CEQA.

That a cumulative impacts analysis is needed is obvious in the face of such expansive development of utility-scale solar projects in the area (Figure 3). The habitat fragmentation that has been permitted in the southern aspect of the Imperial Valley has left the area immediately around the project site as a constructed wildlife movement corridor (Smallwood 2015). The project, if it goes forward, would eliminate a major portion of what remains of the corridor. This outcome would surely contribute significantly to cumulative impacts in the region.

INADEQUATE MITIGATION

The IS/MND proposes a series of mitigation measures directed toward potential impacts to ground-nesting birds including burrowing owls.

BIO 1 - and **BIO 5 -** *Preconstruction Surveys within 14 days and 24 hours of start of groundbreaking activities by a qualified biologist. … If work is stopped for longer than 14 days, the area will be resurveyed prior to restart of construction.*

These measures are inconsistent with the mitigation guidelines of CDFW (2012). A take-avoidance pre-construction survey cannot substitute for a detection survey, because the detection probabilities of a preconstruction survey are nowhere close to those of detection surveys. A preconstruction survey is only intended as a follow-up survey to breeding-season detection surveys to ensure that no burrowing owls have repopulated the site since a negative finding from the detection survey or since the passive or active relocations of burrowing owls as a mitigation measure. What is needed prior to the preconstruction survey, and prior to the circulation of an EIR, are breeding-season detection surveys that meet the standards of CDFW (2012).

It should be understood that a preconstruction survey, although warranted as a follow-up to protocol-level detection surveys, actually achieves very little. Preconstruction, take-avoidance surveys consist of two steps, both of which are very difficult. First, the biologist(s) performing the survey must identify birds that are breeding. Second, the biologist(s) must locate the breeding birds' nests. The first step is typically completed by observing bird behaviors such as food deliveries and nest territory defense. These types of observations typically require many surveys on many dates spread throughout the breeding season, and these observations are to find the nest sites of single targeted species such as burrowing owl (Smallwood et al. 2013) or loggerhead shrike (Smallwood and Smallwood 2021). To identify the birds of all species nesting on a site requires a much greater survey effort than a single survey only days prior to the start of construction. The biologists conducting the preconstruction survey would be very lucky to find any of the bird nests that are available to be found at the time of the survey.

One reason why preconstruction surveys achieve very little is because species of bird vary in their nest phenology within what is generally understand as the avian breeding season. Whereas killdeer begin nesting in mid-March, western meadowlarks begin in late April, burrowing owls usually begin in May, and American goldfinches do not nest until July-August. Whenever the preconstruction survey is conducted, its biologists would be searching only for the nests of the birds that happen to be breeding at the time, and would miss the nests begun between the survey and the start of construction.

Another reason why preconstruction surveys achieve very little is because the nests they might salvage are only the nests of the year. Preconstruction surveys can do nothing to mitigate the loss of productive capacity that ensues construction. All subsequent years of productivity would be destroyed by the project regardless of the success of a preconstruction survey.

BIO 2 - and **BIO 3 -** *If occupied burrows are found on site, the burrows shall be passively relocated by a qualified biologist outside of nesting season and an appropriate number of artificial burrows shall be installed. If possible, these burrows shall be installed as close as possible to the passively relocated burrows. … If not in the active construction areas, the occupied burrows can be sheltered in place with appropriate materials.*

The proposed mitigation measure of passive relocation would be inconsistent with the recommendations of CDFW (2012), which warns that implementation of such a measure could be interpreted by CDFW as take of burrowing owls. Mitigation such as that proposed in the IS/MND has contributed to a rapid statewide decline of burrowing owls, prompting the recent petition to list the burrowing owl as Threatened under the California Endangered Species Act (Miller 2024).

BIO 4 - *If occupied burrows are sheltered, a biological monitor shall monitor areas of active construction This biologist will ensure that the project complies with these mitigation measures and will have the authority to halt activities if they are not in compliance. The biologist will inspect the construction areas periodically for the presence of BUOWs.*

The mitigation language allows a single individual to make a subjective decision, outside the public's view, to determine whether and how long construction work would need to be stopped. This measure lacks objective criteria, and is unenforceable.

BIO 6 - AVOIDANCE: *Construction foremen and workers and onsite employees be given worker training by a qualified biologist regarding burrowing owl that would include the following:*

• Description of BUOW • Biology • Regulations (CDFW/USFWS) • Wallet card with picture/guidelines for protecting owl and wildlife • Notification procedures if owl ***(dead,*** *alive, injured) is found on or near Site … A sign-in should be obtained and the training materials and sign-in sheet should be submitted to appropriate agency.*

Should the project go forward, a worker awareness program should be implemented. I must note, however, that this measure would prevent few if any of the impacts I addressed in this comment letter. Most of the impacts would happen outside the control of the workers. Aware workers would not prevent habitat loss, nor would they prevent interference with wildlife movement in the region or wildlife collisions project-generated traffic.

RECOMMENDED MEASURES

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by bird-window collisions and the project-generated road traffic in the region. I suggest that this mitigation can be directed toward funding research to identify fatality patterns and effective impact reduction measures such as reduced speed limits and wildlife under-crossings or overcrossings of particularly dangerous road segments. Compensatory mitigation can also be provided in the form of donations to wildlife rehabilitation facilities (see below).

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation ought also to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by collisions with automobiles traveling to and from the project's buildings.

Landscaping: If the project goes forward, California native plant landscaping (i.e., chaparral, grassland, and locally appropriate scrub plants) should be considered to be used as opposed to landscaping with lawn and exotic shrubs. Native plants offer more structure, cover, food resources, and nesting substrate for wildlife than landscaping with lawn. Native plant landscaping has been shown to increase the abundance of arthropods which act as importance sources of food for wildlife and are crucial for pollination and plant reproduction (Narango et al. 2017, Adams et al. 2020, Smallwood and Wood 2022.). Further, many endangered and threated insects require native host plants for reproduction and migration, e.g., monarch butterfly. Around the world, landscaping with native plants over exotic plants increases the abundance and diversity of birds, and is particularly valuable to native birds (Lerman and Warren 2011, Burghardt et al. 2008, Berthon et al. 2021, Smallwood and Wood 2022). Landscaping with native plants is a way to maintain or to bring back some of the natural habitat and lessen the footprint of urbanization by acting as interconnected patches of habitat for wildlife (Goddard et al. 2009, Tallamy 2020). Lastly, not only does native plant landscaping benefit wildlife, it requires less water and maintenance than traditional landscaping with lawn and hedges.

Thank you for your consideration,

Shawn Smallwood

Shawn Smallwood, Ph.D.

LITERATURE CITED

Adams, B. J., E. Li, C. A. Bahlai, E. K. Meineke, T. P. McGlynn, and B. V. Brown. 2020. Local and landscape-scale variables shape insect diversity in an urban biodiversity hot spot. Ecological Applications 30(4):e02089. 10.1002/eap.2089

Barrett Biological Enterprises. 2022. CAL 98 Charger Logistics Biological Resources Assessment Technical Report, El Centro, California. Report to Dubose Design Group, El Centro, California.

Berthon, K., F. Thomas, and S. Bekessy. 2021. The role of 'nativenes' in urban greening to support animal biodiversity. Landscape and Urban Planning 205:103959. https://doi.org/10.1016/j.landurbplan.2020.103959

Bishop, C. A. and J. M. Brogan. 2013. Estimates of Avian Mortality Attributed to Vehicle Collisions in Canada. Avian Conservation and Ecology 8:2. http://dx.doi.org/10.5751/ACE-00604-080202.

Burghardt, K. T., D. W. Tallamy, and W. G. Shriver. 2008. Impact of native plants on bird and butterfly biodiversity in suburban landscapes. Conservation Biology 23:219-224.

CDFW (California Department of Fish and Wildlife). 2012. Staff Report on Burrowing Owl Mitigation. Sacramento, California.

Forman, T. T., D. Sperling, J. A. Bisonette, A. P. Clevenger, C. D. Cutshall, V. H. Dale, L. Fahrig, R. France, C. R. Goldman, K. Heanue, J. A. Jones, F. J. Swanson, T. Turrentine, and T. C. Winter. 2003. Road Ecology. Island Press, Covello, California.

Goddard, M. A., A. J. Dougill, and T. G. Benton. 2009. Scaling up from gardens: biodiversity conservation in urban environments. Trends in Ecology and Evolution 25:90-98. doi:10.1016/j.tree.2009.07.016

Hall, L. S., P. R. Krausman, and M. L. Morrison. 1997. "The habitat concept and a plea for standard terminology." Wildlife Society Bulletin 25:173-82.

Lerman, S. B. and P. S. Warren. 2011. The conservation value of residential yards: linking birds and people. Ecological Applications 21:1327-1339.

Loss, S. R., T. Will, and P. P. Marra. 2014. Estimation of bird-vehicle collision mortality on U.S. roads. Journal of Wildlife Management 78:763-771.

Mendelsohn, M., W. Dexter, E. Olson, and S. Weber. 2009. Vasco Road wildlife movement study report. Report to Contra Costa County Public Works Department, Martinez, California.

Miller, J. 2024. Petition Before the California Fish and Game Commission to list California populations of the Western Burrowing Owl (*Athene cunicularia hypugaea*) as Endangered or Threatened Under the California Endangered Species Act. Center for Biological Diversity, Defenders of Wildlife, Burrowing Owl Preservation Society, Santa Clara Valley Audubon Society, Urban Bird Foundation, Central Valley Bird Club, San Bernardino Valley Audubon Society.

Narango, D. L., D. W. Tallamy, and P. P. Marra. 2017. Native plants improve breeding and foraging habitat for an insectivorous bird. Biological Conservation 213:42-50.

Santos, S. M., F. Carvalho, and A. Mira. 2011. How long do the dead survive on the road? Carcass persistence probability and implications for road-kill monitoring surveys. PLoS ONE 6(9): e25383. doi:10.1371/journal.pone.0025383

Shuford, W. D., and T. Gardali, [eds.]. 2008. California bird species of special concern: a ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California.

Smallwood, K. S. 1995. Scaling Swainson's hawk population density for assessing habitat-use across an agricultural landscape. J. Raptor Research 29:172-178.

Smallwood, K.S. 2002. Habitat models based on numerical comparisons. Pages 83-95 *in* Predicting species occurrences: Issues of scale and accuracy, J. M. Scott, P. J. Heglund, M. Morrison, M. Raphael, J. Haufler, and B. Wall, editors. Island Press, Covello, California.

Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., Wildlife habitat conservation: concepts, challenges, and solutions. John Hopkins University Press, Baltimore, Maryland, USA.

Smallwood, K. S. 2022. Utility-scale solar impacts to volant wildlife. Journal of Wildlife Management: e22216. https://doi.org/10.1002/jwmg.22216

Smallwood, K.S. and S. Geng. 1993. Alfalfa as wildlife habitat. California Alfalfa Symposium 23:105-8.

Smallwood, K. S., and N. L. Smallwood. 2021. Breeding density and collision mortality of loggerhead shrike (*Lanius ludovicianus*) in the Altamont Pass Wind Resource Area. Diversity 13, 540. https://doi.org/10.3390/d13110540.

Smallwood, N. L., and E. M. Wood. 2022. The ecological role of native-plant landscaping in residential yards to birds during the nonbreeding period. Ecosphere 2022;e4360.

Smallwood, K. S., B. J. Nakamoto, and S. Geng. 1996. Association analysis of raptors on an agricultural landscape. Pages 177-190 in D.M. Bird, D.E. Varland, and J.J. Negro, eds., Raptors in human landscapes. Academic Press, London.

Smallwood, K. S., L. Neher, J. Mount, and R. C. E. Culver. 2013. Nesting burrowing owl abundance in the Altamont Pass Wind Resource Area, California. Wildlife Society Bulletin: 37:787-795.

Tallamy, D.W. 2020. Nature's Best Hope: A New Approach to Conservation that Starts in Your Yard. Timber Press.

Taylor, R. A. J., and L. R. Taylor. 1979. A behavioral model for the evolution of spatial dynamics. Pp. 1-28 in R. M. Anderson, B. D. Turner, and L. R. Taylor (editors). Population dynamics. Blackwell Scientific Publications, Oxford.

Yahner, R. H. 1982. Avian nest densities and nest-site selection in farmstead shelterbelts. The Wilson Bulletin 94:156-175.

Young, H. 1948. A comparative study of nesting birds in a five-acre park. The Wilson Bulletin 61:36-47.

Photo 33. *A desert cottontail heads for breakfast in the alfalfa on the project site, 29 April 2024. Photo by Noriko Smallwood.*

Kenneth Shawn Smallwood
Curriculum Vitae

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Born May 3, 1963 in
Sacramento, California.
Married, father of two.

Ecologist

Expertise

- Finding solutions to controversial problems related to wildlife interactions with human industry, infrastructure, and activities;
- Wildlife monitoring and field study using GPS, thermal imaging, behavior surveys;
- Using systems analysis and experimental design principles to identify meaningful ecological patterns that inform management decisions.

Education

Ph.D. Ecology, University of California, Davis. September 1990.
M.S. Ecology, University of California, Davis. June 1987.
B.S. Anthropology, University of California, Davis. June 1985.
Corcoran High School, Corcoran, California. June 1981.

Experience

- 668 professional publications, including:
- 88 peer reviewed publications
- 24 in non-reviewed proceedings
- 554 reports, declarations, posters and book reviews
- 8 in mass media outlets
- 87 public presentations of research results

Editing for scientific journals: Guest Editor, *Wildlife Society Bulletin*, 2012-2013, of invited papers representing international views on the impacts of wind energy on wildlife and how to mitigate the impacts. Associate Editor, *Journal of Wildlife Management*, March 2004 to 30 June 2007. Editorial Board Member, *Environmental Management*, 10/1999 to 8/2004. Associate Editor, *Biological Conservation*, 9/1994 to 9/1995.

Member, Alameda County Scientific Review Committee (SRC), August 2006 to April 2011. The five-member committee investigated causes of bird and bat collisions in the Altamont Pass Wind Resource Area, and recommended mitigation and monitoring measures. The SRC reviewed the science underlying the Alameda County Avian Protection Program, and advised the County on how to reduce wildlife fatalities.

Consulting Ecologist, 2004-2007, California Energy Commission (CEC). Provided consulting services as needed to the CEC on renewable energy impacts, monitoring and research, and produced several reports. Also collaborated with Lawrence-Livermore National Lab on research to understand and reduce wind turbine impacts on wildlife.

Consulting Ecologist, 1999-2013, U.S. Navy. Performed endangered species surveys, hazardous waste site monitoring, and habitat restoration for the endangered San Joaquin kangaroo rat, California tiger salamander, California red-legged frog, California clapper rail, western burrowing owl, salt marsh harvest mouse, and other species at Naval Air Station Lemoore; Naval Weapons Station, Seal Beach, Detachment Concord; Naval Security Group Activity, Skaggs Island; National Radio Transmitter Facility, Dixon; and, Naval Outlying Landing Field Imperial Beach.

Part-time Lecturer, 1998-2005, California State University, Sacramento. Instructed Mammalogy, Behavioral Ecology, and Ornithology Lab, Contemporary Environmental Issues, Natural Resources Conservation.

Senior Ecologist, 1999-2005, BioResource Consultants. Designed and implemented research and monitoring studies related to avian fatalities at wind turbines, avian electrocutions on electric distribution poles across California, and avian fatalities at transmission lines.

Chairman, Conservation Affairs Committee, The Wildlife Society--Western Section, 1999-2001. Prepared position statements and led efforts directed toward conservation issues, including travel to Washington, D.C. to lobby Congress for more wildlife conservation funding.

Systems Ecologist, 1995-2000, Institute for Sustainable Development. Headed ISD's program on integrated resources management. Developed indicators of ecological integrity for large areas, using remotely sensed data, local community involvement and GIS.

Associate, 1997-1998, Department of Agronomy and Range Science, University of California, Davis. Worked with Shu Geng and Mingua Zhang on several studies related to wildlife interactions with agriculture and patterns of fertilizer and pesticide residues in groundwater across a large landscape.

Lead Scientist, 1996-1999, National Endangered Species Network. Informed academic scientists and environmental activists about emerging issues regarding the Endangered Species Act and other environmental laws. Testified at public hearings on endangered species issues.

Ecologist, 1997-1998, Western Foundation of Vertebrate Zoology. Conducted field research to determine the impact of past mercury mining on the status of California red-legged frogs in Santa Clara County, California.

Senior Systems Ecologist, 1994-1995, EIP Associates, Sacramento, California. Provided consulting services in environmental planning, and quantitative assessment of land units for their conservation and restoration opportunities basedon ecological resource requirements of 29 special-status species. Developed ecological indicators for prioritizing areas within Yolo County to receive mitigation funds for habitat easements and restoration.

Post-Graduate Researcher, 1990-1994, Department of Agronomy and Range Science*, U.C. Davis*. Under Dr. Shu Geng's mentorship, studied landscape and management effects on temporal and spatial patterns of abundance among pocket gophers and species of Falconiformes and Carnivora in the Sacramento Valley. Managed and analyzed a data base of energy use in California agriculture. Assisted with landscape (GIS) study of groundwater contamination across Tulare County, California.

Work experience in graduate school: Co-taught Conservation Biology with Dr. Christine Schonewald, 1991 & 1993, UC Davis Graduate Group in Ecology; Reader for Dr. Richard Coss's course on Psychobiology in 1990, UC Davis Department of Psychology; Research Assistant to Dr. Walter E. Howard, 1988-1990, UC Davis Department of Wildlife and Fisheries Biology, testing durable baits for pocket gopher management in forest clearcuts; Research Assistant to Dr. Terrell P. Salmon, 1987-1988, UC Wildlife Extension, Department of Wildlife and Fisheries Biology, developing empirical models of mammal and bird invasions in North America, and a rating system for priority research and control of exotic species based on economic, environmental and human health hazards in California. Student Assistant to Dr. E. Lee Fitzhugh, 1985-1987, UC Cooperative Extension, Department of Wildlife and Fisheries Biology, developing and implementing statewide mountain lion track count for long-term monitoring.

Fulbright Research Fellow, Indonesia, 1988. Tested use of new sampling methods for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

Projects

Repowering wind energy projects through careful siting of new wind turbines using map-based collision hazard models to minimize impacts to volant wildlife. Funded by wind companies (principally NextEra Renewable Energy, Inc.), California Energy Commission and East Bay Regional Park District, I have collaborated with a GIS analyst and managed a crew of five field biologists performing golden eagle behavior surveys and nocturnal surveys on bats and owls. The goal is to quantify flight patterns for development of predictive models to more carefully site new wind turbines in repowering projects. Focused behavior surveys began May 2012 and continue. Collision hazard models have been prepared for seven wind projects, three of which were built. Planning for additional repowering projects is underway.

Test avian safety of new mixer-ejector wind turbine (MEWT). Designed and implemented a before-after, control-impact experimental design to test the avian safety of a new, shrouded wind turbine developed by Ogin Inc. (formerly known as FloDesign Wind Turbine Corporation). Supported by a $718,000 grant from the California Energy Commission's Public Interest Energy Research program and a 20% match share contribution from Ogin, I managed a crew of seven field biologists who performed periodic fatality searches and behavior surveys, carcass detection trials, nocturnal behavior surveys using a thermal camera, and spatial analyses with the collaboration of a GIS analyst. Field work began 1 April 2012 and ended 30 March 2015 without Ogin installing its MEWTs, but we still achieved multiple important scientific advances.

Reduce avian mortality due to wind turbines at Altamont Pass. Studied wildlife impacts caused by 5,400 wind turbines at the world's most notorious wind resource area. Studied how impacts are perceived by monitoring and how they are affected by terrain, wind patterns, food resources, range management practices, wind turbine operations, seasonal patterns, population cycles, infrastructure management such as electric distribution, animal behavior and social interactions.

Reduce avian mortality on electric distribution poles. Directed research toward reducing bird electrocutions on electric distribution poles, 2000-2007. Oversaw 5 founds of fatality searches at 10,000 poles from Orange County to Glenn County, California, and produced two large reports.

Cook *et al*. v. Rockwell International *et al*., No. 90-K-181 (D. Colorado). Provided expert testimony on the role of burrowing animals in affecting the fate of buried and surface-deposited radioactive and hazardous chemical wastes at the Rocky Flats Plant, Colorado. Provided expert reports based on four site visits and an extensive document review of burrowing animals. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals. I testified in federal court in November 2005, and my clients were subsequently awarded a $553,000,000 judgment by a jury. After appeals the award was increased to two billion dollars.

Hanford Nuclear Reservation Litigation. Provided expert testimony on the role of burrowing animals in affecting the fate of buried radioactive wastes at the Hanford Nuclear Reservation, Washington. Provided three expert reports based on three site visits and extensive document review. Predicted and verified a certain population density of pocket gophers on buried waste structures, as well as incidence of radionuclide contamination in body tissue. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals.

Expert testimony and declarations on proposed residential and commercial developments, gas-fired power plants, wind, solar and geothermal projects, water transfers and water transfer delivery systems, endangered species recovery plans, Habitat Conservation Plans and Natural Communities Conservation Programs. Testified before multiple government agencies, Tribunals, Boards of Supervisors and City Councils, and participated with press conferences and depositions. Prepared expert witness reports and court declarations, which are summarized under Reports (below).

Protocol-level surveys for special-status species. Used California Department of Fish and Wildlife and US Fish and Wildlife Service protocols to search for California red-legged frog, California tiger salamander, arroyo southwestern toad, blunt-nosed leopard lizard, western pond turtle, giant kangaroo rat, San Joaquin kangaroo rat, San Joaquin kit fox, western burrowing owl, Swainson's hawk, Valley elderberry longhorn beetle and other special-status species.

Conservation of San Joaquin kangaroo rat. Performed research to identify factors responsible for the decline of this endangered species at Lemoore Naval Air Station, 2000-2013, and implemented habitat enhancements designed to reverse the trend and expand the population.

Impact of West Nile Virus on yellow-billed magpies. Funded by Sacramento-Yolo Mosquito and Vector Control District, 2005-2008, compared survey results pre- and post-West Nile Virus epidemic for multiple bird species in the Sacramento Valley, particularly on yellow-billed magpie and American crow due to susceptibility to WNV.

Workshops on HCPs. Assisted Dr. Michael Morrison with organizing and conducting a 2-day workshop on Habitat Conservation Plans, sponsored by Southern California Edison, and another 1-day workshop sponsored by PG&E. These Workshops were attended by academics, attorneys, and consultants with HCP experience. We guest-edited a Proceedings published in Environmental Management.

Mapping of biological resources along Highways 101, 46 and 41. Used GPS and GIS to delineate vegetation complexes and locations of special-status species along 26 miles of highway in San Luis Obispo County, 14 miles of highway and roadway in Monterey County, and in a large area north of Fresno, including within reclaimed gravel mining pits.

GPS mapping and monitoring at restoration sites and at Caltrans mitigation sites. Monitored the success of elderberry shrubs at one location, the success of willows at another location, and the response of wildlife to the succession of vegetation at both sites. Also used GPS to monitor the response of fossorial animals to yellow star-thistle eradication and natural grassland restoration efforts at Bear Valley in Colusa County and at the decommissioned Mather Air Force Base in Sacramento County.

Mercury effects on Red-legged Frog. Assisted Dr. Michael Morrison and US Fish and Wildlife Service in assessing the possible impacts of historical mercury mining on the federally listed California red-legged frog in Santa Clara County. Also measured habitat variables in streams.

Opposition to proposed No Surprises rule. Wrote a white paper and summary letter explaining scientific grounds for opposing the incidental take permit (ITP) rules providing ITP applicants and holders with general assurances they will be free of compliance with the Endangered Species Act once they adhere to the terms of a "properly functioning HCP." Submitted 188 signatures of scientists and environmental professionals concerned about No Surprises rule US Fish and Wildlife Service, National Marine Fisheries Service, all US Senators.

Natomas Basin Habitat Conservation Plan alternative. Designed narrow channel marsh to increase the likelihood of survival and recovery in the wild of giant garter snake, Swainson's hawk and Valley Elderberry Longhorn Beetle. The design included replication and interspersion of treatments for experimental testing of critical habitat elements. I provided a report to Northern Territories, Inc.

Assessments of agricultural production system and environmental technology transfer to China. Twice visited China and interviewed scientists, industrialists, agriculturalists, and the Directors of the Chinese Environmental Protection Agency and the Department of Agriculture to assess the need and possible pathways for environmental clean-up technologies and trade opportunities between the US and China.

Yolo County Habitat Conservation Plan. Conducted landscape ecology study of Yolo County to spatially prioritize allocation of mitigation efforts to improve ecosystem functionality within the County from the perspective of 29 special-status species of wildlife and plants. Used a hierarchically structured indicators approach to apply principles of landscape and ecosystem ecology, conservation biology, and local values in rating land units. Derived GIS maps to help guide the conservation area design, and then developed implementation strategies.

Mountain lion track count. Developed and conducted a carnivore monitoring program throughout California since 1985. Species counted include mountain lion, bobcat, black bear, coyote, red and gray fox, raccoon, striped skunk, badger, and black-tailed deer. Vegetation and land use are also monitored. Track survey transect was established on dusty, dirt roads within randomly selected quadrats.

Sumatran tiger and other felids. Upon award of Fulbright Research Fellowship, I designed and initiated track counts for seven species of wild cats in Sumatra, including Sumatran tiger, fishing cat, and golden cat. Spent four months on Sumatra and Java in 1988, and learned Bahasa Indonesia, the official Indonesian language.

Wildlife in agriculture. Beginning as post-graduate research, I studied pocket gophers and other wildlife in 40 alfalfa fields throughout the Sacramento Valley, and I surveyed for wildlife along a 200 mile road transect since 1989 with a hiatus of 1996-2004. The data are analyzed using GIS and methods from landscape ecology, and the results published and presented orally to farming groups in California and elsewhere. I also conducted the first study of wildlife in cover crops used on vineyards and orchards.

Agricultural energy use and Tulare County groundwater study. Developed and analyzed a data base of energy use in California agriculture, and collaborated on a landscape (GIS) study of groundwater contamination across Tulare County, California.

Pocket gopher damage in forest clear-cuts. Developed gopher sampling methods and tested various poison baits and baiting regimes in the largest-ever field study of pocket gopher management in forest plantations, involving 68 research plots in 55 clear-cuts among 6 National Forests in northern California.

Risk assessment of exotic species in North America. Developed empirical models of mammal and bird species invasions in North America, as well as a rating system for assigning priority research and control to exotic species in California, based on economic, environmental, and human health hazards.

Peer Reviewed Publications

Smallwood, K. S. 2020. USA wind energy-caused bat fatalities increase with shorter fatality search intervals. Diversity 12(98); doi:10.3390/d12030098.

Smallwood, K. S., D. A. Bell, and S. Standish. 2020. Dogs detect larger wind energy impacts on bats and birds. Journal of Wildlife Management 84:852-864. DOI: 10.1002/jwmg.21863.

Smallwood, K. S., and D. A. Bell. 2020. Relating bat passage rates to wind turbine fatalities. Diversity 12(84); doi:10.3390/d12020084.

Smallwood, K. S., and D. A. Bell. 2020. Effects of wind turbine curtailment on bird and bat fatalities. Journal of Wildlife Management 84:684-696. DOI: 10.1002/jwmg.21844

Kitano, M., M. Ino, K. S. Smallwood, and S. Shiraki. 2020. Seasonal difference in carcass persistence rates at wind farms with snow, Hokkaido, Japan. Ornithological Science 19: 63 –

71.

Smallwood, K. S. and M. L. Morrison. 2018. Nest-site selection in a high-density colony of burrowing owls. Journal of Raptor Research 52:454-470.

Smallwood, K. S., D. A. Bell, E. L. Walther, E. Leyvas, S. Standish, J. Mount, B. Karas. 2018. Estimating wind turbine fatalities using integrated detection trials. Journal of Wildlife Management 82:1169-1184.

Smallwood, K. S. 2017. Long search intervals under-estimate bird and bat fatalities caused by wind turbines. Wildlife Society Bulletin 41:224-230.

Smallwood, K. S. 2017. The challenges of addressing wildlife impacts when repowering wind energy projects. Pages 175-187 in Köppel, J., Editor, Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference. Springer. Cham, Switzerland.

May, R., Gill, A. B., Köppel, J. Langston, R. H.W., Reichenbach, M., Scheidat, M., Smallwood, S., Voigt, C. C., Hüppop, O., and Portman, M. 2017. Future research directions to reconcile wind turbine–wildlife interactions. Pages 255-276 in Köppel, J., Editor, Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference. Springer. Cham, Switzerland.

Smallwood, K. S. 2017. Monitoring birds. M. Perrow, Ed., Wildlife and Wind Farms - Conflicts and Solutions, Volume 2. Pelagic Publishing, Exeter, United Kingdom. www.bit.ly/2v3cR9Q

Smallwood, K. S., L. Neher, and D. A. Bell. 2017. Siting to Minimize Raptor Collisions: an example from the Repowering Altamont Pass Wind Resource Area. M. Perrow, Ed., Wildlife and Wind Farms - Conflicts and Solutions, Volume 2. Pelagic Publishing, Exeter, United Kingdom. www.bit.ly/2v3cR9Q

Johnson, D. H., S. R. Loss, K. S. Smallwood, W. P. Erickson. 2016. Avian fatalities at wind energy facilities in North America: A comparison of recent approaches. Human–Wildlife Interactions 10(1):7-18.

Sadar, M. J., D. S.-M. Guzman, A. Mete, J. Foley, N. Stephenson, K. H. Rogers, C. Grosset, K. S. Smallwood, J. Shipman, A. Wells, S. D. White, D. A. Bell, and M. G. Hawkins. 2015. Mange Caused by a novel Micnemidocoptes mite in a Golden Eagle (*Aquila chrysaetos*). Journal of Avian Medicine and Surgery 29(3):231-237.

Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., Wildlife habitat conservation: concepts, challenges, and solutions. John Hopkins University Press, Baltimore, Maryland, USA.

Mete, A., N. Stephenson, K. Rogers, M. G. Hawkins, M. Sadar, D. Guzman, D. A. Bell, J. Shipman, A. Wells, K. S. Smallwood, and J. Foley. 2014. Emergence of Knemidocoptic mange in wild Golden Eagles (Aquila chrysaetos) in California. Emerging Infectious Diseases 20(10):1716-1718.

Smallwood, K. S. 2013. Introduction: Wind-energy development and wildlife conservation.

Wildlife Society Bulletin 37: 3-4.

Smallwood, K. S. 2013. Comparing bird and bat fatality-rate estimates among North American wind-energy projects. Wildlife Society Bulletin 37:19-33. + Online Supplemental Material.

Smallwood, K. S., L. Neher, J. Mount, and R. C. E. Culver. 2013. Nesting Burrowing Owl Abundance in the Altamont Pass Wind Resource Area, California. Wildlife Society Bulletin: 37:787-795.

Smallwood, K. S., D. A. Bell, B. Karas, and S. A. Snyder. 2013. Response to Huso and Erickson Comments on Novel Scavenger Removal Trials. Journal of Wildlife Management 77: 216-225.

Bell, D. A., and K. S. Smallwood. 2010. Birds of prey remain at risk. Science 330:913.

Smallwood, K. S., D. A. Bell, S. A. Snyder, and J. E. DiDonato. 2010. Novel scavenger removal trials increase estimates of wind turbine-caused avian fatality rates. Journal of Wildlife Management 74: 1089-1097 + Online Supplemental Material.

Smallwood, K. S., L. Neher, and D. A. Bell. 2009. Map-based repowering and reorganization of a wind resource area to minimize burrowing owl and other bird fatalities. Energies 2009(2):915-943. http://www.mdpi.com/1996-1073/2/4/915

Smallwood, K. S. and B. Nakamoto. 2009. Impacts of West Nile Virus Epizootic on Yellow-Billed Magpie, American Crow, and other Birds in the Sacramento Valley, California. The Condor 111:247-254.

Smallwood, K. S., L. Rugge, and M. L. Morrison. 2009. Influence of Behavior on Bird Mortality in Wind Energy Developments: The Altamont Pass Wind Resource Area, California. Journal of Wildlife Management 73:1082-1098.

Smallwood, K. S. and B. Karas. 2009. Avian and Bat Fatality Rates at Old-Generation and Repowered Wind Turbines in California. Journal of Wildlife Management 73:1062-1071.

Smallwood, K. S. 2008. Wind power company compliance with mitigation plans in the Altamont Pass Wind Resource Area. Environmental & Energy Law Policy Journal 2(2):229-285.

Smallwood, K. S., C. G. Thelander. 2008. Bird Mortality in the Altamont Pass Wind Resource Area, California. Journal of Wildlife Management 72:215-223.

Smallwood, K. S. 2007. Estimating wind turbine-caused bird mortality. Journal of Wildlife Management 71:2781-2791.

Smallwood, K. S., C. G. Thelander, M. L. Morrison, and L. M. Rugge. 2007. Burrowing owl mortality in the Altamont Pass Wind Resource Area. Journal of Wildlife Management 71:1513-1524.

Cain, J. W. III, K. S. Smallwood, M. L. Morrison, and H. L. Loffland. 2005. Influence of mammal activity on nesting success of Passerines. J. Wildlife Management 70:522-531.

Smallwood, K.S. 2002. Habitat models based on numerical comparisons. Pages 83-95 *in* Predicting species occurrences: Issues of scale and accuracy, J. M. Scott, P. J. Heglund, M. Morrison, M. Raphael, J. Haufler, and B. Wall, editors. Island Press, Covello, California.

Morrison, M. L., K. S. Smallwood, and L. S. Hall. 2002. Creating habitat through plant relocation: Lessons from Valley elderberry longhorn beetle mitigation. Ecological Restoration 21: 95-100.

Zhang, M., K. S. Smallwood, and E. Anderson. 2002. Relating indicators of ecological health and integrity to assess risks to sustainable agriculture and native biota. Pages 757-768 *in* D.J. Rapport, W.L. Lasley, D.E. Rolston, N.O. Nielsen, C.O. Qualset, and A.B. Damania (eds.), Managing for Healthy Ecosystems, Lewis Publishers, Boca Raton, Florida USA.

Wilcox, B. A., K. S. Smallwood, and J. A. Kahn. 2002. Toward a forest Capital Index. Pages 285-298 *in* D.J. Rapport, W.L. Lasley, D.E. Rolston, N.O. Nielsen, C.O. Qualset, and A.B. Damania (eds.), Managing for Healthy Ecosystems, Lewis Publishers, Boca Raton, Florida USA.

Smallwood, K.S. 2001. The allometry of density within the space used by populations of Mammalian Carnivores. Canadian Journal of Zoology 79:1634-1640.

Smallwood, K.S., and T.R. Smith. 2001. Study design and interpretation of Sorex density estimates. Annales Zoologi Fennici 38:141-161.

Smallwood, K.S., A. Gonzales, T. Smith, E. West, C. Hawkins, E. Stitt, C. Keckler, C. Bailey, and K. Brown. 2001. Suggested standards for science applied to conservation issues. Transactions of the Western Section of the Wildlife Society 36:40-49.

Geng, S., Yixing Zhou, Minghua Zhang, and K. Shawn Smallwood. 2001. A Sustainable Agro-ecological Solution to Water Shortage in North China Plain (Huabei Plain). Environmental Planning and Management 44:345-355.

Smallwood, K. Shawn, Lourdes Rugge, Stacia Hoover, Michael L. Morrison, Carl Thelander. 2001. Intra- and inter-turbine string comparison of fatalities to animal burrow densities at Altamont Pass. Pages 23-37 in S. S. Schwartz, ed., Proceedings of the National Avian-Wind Power Planning Meeting IV. RESOLVE, Inc., Washington, D.C.

Smallwood, K.S., S. Geng, and M. Zhang. 2001. Comparing pocket gopher (*Thomomys bottae*) density in alfalfa stands to assess management and conservation goals in northern California. Agriculture, Ecosystems & Environment 87: 93-109.

Smallwood, K. S. 2001. Linking habitat restoration to meaningful units of animal demography. Restoration Ecology 9:253-261.

Smallwood, K. S. 2000. A crosswalk from the Endangered Species Act to the HCP Handbook and real HCPs. Environmental Management 26, Supplement 1:23-35.

Smallwood, K. S., J. Beyea and M. Morrison. 1999. Using the best scientific data for endangered species conservation. Environmental Management 24:421-435.

Smallwood, K. S. 1999. Scale domains of abundance among species of Mammalian Carnivora. Environmental Conservation 26:102-111.

Smallwood, K.S. 1999. Suggested study attributes for making useful population density estimates. Transactions of the Western Section of the Wildlife Society 35: 76-82.

Smallwood, K. S. and M. L. Morrison. 1999. Estimating burrow volume and excavation rate of pocket gophers (Geomyidae). Southwestern Naturalist 44:173-183.

Smallwood, K. S. and M. L. Morrison. 1999. Spatial scaling of pocket gopher (*Geomyidae*) density. Southwestern Naturalist 44:73-82.

Smallwood, K. S. 1999. Abating pocket gophers (*Thomomys* spp.) to regenerate forests in clearcuts. Environmental Conservation 26:59-65.

Smallwood, K. S. 1998. Patterns of black bear abundance. Transactions of the Western Section of the Wildlife Society 34:32-38.

Smallwood, K. S. 1998. On the evidence needed for listing northern goshawks (*Accipter gentilis*) under the Endangered Species Act: a reply to Kennedy. J. Raptor Research 32:323-329.

Smallwood, K. S., B. Wilcox, R. Leidy, and K. Yarris. 1998. Indicators assessment for Habitat Conservation Plan of Yolo County, California, USA. Environmental Management 22: 947-958.

Smallwood, K. S., M. L. Morrison, and J. Beyea. 1998. Animal burrowing attributes affecting hazardous waste management. Environmental Management 22: 831-847.

Smallwood, K. S, and C. M. Schonewald. 1998. Study design and interpretation for mammalian carnivore density estimates. Oecologia 113:474-491.

Zhang, M., S. Geng, and K. S. Smallwood. 1998. Nitrate contamination in groundwater of Tulare County, California. Ambio 27(3):170-174.

Smallwood, K. S. and M. L. Morrison. 1997. Animal burrowing in the waste management zone of Hanford Nuclear Reservation. Proceedings of the Western Section of the Wildlife Society Meeting 33:88-97.

Morrison, M. L., K. S. Smallwood, and J. Beyea. 1997. Monitoring the dispersal of contaminants by wildlife at nuclear weapons production and waste storage facilities. The Environmentalist 17:289-295.

Smallwood, K. S. 1997. Interpreting puma (*Puma concolor*) density estimates for theory and management. Environmental Conservation 24(3):283-289.

Smallwood, K. S. 1997. Managing vertebrates in cover crops: a first study. American Journal of Alternative Agriculture 11:155-160.

Smallwood, K. S. and S. Geng. 1997. Multi-scale influences of gophers on alfalfa yield and quality. Field Crops Research 49:159-168.

Smallwood, K. S. and C. Schonewald. 1996. Scaling population density and spatial pattern for terrestrial, mammalian carnivores. Oecologia 105:329-335.

Smallwood, K. S., G. Jones, and C. Schonewald. 1996. Spatial scaling of allometry for terrestrial, mammalian carnivores. Oecologia 107:588-594.

Van Vuren, D. and K. S. Smallwood. 1996. Ecological management of vertebrate pests in agricultural systems. Biological Agriculture and Horticulture 13:41-64.

Smallwood, K. S., B. J. Nakamoto, and S. Geng. 1996. Association analysis of raptors on an agricultural landscape. Pages 177-190 in D.M. Bird, D.E. Varland, and J.J. Negro, eds., Raptors in human landscapes. Academic Press, London.

Erichsen, A. L., K. S. Smallwood, A. M. Commandatore, D. M. Fry, and B. Wilson. 1996. White-tailed Kite movement and nesting patterns in an agricultural landscape. Pages 166-176 in D. M. Bird, D. E. Varland, and J. J. Negro, eds., Raptors in human landscapes. Academic Press, London.

Smallwood, K. S. 1995. Scaling Swainson's hawk population density for assessing habitat-use across an agricultural landscape. J. Raptor Research 29:172-178.

Smallwood, K. S. and W. A. Erickson. 1995. Estimating gopher populations and their abatement in forest plantations. Forest Science 41:284-296.

Smallwood, K. S. and E. L. Fitzhugh. 1995. A track count for estimating mountain lion *Felis concolor californica* population trend. Biological Conservation 71:251-259

Smallwood, K. S. 1994. Site invasibility by exotic birds and mammals. Biological Conservation 69:251-259.

Smallwood, K. S. 1994. Trends in California mountain lion populations. Southwestern Naturalist 39:67-72.

Smallwood, K. S. 1993. Understanding ecological pattern and process by association and order. Acta Oecologica 14(3):443-462.

Smallwood, K. S. and E. L. Fitzhugh. 1993. A rigorous technique for identifying individual mountain lions *Felis concolor* by their tracks. Biological Conservation 65:51-59.

Smallwood, K. S. 1993. Mountain lion vocalizations and hunting behavior. The Southwestern Naturalist 38:65-67.

Smallwood, K. S. and T. P. Salmon. 1992. A rating system for potential exotic vertebrate pests. Biological Conservation 62:149-159.

Smallwood, K. S. 1990. Turbulence and the ecology of invading species. Ph.D. Thesis, University of California, Davis.

Peer-reviewed Reports

Smallwood, K. S., and L. Neher. 2017. Comparing bird and bat use data for siting new wind power generation. Report CEC-500-2017-019, California Energy Commission Public Interest Energy Research program, Sacramento, California. http://www.energy.ca.gov/2017publications/CEC-500-2017-019/CEC-500-2017-019.pdf and http://www.energy.ca.gov/2017publications/CEC-500-2017-019/CEC-500-2017-019-APA-F.pdf

Smallwood, K. S. 2016. Bird and bat impacts and behaviors at old wind turbines at Forebay, Altamont Pass Wind Resource Area. Report CEC-500-2016-066, California Energy Commission Public Interest Energy Research program, Sacramento, California. http://www.energy.ca.gov/publications/displayOneReport.php? pubNum=CEC-500-2016-066

Sinclair, K. and E. DeGeorge. 2016. Framework for Testing the Effectiveness of Bat and Eagle Impact-Reduction Strategies at Wind Energy Projects. S. Smallwood, M. Schirmacher, and M. Morrison, eds., Technical Report NREL/TP-5000-65624, National Renewable Energy Laboratory, Golden, Colorado.

Brown, K., K. S. Smallwood, J. Szewczak, and B. Karas. 2016. Final 2012-2015 Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources, Livermore, California.

Brown, K., K. S. Smallwood, J. Szewczak, and B. Karas. 2014. Final 2013-2014 Annual Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources, Livermore, California.

Brown, K., K. S. Smallwood, and B. Karas. 2013. Final 2012-2013 Annual Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources, Livermore, California. http://www.altamontsrc.org/alt_doc/p274_ventus_vasco_winds_2012_13_avian_bat_monitoring_report_year_1.pdf

Smallwood, K. S., L. Neher, D. Bell, J. DiDonato, B. Karas, S. Snyder, and S. Lopez. 2009. Range Management Practices to Reduce Wind Turbine Impacts on Burrowing Owls and Other Raptors in the Altamont Pass Wind Resource Area, California. Final Report to the California Energy Commission, Public Interest Energy Research – Environmental Area, Contract No. CEC-500-2008-080. Sacramento, California. 183 pp. http://www.energy.ca.gov/2008publications/CEC-500-2008-080/CEC-500-2008-080.PDF

Smallwood, K. S., and L. Neher. 2009. Map-Based Repowering of the Altamont Pass Wind Resource Area Based on Burrowing Owl Burrows, Raptor Flights, and Collisions with Wind Turbines. Final Report to the California Energy Commission, Public Interest Energy Research – Environmental Area, Contract No. CEC-500-2009-065. Sacramento, California. http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-500-2009-065

Smallwood, K. S., K. Hunting, L. Neher, L. Spiegel and M. Yee. 2007. Indicating Threats to Birds Posed by New Wind Power Projects in California. Final Report to the California Energy Commission, Public Interest Energy Research – Environmental Area, Contract No. Submitted but not published. Sacramento, California.

Smallwood, K. S. and C. Thelander. 2005. Bird mortality in the Altamont Pass Wind Resource Area, March 1998 – September 2001 Final Report. National Renewable Energy Laboratory, NREL/SR-500-36973. Golden, Colorado. 410 pp.

Smallwood, K. S. and C. Thelander. 2004. Developing methods to reduce bird mortality in the Altamont Pass Wind Resource Area. Final Report to the California Energy Commission, Public Interest Energy Research – Environmental Area, Contract No. 500-01-019. Sacramento, California. 531 pp. http://www.altamontsrcarchive.org/alt_doc/cec_final_report_08_11_04.pdf

Thelander, C.G. S. Smallwood, and L. Rugge. 2003. Bird risk behaviors and fatalities at the Altamont Pass Wind Resource Area. Period of Performance: March 1998—December 2000. National Renewable Energy Laboratory, NREL/SR-500-33829. U.S. Department of Commerce, National Technical Information Service, Springfield, Virginia. 86 pp.

Thelander, C.G., S. Smallwood, and L. Rugge. 2001. Bird risk behaviors and fatalities at the Altamont Wind Resource Area – a progress report. Proceedings of the American Wind Energy Association, Washington D.C. 16 pp.

Non-Peer Reviewed Publications

Smallwood, K. S. 2009. Methods manual for assessing wind farm impacts to birds. Bird Conservation Series 26, Wild Bird Society of Japan, Tokyo. T. Ura, ed., in English with Japanese translation by T. Kurosawa. 90 pp.

Smallwood, K. S. 2009. Mitigation in U.S. Wind Farms. Pages 68-76 in H. Hötker (Ed.), Birds of Prey and Wind Farms: Analysis of problems and possible solutions. Documentation of an International Workshop in Berlin, 21st and 22nd October 2008. Michael-Otto-Instiut im NABU, Goosstroot 1, 24861 Bergenhusen, Germany. http://bergenhusen.nabu.de/forschung/greifvoegel/

Smallwood, K. S. 2007. Notes and recommendations on wildlife impacts caused by Japan's wind power development. Pages 242-245 in Yukihiro Kominami, Tatsuya Ura, Koshitawa, and Tsuchiya, Editors, Wildlife and Wind Turbine Report 5. Wild Bird Society of Japan, Tokyo.

Thelander, C.G. and S. Smallwood. 2007. The Altamont Pass Wind Resource Area's Effects on Birds: A Case History. Pages 25-46 in Manuela de Lucas, Guyonne F.E. Janss, Miguel Ferrer Editors, Birds and Wind Farms: risk assessment and mitigation. Madrid: Quercus.

Neher, L. and S. Smallwood. 2005. Forecasting and minimizing avian mortality in siting wind turbines. Energy Currents. Fall Issue. ESRI, Inc., Redlands, California.

Jennifer Davidson and Shawn Smallwood. 2004. Laying plans for a hydrogen highway. Comstock's Business, August 2004:18-20, 22, 24-26.

Jennifer Davidson and Shawn Smallwood. 2004. Refined conundrum: California consumers demand more oil while opposing refinery development. Comstock's Business, November 2004:26-27, 29-30.

Smallwood, K.S. 2002. Review of "The Atlas of Endangered Species." By Richard Mackay. Environmental Conservation 30:210-211.

Smallwood, K.S. 2002. Review of "The Endangered Species Act. History, Conservation, and Public Policy." By Brian Czech and Paul B. Krausman. Environmental Conservation 29: 269-270.

Smallwood, K.S. 1997. Spatial scaling of pocket gopher (Geomyidae) burrow volume. Abstract in Proceedings of 44th Annual Meeting, Southwestern Association of Naturalists. Department of Biological Sciences, University of Arkansas, Fayetteville.

Smallwood, K.S. 1997. Estimating prairie dog and pocket gopher burrow volume. Abstract in Proceedings of 44th Annual Meeting, Southwestern Association of Naturalists. Department of Biological Sciences, University of Arkansas, Fayetteville.

Smallwood, K.S. 1997. Animal burrowing parameters influencing toxic waste management. Abstract in Proceedings of Meeting, Western Section of the Wildlife Society.

Smallwood, K.S, and Bruce Wilcox. 1996. Study and interpretive design effects on mountain lion density estimates. Abstract, page 93 in D.W. Padley, ed., *Proceedings 5th Mountain Lion Workshop*, Southern California Chapter, The Wildlife Society. 135 pp.

Smallwood, K.S, and Bruce Wilcox. 1996. Ten years of mountain lion track survey. Page 94 in D.W. Padley, ed. Abstract, page 94 in D.W. Padley, ed., *Proceedings 5th Mountain Lion Workshop*, Southern California Chapter, The Wildlife Society. 135 pp.

Smallwood, K.S, and M. Grigione. 1997. Photographic recording of mountain lion tracks. Pages 75-75 in D.W. Padley, ed., *Proceedings 5th Mountain Lion Workshop*, Southern California Chapter, The Wildlife Society. 135 pp.

Smallwood, K.S., B. Wilcox, and J. Karr. 1995. An approach to scaling fragmentation effects. Brief 8, Ecosystem Indicators Working Group, 17 March, 1995. Institute for Sustainable Development, Thoreau Center for Sustainability – The Presidio, PO Box 29075, San Francisco, CA 94129-0075.

Wilcox, B., and K.S. Smallwood. 1995. Ecosystem indicators model overview. Brief 2, Ecosystem Indicators Working Group, 17 March, 1995. Institute for Sustainable Development, Thoreau Center for Sustainability – The Presidio, PO Box 29075, San Francisco, CA 94129-0075.

EIP Associates. 1996. Yolo County Habitat Conservation Plan. Yolo County Planning and Development Department, Woodland, California.

Geng, S., K.S. Smallwood, and M. Zhang. 1995. Sustainable agriculture and agricultural

sustainability. Proc. 7th International Congress SABRAO, 2nd Industrial Symp. WSAA. Taipei, Taiwan.

Smallwood, K.S. and S. Geng. 1994. Landscape strategies for biological control and IPM. Pages 454-464 in W. Dehai, ed., Proc. International Conference on Integrated Resource Management for Sustainable Agriculture. Beijing Agricultural University, Beijing, China.

Smallwood, K.S. and S. Geng. 1993. Alfalfa as wildlife habitat. California Alfalfa Symposium 23:105-8.

Smallwood, K.S. and S. Geng. 1993. Management of pocket gophers in Sacramento Valley alfalfa. California Alfalfa Symposium 23:86-89.

Smallwood, K.S. and E.L. Fitzhugh. 1992. The use of track counts for mountain lion population census. Pages 59-67 in C. Braun, ed. Mountain lion-Human Interaction Symposium and Workshop. Colorado Division of Wildlife, Fort Collins.

Smallwood, K.S. and E.L. Fitzhugh. 1989. Differentiating mountain lion and dog tracks. Pages 58-63 in Smith, R.H., ed. Proc. Third Mountain Lion Workshop. Arizona Game and Fish Department, Phoenix.

Fitzhugh, E.L. and K.S. Smallwood. 1989. Techniques for monitoring mountain lion population levels. Pages 69-71 in Smith, R.H., ed. Proc. Third Mountain Lion Workshop. Arizona Game and Fish Department, Phoenix.

Reports to or by Alameda County Scientific Review Committee (Note: all documents linked to SRC website have since been removed by Alameda County)

Smallwood, K. S. 2014. Data Needed in Support of Repowering in the Altamont Pass WRA. SRC document P284, County of Alameda, Hayward, California.

Smallwood, K. S. 2013. Long-Term Trends in Fatality Rates of Birds and Bats in the Altamont Pass Wind Resource Area, California. SRC document R68, County of Alameda, Hayward, California.

Smallwood, K. S. 2013. Inter-annual Fatality rates of Target Raptor Species from 1999 through 2012 in the Altamont Pass Wind Resources Area. SRC document P268, County of Alameda, Hayward, California.

Smallwood, K. S. 2012. General Protocol for Performing Detection Trials in the FloDesign Study of the Safety of a Closed-bladed Wind Turbine. SRC document P246, County of Alameda, Hayward, California.

Smallwood, K. S., l. Neher, and J. Mount. 2012. Burrowing owl distribution and abundance study through two breeding seasons and intervening non-breeding period in the Altamont Pass Wind Resource Area, California. SRC document P245, County of Alameda, Hayward, California.

Smallwood, K. S 2012. Draft study design for testing collision risk of Flodesign wind turbine in

former AES Seawest wind projects in the Altamont Pass Wind Resource Area (APWRA). SRC document P238, County of Alameda, Hayward, California.

Smallwood, L. Neher, and J. Mount. 2012. Winter 2012 update on burrowing owl distribution and abundance study in the Altamont Pass Wind Resource Area, California. SRC document P232, County of Alameda, Hayward, California.

Smallwood, S. 2012. Status of avian utilization data collected in the Altamont Pass Wind Resource Area, 2005-2011. SRC document P231, County of Alameda, Hayward, California.

Smallwood, K. S., L. Neher, and J. Mount. 2011. Monitoring Burrow Use of Wintering Burrowing Owls. SRC document P229, County of Alameda, Hayward, California.

Smallwood, K. S., L. Neher, and J. Mount. 2011. Nesting Burrowing Owl Distribution and Abundance in the Altamont Pass Wind Resource Area, California. SRC document P228, County of Alameda, Hayward, California.

Smallwood, K. S. 2011. Draft Study Design for Testing Collision Risk of Flodesign Wind Turbine in Patterson Pass Wind Farm in the Altamont Pass Wind Resource Area (APWRA). http://www.altamontsrc.org/alt_doc/p100_src_document_list_with_reference_numbers.pdf

Smallwood, K. S. 2011. Sampling Burrowing Owls Across the Altamont Pass Wind Resource Area. SRC document P205, County of Alameda, Hayward, California.

Smallwood, K. S. 2011. Proposal to Sample Burrowing Owls Across the Altamont Pass Wind Resource Area. SRC document P155, County of Alameda, Hayward, California. SRC document P198, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Comments on APWRA Monitoring Program Update**.** SRC document P191, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Inter-turbine Comparisons of Fatality Rates in the Altamont Pass Wind Resource Area. SRC document P189, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Review of the December 2010 Draft of M-21: Altamont Pass Wind Resource Area Bird Collision Study. SRC document P190, County of Alameda, Hayward, California.

Alameda County SRC (Shawn Smallwood, Jim Estep, Sue Orloff, Joanna Burger, and Julie Yee). Comments on the Notice of Preparation for a Programmatic Environmental Impact Report on Revised CUPs for Wind Turbines in the Alameda County portion of the Altamont Pass. SRC document P183, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Review of Monitoring Implementation Plan. SRC document P180, County of Alameda, Hayward, California.

Burger, J., J. Estep, S. Orloff, S. Smallwood, and J. Yee. 2010. SRC Comments on CalWEA Research Plan. SRC document P174, County of Alameda, Hayward, California.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). SRC Comments on Monitoring Team's Draft Study Plan for Future Monitoring. SRC document P168, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Second Review of American Kestrel-Burrowing owl (KB) Scavenger Removal Adjustments Reported in Alameda County Avian Monitoring Team's M21 for the Altamont Pass Wind Resource Area. SRC document P171, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Assessment of Three Proposed Adaptive Management Plans for Reducing Raptor Fatalities in the Altamont Pass Wind Resource Area. SRC document P161, County of Alameda, Hayward, California.

Smallwood, K. S. and J. Estep. 2010. Report of additional wind turbine hazard ratings in the Altamont Pass Wind Resource Area by Two Members of the Alameda County Scientific Review Committee. SRC document P153, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Alternatives to Improve the Efficiency of the Monitoring Program. SRC document P158, County of Alameda, Hayward, California.

Smallwood, S. 2010. Summary of Alameda County SRC Recommendations and Concerns and Subsequent Actions. SRC document P147, County of Alameda, Hayward, California.

Smallwood, S. 2010. Progress of Avian Wildlife Protection Program & Schedule. SRC document P148, County of Alameda, Hayward, California. SRC document P148, County of Alameda, Hayward, California.

Smallwood, S. 2010. Old-generation wind turbines rated for raptor collision hazard by Alameda County Scientific Review Committee in 2010, an Update on those Rated in 2007, and an Update on Tier Rankings. SRC document P155, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Review of American Kestrel-Burrowing owl (KB) Scavenger Removal Adjustments Reported in Alameda County Avian Monitoring Team's M21 for the Altamont Pass Wind Resource Area. SRC document P154, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Fatality Rates in the Altamont Pass Wind Resource Area 1998-2009. Alameda County SRC document P-145.

Smallwood, K. S. 2010. Comments on Revised M-21: Report on Fatality Monitoring in the Altamont Pass Wind Resource Area. SRC document P144, County of Alameda, Hayward, California.

Smallwood, K. S. 2009. SRC document P129, County of Alameda, Hayward, California.

Smallwood, K. S. 2009. Smallwood's review of M32. SRC document P111, County of Alameda, Hayward, California.

Smallwood, K. S. 2009. 3rd Year Review of 16 Conditional Use Permits for Windworks, Inc. and Altamont Infrastructure Company, LLC. Comment letter to East County Board of Zoning Adjustments. 10 pp + 2 attachments.

Smallwood, K. S. 2008. Weighing Remaining Workload of Alameda County SRC against Proposed Budget Cap. Alameda County SRC document not assigned. 3 pp.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). 2008. SRC comments on August 2008 Fatality Monitoring Report, M21. SRC document P107, County of Alameda, Hayward, California.

Smallwood, K. S. 2008. Burrowing owl carcass distribution around wind turbines. SRC document P106, County of Alameda, Hayward, California.

Smallwood, K. S. 2008. Assessment of relocation/removal of Altamont Pass wind turbines rated as hazardous by the Alameda County SRC. SRC document P103, County of Alameda, Hayward, California.

Smallwood, K. S. and L. Neher. 2008. Summary of wind turbine-free ridgelines within and around the APWRA. SRC document P102, County of Alameda, Hayward, California.

Smallwood, K. S. and B. Karas. 2008. Comparison of mortality estimates in the Altamont Pass Wind Resource Area when restricted to recent fatalities. SRC document P101, County of Alameda, Hayward, California.

Smallwood, K. S. 2008. On the misapplication of mortality adjustment terms to fatalities missed during one search and found later. SRC document P97, County of Alameda, Hayward, California.

Smallwood, K. S. 2008. Relative abundance of raptors outside the APWRA. SRC document P88, County of Alameda, Hayward, California.

Smallwood, K. S. 2008. Comparison of mortality estimates in the Altamont Pass Wind Resource Area. SRC document P76, County of Alameda, Hayward, California.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). 2010. Guidelines for siting wind turbines recommended for relocation to minimize potential collision-related mortality of four focal raptor species in the Altamont Pass Wind Resource Area. SRC document P70, County of Alameda, Hayward, California.

Alameda County SRC (J. Burger, Smallwood, K. S., S. Orloff, J. Estep, and J. Yee). 2007. First DRAFT of Hazardous Rating Scale First DRAFT of Hazardous Rating Scale. SRC document P69, County of Alameda, Hayward, California.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). December 11, 2007. SRC selection of dangerous wind turbines. Alameda County SRC document P-67. 8 pp.

Smallwood, S. October 6, 2007. Smallwood's answers to Audubon's queries about the SRC's recommended four-month winter shutdown of wind turbines in the Altamont Pass. Alameda County SRC document P-23.

Smallwood, K. S. October 1, 2007. Dissenting opinion on recommendation to approve of the AWI Blade Painting Study. Alameda County SRC document P-60.

Smallwood, K. S. July 26, 2007. Effects of monitoring duration and inter-annual variability on precision of wind-turbine caused mortality estimates in the Altamont Pass Wind Resource Area, California. SRC Document P44.

Smallwood, K. S. July 26, 2007. Memo: Opinion of some SRC members that the period over which post-management mortality will be estimated remains undefined. SRC Document P43.

Smallwood, K. S. July 19, 2007. Smallwood's response to P24G. SRC Document P41, 4 pp.

Smallwood, K. S. April 23, 2007. New Information Regarding Alameda County SRC Decision of 11 April 2007 to Grant FPLE Credits for Removing and Relocating Wind Turbines in 2004. SRC Document P26.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, and J. Burger [J. Yee abstained]). April 17, 2007. SRC Statement in Support of the Monitoring Program Scope and Budget.

Smallwood, K. S. April 15, 2007. Verification of Tier 1 & 2 Wind Turbine Shutdowns and Relocations. SRC Document P22.

Smallwood, S. April 15, 2007. Progress of Avian Wildlife Protection Program & Schedule.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). April 3, 2007. Alameda County Scientific Review Committee replies to the parties' responses to its queries and to comments from the California Office of the Attorney General. SRC Document S20.

Smallwood, S. March 19, 2007. Estimated Effects of Full Winter Shutdown and Removal of Tier I & II Turbines. SRC Document S19.

Smallwood, S. March 8, 2007. Smallwood's Replies to the Parties' Responses to Queries from the SRC and Comments from the California Office of the Attorney General. SRC Document S16.

Smallwood, S. March 8, 2007. Estimated Effects of Proposed Measures to be Applied to 2,500 Wind Turbines in the APWRA Fatality Monitoring Plan. SRC Document S15.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). February 7, 2007. Analysis of Monitoring Program in Context of 1/1//2007 Settlement Agreement.

Smallwood, S. January 8, 2007. Smallwood's Concerns over the Agreement to Settle the CEQA Challenges. SRC Document S5.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). December 19, 2006. Altamont Scientific Review Committee (SRC) Recommendations to the County on the Avian Monitoring Team Consultants' Budget and Organization.

Reports to Clients

Smallwood, K. S. 2020. Comparison of bird and bat fatality rates among utility-scale solar projects in California. Report to undisclosed client.

Smallwood, K. S., D. Bell, and S. Standish. 2018. Skilled dog detections of bat and small bird carcasses in wind turbine fatality monitoring. Report to East Bay Regional Park District, Oakland, California.

Smallwood, K. S. 2018. Addendum to Comparison of Wind Turbine Collision Hazard Model Performance: One-year Post-construction Assessment of Golden Eagle Fatalities at Golden Hills. Report to Audubon Society, NextEra Energy, and the California Attorney General.

Smallwood, K. S., and L. Neher. 2018. Siting wind turbines to minimize raptor collisions at Rooney Ranch and Sand Hill Repowering Project, Altamont Pass Wind Resource Area. Report to S-Power, Salt Lake City, Utah.

Smallwood, K. S. 2017. Summary of a burrowing owl conservation workshop. Report to Santa Clara Valley Habitat Agency, Morgan Hill, California.

Smallwood, K. S., and L. Neher. 2018. Comparison of wind turbine collision hazard model performance prepared for repowering projects in the Altamont Pass Wind Resources Area. Report to NextEra Energy Resources, Inc., Office of the California Attorney General, Audubon Society, East Bay Regional Park District.

Smallwood, K. S., and L. Neher. 2016. Siting wind turbines to minimize raptor collisions at Summit Winds Repowering Project, Altamont Pass Wind Resource Area. Report to Salka, Inc., Washington, D.C.

Smallwood, K. S., L. Neher, and D. A. Bell. 2017. Mitigating golden eagle impacts from repowering Altamont Pass Wind Resource Area and expanding Los Vaqueros Reservoir. Report to East Contra Costa County Habitat Conservation Plan Conservancy and Contra Costa Water District.

Smallwood, K. S. 2016. Review of avian-solar science plan. Report to Center for Biological Diversity. 28 pp

Smallwood, K. S. 2016. Report of Altamont Pass research as Vasco Winds mitigation. Report to NextEra Energy Resources, Inc., Office of the California Attorney General, Audubon Society, East Bay Regional Park District.

Smallwood, K. S., and L. Neher. 2016. Siting Wind Turbines to Minimize Raptor collisions at Sand Hill Repowering Project, Altamont Pass Wind Resource Area. Report to Ogin, Inc., Waltham, Massachusetts.

Smallwood, K. S., and L. Neher. 2015a. Siting wind turbines to minimize raptor collisions at Golden Hills Repowering Project, Altamont Pass Wind Resource Area. Report to NextEra Energy Resources, Livermore, California.

Smallwood, K. S., and L. Neher. 2015b. Siting wind turbines to minimize raptor collisions at Golden Hills North Repowering Project, Altamont Pass Wind Resource Area. Report to NextEra Energy Resources, Livermore, California.

Smallwood, K. S., and L. Neher. 2015c. Siting wind turbines to minimize raptor collisions at the Patterson Pass Repowering Project, Altamont Pass Wind Resource Area. Report to EDF Renewable Energy, Oakland, California.

Smallwood, K. S., and L. Neher. 2014. Early assessment of wind turbine layout in Summit Wind Project. Report to Altamont Winds LLC, Tracy, California.

Smallwood, K. S. 2015. Review of avian use survey report for the Longboat Solar Project. Report to EDF Renewable Energy, Oakland, California.

Smallwood, K. S. 2014. Information needed for solar project impacts assessment and mitigation planning. Report to Panorama Environmental, Inc., San Francisco, California.

Smallwood, K. S. 2014. Monitoring fossorial mammals in Vasco Caves Regional Preserve, California: Report of Progress for the period 2006-2014. Report to East Bay Regional Park District, Oakland, California.

Smallwood, K. S. 2013. First-year estimates of bird and bat fatality rates at old wind turbines, Forebay areas of Altamont Pass Wind Resource Area. Report to FloDesign in support of EIR.

Smallwood, K. S. and W. Pearson. 2013. Neotropical bird monitoring of burrowing owls (*Athene cunicularia*), Naval Air Station Lemoore, California. Tierra Data, Inc. report to Naval Air Station Lemoore.

Smallwood, K. S. 2013. Winter surveys for San Joaquin kangaroo rat (*Dipodomys nitratoides*) and burrowing owls (*Athene cunicularia*) within Air Operations at Naval Air Station, Lemoore. Report to Tierra Data, Inc. and Naval Air Station Lemoore.

Smallwood, K. S. and M. L. Morrison. 2013. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) conservation research in Resource Management Area 5, Lemoore Naval Air Station: 2012 Progress Report (Inclusive of work during 2000-2012). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California.

Smallwood, K. S. 2012. Fatality rate estimates at the Vantage Wind Energy Project, year one. Report to Ventus Environmental, Portland, Oregon.

Smallwood, K. S. and L. Neher. 2012. Siting wind turbines to minimize raptor collisions at North Sky River. Report to NextEra Energy Resources, LLC.

Smallwood, K. S. 2011. Monitoring Fossorial Mammals in Vasco Caves Regional Preserve, California: Report of Progress for the Period 2006-2011. Report to East Bay Regional Park District.

Smallwood, K. S. and M. L. Morrison. 2011. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2011 Progress Report (Inclusive of work during 2000-2011). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California.

Smallwood, K. S. 2011. Draft study design for testing collision risk of FloDesign Wind Turbine in Patterson Pass, Santa Clara, and Former AES Seawest Wind Projects in the Altamont Pass Wind Resource Area (APWRA). Report to FloDesign, Inc.

Smallwood, K. S. 2011. Comments on Marbled Murrelet collision model for the Radar Ridge Wind Resource Area. Report to EcoStat, Inc., and ultimately to US Fish and Wildlife Service.

Smallwood, K. S. 2011. Avian fatality rates at Buena Vista Wind Energy Project, 2008-2011. Report to Pattern Energy.

Smallwood, K. S. and L. Neher. 2011. Siting repowered wind turbines to minimize raptor collisions at Tres Vaqueros, Contra Costa County, California. Report to Pattern Energy.

Smallwood, K. S. and M. L. Morrison. 2011. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2010 Progress Report (Inclusive of work during 2000-2010). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California.

Smallwood, K. S. 2010. Wind Energy Development and avian issues in the Altamont Pass, California. Report to Black & Veatch.

Smallwood, K. S. and L. Neher. 2010. Siting repowered wind turbines to minimize raptor collisions at the Tres Vaqueros Wind Project, Contra Costa County, California. Report to the East Bay Regional Park District, Oakland, California.

Smallwood, K. S. and L. Neher. 2010. Siting repowered wind turbines to minimize raptor collisions at Vasco Winds. Report to NextEra Energy Resources, LLC, Livermore, California.

Smallwood, K. S. 2010. Baseline avian and bat fatality rates at the Tres Vaqueros Wind Project, Contra Costa County, California. Report to the East Bay Regional Park District, Oakland, California.

Smallwood, K. S. and M. L. Morrison. 2010. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2009 Progress Report (Inclusive of work during 2000-2009). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 86 pp.

Smallwood, K. S. 2009. Mammal surveys at naval outlying landing field Imperial Beach, California, August 2009. Report to Tierra Data, Inc. 5 pp

Smallwood, K. S. 2009. Mammals and other Wildlife Observed at Proposed Site of Amargosa Solar Power Project, Spring 2009. Report to Tierra Data, Inc. 13 pp

Smallwood, K. S. 2009. Avian Fatality Rates at Buena Vista Wind Energy Project, 2008-2009. Report to members of the Contra Costa County Technical Advisory Committee on the Buena Vista Wind Energy Project. 8 pp.

Smallwood, K. S. 2009. Repowering the Altamont Pass Wind Resource Area more than Doubles Energy Generation While Substantially Reducing Bird Fatalities. Report prepared on behalf of Californians for Renewable Energy. 2 pp.

Smallwood, K. S. and M. L. Morrison. 2009. Surveys to Detect Salt Marsh Harvest Mouse and California Black Rail at Installation Restoration Site 30, Military Ocean Terminal Concord, California: March-April 2009. Report to Insight Environmental, Engineering, and Construction, Inc., Sacramento, California. 6 pp.

Smallwood, K. S. 2008. Avian and Bat Mortality at the Big Horn Wind Energy Project, Klickitat County, Washington. Unpublished report to Friends of Skamania County. 7 pp.

Smallwood, K. S. 2009. Monitoring Fossorial Mammals in Vasco Caves Regional Preserve, California: report of progress for the period 2006-2008. Unpublished report to East Bay Regional Park District. 5 pp.

Smallwood, K. S. and M. L. Morrison. 2008. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2008 Progress Report (Inclusive of work during 2000-2008). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 84 pp.

Smallwood, K. S. and M. L. Morrison. 2008. Habitat Assessment for California Red-Legged Frog at Naval Weapons Station, Seal Beach, Detachment Concord, California. Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 48 pp.

Smallwood, K. S. and B. Nakamoto. 2008. Impact of 2005 and 2006 West Nile Virus on Yellow-billed Magpie and American Crow in the Sacramento Valley, California. 22 pp.

Smallwood, K. S. and M. L. Morrison. 2008. Former Naval Security Group Activity (NSGA), Skaggs Island, Waste and Contaminated Soil Removal Project (IR Site #2), San Pablo Bay, Sonoma County, California: Re-Vegetation Monitoring. Report to U.S. Navy, Letter Agreement – N68711-04LT-A0045. Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 10 pp.

Smallwood, K. S. and M. L. Morrison. 2008. Burrowing owls at Dixon Naval Radio Transmitter Facility. Report to U.S. Navy. Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 28 pp.

Smallwood, K. S. and M. L. Morrison. 2008. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*)

Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2007 Progress Report (Inclusive of work during 2001-2007). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 69 pp.

Smallwood, K. S. and M. L. Morrison. 2007. A Monitoring Effort to Detect the Presence of the Federally Listed Species California Clapper Rail and Salt Marsh Harvest Mouse, and Wetland Habitat Assessment at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Installation Restoration (IR) Site 30, Final Report to U.S. Navy, Letter Agreement – N68711-05LT-A0001. U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, San Diego, California. 8 pp.

Smallwood, K. S. and M. L. Morrison. 2007. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2006 Progress Report (Inclusive of work during 2001-2006). U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, Southwest, Daly City, California. 165 pp.

Smallwood, K. S. and C. Thelander. 2006. Response to third review of Smallwood and Thelander (2004). Report to California Institute for Energy and Environment, University of California, Oakland, CA. 139 pp.

Smallwood, K. S. 2006. Biological effects of repowering a portion of the Altamont Pass Wind Resource Area, California: The Diablo Winds Energy Project. Report to Altamont Working Group. Available from Shawn Smallwood, puma@yolo.com . 34 pp.

Smallwood, K. S. 2006. Impact of 2005 West Nile Virus on yellow-billed magpie and american crow in the Sacramento Valley, California. Report to Sacramento-Yolo Mosquito and Vector Control District, Elk Grove, CA. 38 pp.

Smallwood, K. S. and M. L. Morrison. 2006. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2005 Progress Report (Inclusive of work during 2001-2005). U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, South West, Daly City, California. 160 pp.

Smallwood, K. S. and M. L. Morrison. 2006. A monitoring effort to detect the presence of the federally listed species California tiger salamander and California red-legged frog at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Letter agreements N68711-04LT-A0042 and N68711-04LT-A0044, U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, South West, Daly City, California. 60 pp.

Smallwood, K. S. and M. L. Morrison. 2006. A monitoring effort to detect the presence of the federally listed species California Clapper Rail and Salt Marsh Harvest Mouse, and wetland habitat assessment at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Sampling for rails, Spring 2006, Installation Restoration (IR) Site 1. Letter Agreement – N68711-05lt-A0001, U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, South West, Daly City, California. 9 pp.

Morrison, M. L. and K. S. Smallwood. 2006. Final Report: Station-wide Wildlife Survey, Naval Air Station, Lemoore. Department of the Navy Integrated Product Team (IPT) West, Naval

Facilities Engineering Command Southwest, 2001 Junipero Serra Blvd., Suite 600, Daly City, CA 94014-1976. 20 pp.

Smallwood, K. S. and M. L. Morrison. 2006. Former Naval Security Group Activity (NSGA), Skaggs Island, Waste and Contaminated Soil Removal Project, San Pablo Bay, Sonoma County, California: Re-vegetation Monitoring. Department of the Navy Integrated Product Team (IPT) West, Naval Facilities Engineering Command Southwest, 2001 Junipero Serra Blvd., Suite 600, Daly City, CA 94014-1976. 8 pp.

Dorin, Melinda, Linda Spiegel and K. Shawn Smallwood. 2005. Response to public comments on the staff report entitled *Assessment of Avian Mortality from Collisions and Electrocutions* (CEC-700-2005-015) (Avian White Paper) written in support of the 2005 Environmental Performance Report and the 2005 Integrated Energy Policy Report. California Energy Commission, Sacramento. 205 pp.

Smallwood, K. S. 2005. Estimating combined effects of selective turbine removal and winter-time shutdown of half the wind turbines. Unpublished CEC staff report, June 23. 1 p.

Erickson, W. and S. Smallwood. 2005. Avian and Bat Monitoring Plan for the Buena Vista Wind Energy Project Contra Costa County, California. Unpubl. report to Contra Costa County, Antioch, California. 22 pp.

Lamphier-Gregory, West Inc., Shawn Smallwood, Jones & Stokes Associates, Illingworth & Rodkin Inc. and Environmental Vision. 2005. Environmental Impact Report for the Buena Vista Wind Energy Project, LP# 022005. County of Contra Costa Community Development Department, Martinez, California.

Morrison, M. L. and K. S. Smallwood. 2005. A monitoring effort to detect the presence of the federally listed species California clapper rail and salt marsh harvest mouse, and wetland habitat assessment at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Targeted Sampling for Salt Marsh Harvest Mouse, Fall 2005 Installation Restoration (IR) Site 30. Letter Agreement – N68711-05lt-A0001, U.S. Department of the Navy, Naval Facilities Engineering Command Southwest, Daly City, California. 6 pp.

Morrison, M. L. and K. S. Smallwood. 2005. A monitoring effort to detect the presence of the federally listed species California clapper rail and salt marsh harvest mouse, and wetland habitat assessment at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Letter Agreement – N68711-05lt-A0001, U.S. Department of the Navy, Naval Facilities Engineering Command Southwest, Daly City, California. 5 pp.

Morrison, M. L. and K. S. Smallwood. 2005. Skaggs Island waste and contaminated soil removal projects, San Pablo Bay, Sonoma County, California. Report to the U.S. Department of the Navy, Naval Facilities Engineering Command Southwest, Daly City, California. 6 pp.

Smallwood, K. S. and M. L. Morrison. 2004. 2004 Progress Report: San Joaquin kangaroo rat (*Dipodomys nitratoides*) Conservation Research in Resources Management Area 5, Lemoore Naval Air Station. Progress report to U.S. Department of the Navy, Lemoore, California. 134 pp.

Smallwood, K. S. and L. Spiegel. 2005a. Assessment to support an adaptive management plan for the APWRA. Unpublished CEC staff report, January 19. 19 pp.

Smallwood, K. S. and L. Spiegel. 2005b. Partial re-assessment of an adaptive management plan for the APWRA. Unpublished CEC staff report, March 25. 48 pp.

Smallwood, K. S. and L. Spiegel. 2005c. Combining biology-based and policy-based tiers of priority for determining wind turbine relocation/shutdown to reduce bird fatalities in the APWRA. Unpublished CEC staff report, June 1. 9 pp.

Smallwood, K. S. 2004. Alternative plan to implement mitigation measures in APWRA. Unpublished CEC staff report, January 19. 8 pp.

Smallwood, K. S., and L. Neher. 2005. Repowering the APWRA: Forecasting and minimizing avian mortality without significant loss of power generation. California Energy Commission, PIER Energy-Related Environmental Research. CEC-500-2005-005. 21 pp. [Reprinted (in Japanese) in Yukihiro Kominami, Tatsuya Ura, Koshitawa, and Tsuchiya, Editors, Wildlife and Wind Turbine Report 5. Wild Bird Society of Japan, Tokyo.]

Morrison, M. L., and K. S. Smallwood. 2004. Kangaroo rat survey at RMA4, NAS Lemoore. Report to U.S. Navy. 4 pp.

Morrison, M. L., and K. S. Smallwood. 2004. A monitoring effort to detect the presence of the federally listed species California clapper rails and wetland habitat assessment at Pier 4 of the Naval Weapons Station, Seal Beach, Detachment Concord, California. Letter Agreement N68711-04LT-A0002. 8 pp. + 2 pp. of photo plates.

Smallwood, K. S. and M. L. Morrison. 2003. 2003 Progress Report: San Joaquin kangaroo rat (*Dipodomys nitratoides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. Progress report to U.S. Department of the Navy, Lemoore, California. 56 pp. + 58 figures.

Smallwood, K. S. 2003. Comparison of Biological Impacts of the No Project and Partial Underground Alternatives presented in the Final Environmental Impact Report for the Jefferson-Martin 230 kV Transmission Line. Report to California Public Utilities Commission. 20 pp.

Morrison, M. L., and K. S. Smallwood. 2003. Kangaroo rat survey at RMA4, NAS Lemoore. Report to U.S. Navy. 6 pp. + 7 photos + 1 map.

Smallwood, K. S. 2003. Assessment of the Environmental Review Documents Prepared for the Tesla Power Project. Report to the California Energy Commission on behalf of Californians for Renewable Energy. 32 pp.

Smallwood, K. S., and M. L. Morrison. 2003. 2002 Progress Report: San Joaquin kangaroo rat (*Dipodomys nitratoides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. Progress report to U.S. Department of the Navy, Lemoore, California. 45 pp. + 36 figures.

Smallwood, K. S., Michael L. Morrison and Carl G. Thelander 2002. Study plan to test the effectiveness of aerial markers at reducing avian mortality due to collisions with transmission lines: A report to Pacific Gas & Electric Company. 10 pp.

Smallwood, K. S. 2002. Assessment of the Environmental Review Documents Prepared for the East Altamont Energy Center. Report to the California Energy Commission on behalf of Californians for Renewable Energy. 26 pp.

Thelander, Carl G., K. Shawn Smallwood, and Christopher Costello. 2002 Rating Distribution Poles for Threat of Raptor Electrocution and Priority Retrofit: Developing a Predictive Model. Report to Southern California Edison Company. 30 pp.

Smallwood, K. S., M. Robison, and C. Thelander. 2002. Draft Natural Environment Study, Prunedale Highway 101 Project. California Department of Transportation, San Luis Obispo, California. 120 pp.

Smallwood, K.S. 2001. Assessment of ecological integrity and restoration potential of Beeman/Pelican Farm. Draft Report to Howard Beeman, Woodland, California. 14 pp.

Smallwood, K. S., and M. L. Morrison. 2002. Fresno kangaroo rat (*Dipodomys nitratoides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. Progress report to U.S. Department of the Navy, Lemoore, California. 29 pp. + 19 figures.

Smallwood, K.S. 2001. Rocky Flats visit, April 4th through 6th, 2001. Report to Berger & Montaque, P.C. 16 pp. with 61 color plates.

Smallwood, K.S. 2001. Affidavit of K. Shawn Smallwood, Ph.D. in the matter of the U.S. Fish and Wildlife Service's rejection of Seatuck Environmental Association's proposal to operate an education center on Seatuck National Wildlife Refuge. Submitted to Seatuck Environmental Association in two parts, totaling 7 pp.

Magney, D., and K.S. Smallwood. 2001. Maranatha High School CEQA critique. Comment letter submitted to Tamara & Efren Compeán, 16 pp.

Smallwood, K. S. and D. Mangey. 2001. Comments on the Newhall Ranch November 2000 Administrative Draft EIR. Prepared for Ventura County Counsel regarding the Newhall Ranch Specific Plan EIR. 68 pp.

Magney, D. and K. S. Smallwood. 2000. Newhall Ranch Notice of Preparation Submittal. Prepared for Ventura County Counsel regarding our recommended scope of work for the Newhall Ranch Specific Plan EIR. 17 pp.

Smallwood, K. S. 2000. Comments on the Preliminary Staff Assessment of the Contra Costa Power Plant Unit 8 Project. Submitted to California Energy Commission on November 30 on behalf of Californians for Renewable Energy (CaRE). 4 pp.

Smallwood, K. S. 2000. Comments on the California Energy Commission's Final Staff Assessment of the MEC. Submitted to California Energy Commission on October 29 on behalf of Californians for Renewable Energy (CaRE). 8 pp.

Smallwood, K. S. 2000. Comments on the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP). Submitted to California Energy Commission on October 29 on behalf of Californians for Renewable Energy (CaRE). 9 pp.

Smallwood, K. S. 2000. Comments on the Preliminary Staff Assessment of the Metcalf Energy Center. Submitted to California Energy Commission on behalf of Californians for Renewable Energy (CaRE). 11 pp.

Smallwood, K. S. 2000. Preliminary report of reconnaissance surveys near the TRW plant south of Phoenix, Arizona, March 27-29. Report prepared for Hagens, Berman & Mitchell, Attorneys at Law, Phoenix, AZ. 6 pp.

Morrison, M. L., K. S. Smallwood, and M. Robison. 2001. Draft Natural Environment Study for Highway 46 compliance with CEQA/NEPA. Report to the California Department of Transportation. 75 pp.

Morrison, M.L., and K.S. Smallwood. 1999. NTI plan evaluation and comments. Exhibit C in W.D. Carrier, M.L. Morrison, K.S. Smallwood, and Vail Engineering. Recommendations for NBHCP land acquisition and enhancement strategies. Northern Territories, Inc., Sacramento.

Smallwood, K. S. 1999. Estimation of impacts due to dredging of a shipping channel through Humboldt Bay, California. Court Declaration prepared on behalf of EPIC.

Smallwood, K. S. 1998. 1998 California mountain lion track count. Report to the Defenders of Wildlife, Washington, D.C. 5 pages.

Smallwood, K.S. 1998. Draft report of a visit to a paint sludge dump site near Ridgewood, New Jersey, February 26th, 1998. Unpublished report to Consulting in the Public Interest.

Smallwood, K.S. 1997. Science missing in the "no surprises" policy. Commissioned by National Endangered Species Network and Spirit of the Sage Council, Pasadena, California.

Smallwood, K.S. and M.L. Morrison. 1997. Alternate mitigation strategy for incidental take of giant garter snake and Swainson's hawk as part of the Natomas Basin Habitat Conservation Plan. Pages 6-9 and *iii* illustrations in W.D. Carrier, K.S. Smallwood and M.L. Morrison, Natomas Basin Habitat Conservation Plan: Narrow channel marsh alternative wetland mitigation. Northern Territories, Inc., Sacramento.

Smallwood, K.S. 1996. Assessment of the BIOPORT model's parameter values for pocket gopher burrowing characteristics. Report to Berger & Montague, P.C. and Roy S. Haber, P.C., Philadelphia. (peer reviewed).

Smallwood, K.S. 1997. Assessment of plutonium releases from Hanford buried waste sites. Report Number 9, Consulting in the Public Interest, 53 Clinton Street, Lambertville, New Jersey, 08530.

Smallwood, K.S. 1996. Soil Bioturbation and Wind Affect Fate of Hazardous Materials that were Released at the Rocky Flats Plant, Colorado. Report to Berger & Montague, P.C., Philadelphia.

Smallwood, K.S. 1996. Second assessment of the BIOPORT model's parameter values for pocket gopher burrowing characteristics and other relevant wildlife observations. Report to Berger & Montague, P.C. and Roy S. Haber, P.C., Philadelphia.

Smallwood, K.S., and R. Leidy. 1996. Wildlife and their management under the Martell SYP. Report to Georgia Pacific, Corporation, Martel, CA. 30 pp.

EIP Associates. 1995. Yolo County Habitat Conservation Plan Biological Resources Report. Yolo County Planning and Development Department, Woodland, California.

Smallwood, K.S. and S. Geng. 1995. Analysis of the 1987 California Farm Cost Survey and recommendations for future survey. Program on Workable Energy Regulation, University-wide Energy Research Group, University of California.

Smallwood, K.S., S. Geng, and W. Idzerda. 1992. Final report to PG&E: Analysis of the 1987 California Farm Cost Survey and recommendations for future survey. Pacific Gas & Electric Company, San Ramon, California. 24 pp.

Fitzhugh, E.L. and K.S. Smallwood. 1987. Methods Manual – A statewide mountain lion population index technique. California Department of Fish and Game, Sacramento.

Salmon, T.P. and K.S. Smallwood. 1989. Final Report – Evaluating exotic vertebrates as pests to California agriculture. California Department of Food and Agriculture, Sacramento.

Smallwood, K.S. and W. A. Erickson (written under supervision of W.E. Howard, R.E. Marsh, and R.J. Laacke). 1990. Environmental exposure and fate of multi-kill strychnine gopher baits. Final Report to USDA Forest Service –NAPIAP, Cooperative Agreement PSW-89-0010CA.

Fitzhugh, E.L., K.S. Smallwood, and R. Gross. 1985. Mountain lion track count, Marin County, 1985. Report on file at Wildlife Extension, University of California, Davis.

Comments on Environmental Documents (Year; pages)

I was retained or commissioned to comment on environmental planning and review documents, including:

- Replies on UCSF Comprehensive Parnassus Heights Plan EIR (2021; 13);
- 14 Charles Hill Circle Design Review (2021; 11);
- SDG Commerce 217 Warehouse IS, American Canyon (2021; 26);
- Mulqueeney Ranch Wind Repowering Project DSEIR (2021; 98);
- Clawiter Road Industrial Project IS/MND, Hayward (2021; 18);
- Garnet Energy Center Stipulations, New York (2020);
- Heritage Wind Energy Project, New York (2020: 71);
- Ameresco Keller Canyon RNG Project IS/MND, Martinez (2020; 11);

- Cambria Hotel Project Staff Report, Dublin (2020; 19);
- Central Pointe Mixed-Use Staff Report, Santa Ana (2020; 20);
- Oak Valley Town Center EIR Addendum, Calimesa (2020; 23);
- Coachillin Specific Plan MND Amendment, Desert Hot Springs (2020; 26);
- Stockton Avenue Hotel and Condominiums Project Tiering to EIR, San Jose (2020; 19);
- Cityline Sub-block 3 South Staff Report, Sunyvale (2020; 22);
- Station East Residential/Mixed Use EIR, Union City (2020; 21);
- Multi-Sport Complex & Southeast Industrial Annexation Suppl. EIR, Elk Grove (2020; 24);
- Sun Lakes Village North EIR Amendment 5, Banning, Riverside County (2020; 27);
- 2nd comments on 1296 Lawrence Station Road, Sunnyvale (2020; 4);
- 1296 Lawrence Station Road, Sunnyvale (2020; 16);
- Mesa Wind Project EA, Desert Hot Springs (2020; 31);
- 11th Street Development Project IS/MND, City of Upland (2020; 17);
- Vista Mar Project IS/MND, Pacifica (2020; 17);
- Emerson Creek Wind Project Application, Ohio (2020; 64);
- Replies on Wister Solar Energy Facility EIR, Imperial County (2020; 12);
- Wister Solar Energy Facility EIR, Imperial County (2020; 28);
- Crimson Solar EIS/EIR, Mojave Desert (2020, 35) not submitted;
- Sakioka Farms EIR tiering, Oxnard (2020; 14);
- 3440 Wilshire Project IS/MND, Los Angeles (2020; 19);
- Replies on 2400 Barranca Office Development Project EIR, Irvine (2020; 8);
- 2400 Barranca Office Development Project EIR, Irvine (2020; 25);
- Replies on Heber 2 Geothermal Repower Project IS/MND, El Centro (2020; 4);
- 2nd comments on Heber 2 Geothermal Repower Project IS/MND, El Centro (2020; 8);
- Heber 2 Geothermal Repower Project IS/MND, El Centro (2020; 3);
- Lots 4-12 Oddstad Way Project IS/MND, Pacifica (2020; 16);
- Declaration on DDG Visalia Warehouse project (2020; 5);
- Terraces of Lafayette EIR Addendum (2020; 24);
- AMG Industrial Annex IS/MND, Los Banos (2020; 15);
- Replies to responses on Casmalia and Linden Warehouse (2020; 15);
- Clover Project MND, Petaluma (2020; 27);
- Ruby Street Apartments Project Env. Checklist, Hayward (2020; 20);
- Replies to responses on 3721 Mt. Diablo Boulevard Staff Report (2020; 5);
- 3721 Mt. Diablo Boulevard Staff Report (2020; 9);
- Steeno Warehouse IS/MND, Hesperia (2020; 19);
- UCSF Comprehensive Parnassus Heights Plan EIR (2020; 24);
- North Pointe Business Center MND, Fresno (2020; 14);
- Casmalia and Linden Warehouse IS, Fontana (2020; 15);
- Rubidoux Commerce Center Project IS/MND, Jurupa Valley (2020; 27);
- Haun and Holland Mixed Use Center MND, Menifee (2020; 23);
- First Industrial Logistics Center II, Moreno Valley IS/MND (2020; 23);
- GLP Store Warehouse Project Staff Report (2020; 15);
- Replies on Beale WAPA Interconnection Project EA & CEQA checklist (2020; 29);
- 2nd comments on Beale WAPA Interconnection Project EA & CEQA checklist (2020; 34);

- Beale WAPA Interconnection Project EA & CEQA checklist (2020; 30);
- Levine-Fricke Softball Field Improvement Addendum, UC Berkeley (2020; 16);
- Greenlaw Partners Warehouse and Distribution Center Staff Report, Palmdale (2020; 14);
- Humboldt Wind Energy Project DEIR (2019; 25);
- Sand Hill Supplemental EIR, Altamont Pass (2019; 17);
- 1700 Dell Avenue Office Project, Campbell (2019, 28);
- 1180 Main Street Office Project MND, Redwood City (2019; 19:
- Summit Ridge Wind Farm Request for Amendment 4, Oregon (2019; 46);
- Shafter Warehouse Staff Report (2019; 4);
- Park & Broadway Design Review, San Diego (2019; 19);
- Pinnacle Pacific Heights Design Review, San Diego (2019; 19);
- Pinnacle Park & C Design Review, San Diego (2019; 19);
- Preserve at Torrey Highlands EIR, San Diego (2019; 24);
- Santana West Project EIR Addendum, San Jose (2019; 18);
- The Ranch at Eastvale EIR Addendum, Riverside County (2020; 19);
- Hageman Warehouse IS/MND, Bakersfield (2019; 13);
- Oakley Logistics Center EIR, Antioch (2019; 22);
- 27 South First Street IS, San Jose (2019; 23);
- 2nd replies on Times Mirror Square Project EIR, Los Angeles (2020; 11);
- Replies on Times Mirror Square Project EIR, Los Angeles (2020; 13);
- Times Mirror Square Project EIR, Los Angeles (2019; 18);
- East Monte Vista & Aviator General Plan Amend EIR Addendum, Vacaville (2019; 22);
- Hillcrest LRDP EIR, La Jolla (2019; 36);
- 555 Portola Road CUP, Portola Valley (2019; 11);
- Johnson Drive Economic Development Zone SEIR, Pleasanton (2019; 27);
- 1750 Broadway Project CEQA Exemption, Oakland (2019; 19);
- Mor Furniture Project MND, Murietta Hot Springs (2019; 27);
- Harbor View Project EIR, Redwood City (2019; 26);
- Visalia Logistics Center (2019; 13);
- Cordelia Industrial Buildings MND (2019; 14);
- Scheu Distribution Center IS/ND, Rancho Cucamonga (2019; 13);
- Mills Park Center Staff Report, San Bruno (2019; 22);
- Site visit to Desert Highway Farms IS/MND, Imperial County (2019; 9);
- Desert Highway Farms IS/MND, Imperial County (2019; 12);
- ExxonMobil Interim Trucking for Santa Ynez Unit Restart SEIR, Santa Barbara (2019; 9);
- Olympic Holdings Inland Center Warehouse Project MND, Rancho Cucamonga (2019; 14);
- Replies to responses on Lawrence Equipment Industrial Warehouse, Banning (2019; 19);
- PARS Global Storage MND, Murietta (2019; 13);
- Slover Warehouse EIR Addendum, Fontana (2019; 16);
- Seefried Warehouse Project IS/MND, Lathrop (2019; 19)
- World Logistics Center Site Visit, Moreno Valley (2019; 19);
- Merced Landfill Gas-To-Energy Project IS/MND (2019; 12);
- West Village Expansion FEIR, UC Davis (2019; 11);
- Site visit, Doheny Ocean Desalination EIR, Dana Point (2019; 11);

- Replies to responses on Avalon West Valley Expansion EIR, San Jose (2019; 10);
- Avalon West Valley Expansion EIR, San Jose (2019; 22);
- Sunroad – Otay 50 EIR Addendum, San Diego (2019; 26);
- Del Rey Pointe Residential Project IS/MND, Los Angeles (2019; 34);
- 1 AMD Redevelopment EIR, Sunnyvale (2019; 22);
- Lawrence Equipment Industrial Warehouse IS/MND, Banning (2019; 14);
- SDG Commerce 330 Warehouse IS, American Canyon (2019; 21);
- PAMA Business Center IS/MND, Moreno Valley (2019; 23);
- Cupertino Village Hotel IS (2019; 24);
- Lake House IS/ND, Lodi (2019; 33);
- Campo Wind Project DEIS, San Diego County (DEIS, (2019; 14);
- Stirling Warehouse MND site visit, Victorville (2019; 7);
- Green Valley II Mixed-Use Project EIR, Fairfield (2019; 36);
- We Be Jammin rezone MND, Fresno (2019; 14);
- Gray Whale Cove Pedestrian Crossing IS/ND, Pacifica (2019; 7);
- Visalia Logistics Center & DDG 697V Staff Report (2019; 9);
- Mather South Community Masterplan Project EIR (2019; 35);
- Del Hombre Apartments EIR, Walnut Creek (2019; 23);
- Otay Ranch Planning Area 12 EIR Addendum, Chula Vista (2019; 21);
- The Retreat at Sacramento IS/MND (2019; 26);
- Site visit to Sunroad – Centrum 6 EIR Addendum, San Diego (2019; 9);
- Sunroad – Centrum 6 EIR Addendum, San Diego (2018; 22);
- North First and Brokaw Corporate Campus Buildings EIR Addendum, San Jose (2018; 30);
- South Lake Solar IS, Fresno County (2018; 18);
- Galloo Island Wind Project Application, New York (not submitted) (2018; 44);
- Doheny Ocean Desalination EIR, Dana Point (2018; 15);
- Stirling Warehouse MND, Victorville (2018; 18);
- LDK Warehouse MND, Vacaville (2018; 30);
- Gateway Crossings FEIR, Santa Clara (2018; 23);
- South Hayward Development IS/MND (2018; 9);
- CBU Specific Plan Amendment, Riverside (2018; 27);
- 2nd replies to responses on Dove Hill Road Assisted Living Project MND (2018; 11);
- Replies to responses on Dove Hill Road Assisted Living Project MND (2018; 7);
- Dove Hill Road Assisted Living Project MND (2018; 12);
- Deer Ridge/Shadow Lakes Golf Course EIR, Brentwood (2018; 21);
- Pyramid Asphalt BLM Finding of No Significance, Imperial County (2018; 22);
- Amáre Apartments IS/MND, Martinez (2018; 15);
- Petaluma Hill Road Cannabis MND, Santa Rosa (2018; 21);
- 2nd comments on Zeiss Innovation Center IS/MND, Dublin (2018: 12);
- Zeiss Innovation Center IS/MND, Dublin (2018: 32);
- City of Hope Campus Plan EIR, Duarte (2018; 21);
- Palo Verde Center IS/MND, Blythe (2018; 14);
- Logisticenter at Vacaville MND (2018; 24);
- IKEA Retail Center SEIR, Dublin (2018; 17);

- Merge 56 EIR, San Diego (2018; 15);
- Natomas Crossroads Quad B Office Project P18-014 EIR, Sacramento (2018; 12);
- 2900 Harbor Bay Parkway Staff Report, Alameda (2018; 30);
- At Dublin EIR, Dublin (2018; 25);
- Fresno Industrial Rezone Amendment Application No. 3807 IS (2018; 10);
- Nova Business Park IS/MND, Napa (2018; 18);
- Updated Collision Risk Model Priors for Estimating Eagle Fatalities, USFWS (2018; 57);
- 750 Marlborough Avenue Warehouse MND, Riverside (2018; 14);
- Replies to responses on San Bernardino Logistics Center IS (2018; 12);
- San Bernardino Logistics Center IS (2018; 19);
- CUP2017-16, Costco IS/MND, Clovis (2018; 11);
- Desert Land Ventures Specific Plan EIR, Desert Hot Springs (2018; 18);
- Ventura Hilton IS/MND (2018; 30);
- North of California Street Master Plan Project IS, Mountain View (2018: 11);
- Tamarind Warehouse MND, Fontana (2018; 16);
- Lathrop Gateway Business Park EIR Addendum (2018; 23);
- Centerpointe Commerce Center IS, Moreno Valley (2019; 18);
- Amazon Warehouse Notice of Exemption, Bakersfield (2018; 13);
- CenterPoint Building 3 project Staff Report, Manteca (2018; 23);
- Cessna & Aviator Warehouse IS/MND, Vacaville (2018; 24);
- Napa Airport Corporate Center EIR, American Canyon (2018, 15);
- 800 Opal Warehouse Initial Study, Mentone, San Bernardino County (2018; 18);
- 2695 W. Winton Ave Industrial Project IS, Hayward (2018; 22);
- Trinity Cannabis Cultivation and Manufacturing Facility DEIR, Calexico (2018; 15);
- Shoe Palace Expansion IS/MND, Morgan Hill (2018; 21);
- Newark Warehouse at Morton Salt Plant Staff Report (2018; 15);
- Northlake Specific Plan FEIR "Peer Review", Los Angeles County (2018; 9);
- Replies to responses on Northlake Specific Plan SEIR, Los Angeles County (2018; 13);
- Northlake Specific Plan SEIR, Los Angeles County (2017; 27);
- Bogle Wind Turbine DEIR, east Yolo County (2017; 48);
- Ferrante Apartments IS/MND, Los Angeles (2017; 14);
- The Villages of Lakeview EIR, Riverside (2017; 28);
- Data Needed for Assessing Trail Management Impacts on Northern Spotted Owl, Marin County (2017; 5);
- Notes on Proposed Study Options for Trail Impacts on Northern Spotted Owl (2017; 4);
- Pyramid Asphalt IS, Imperial County (Declaration) (2017; 5);
- San Gorgonio Crossings EIR, Riverside County (2017; 22);
- Replies to responses on Jupiter Project IS and MND, Apple Valley (2017; 12);
- Proposed World Logistics Center Mitigation Measures, Moreno Valley (2017, 2019; 12);
- MacArthur Transit Village Project Modified 2016 CEQA Analysis (2017; 12);
- PG&E Company Bay Area Operations and Maintenance HCP (2017; 45);
- Central SoMa Plan DEIR (2017; 14);
- Suggested mitigation for trail impacts on northern spotted owl, Marin County (2016; 5);
- Colony Commerce Center Specific Plan DEIR, Ontario (2016; 16);

- Fairway Trails Improvements MND, Marin County (2016; 13);
- Review of Avian-Solar Science Plan (2016; 28);
- Replies on Pyramid Asphalt IS, Imperial County (2016; 5);
- Pyramid Asphalt IS, Imperial County (2016; 4);
- Agua Mansa Distribution Warehouse Project Initial Study (2016; 14);
- Santa Anita Warehouse MND, Rancho Cucamonga (2016; 12);
- CapRock Distribution Center III DEIR, Rialto (2016: 12);
- Orange Show Logistics Center IS/MND, San Bernardino (2016; 9);
- City of Palmdale Oasis Medical Village Project IS/MND (2016; 7);
- Comments on proposed rule for incidental eagle take, USFWS (2016, 49);
- Replies on Grapevine Specific and Community Plan FEIR, Kern County (2016; 25);
- Grapevine Specific and Community Plan DEIR, Kern County (2016; 15);
- Clinton County Zoning Ordinance for Wind Turbine siting (2016);
- Hallmark at Shenandoah Warehouse Project Initial Study, San Bernardino (2016; 6);
- Tri-City Industrial Complex Initial Study, San Bernardino (2016; 5);
- Hidden Canyon Industrial Park Plot Plan 16-PP-02, Beaumont (2016; 12);
- Kimball Business Park DEIR (2016; 10);
- Jupiter Project IS and MND, Apple Valley, San Bernardino County (2016; 9);
- Revised Draft Giant Garter Snake Recovery Plan of 2015 (2016, 18);
- Palo Verde Mesa Solar Project EIR, Blythe (2016; 27);
- Reply on Fairview Wind Project Natural Heritage Assessment, Ontario, Canada (2016; 14);
- Fairview Wind Project Natural Heritage Assessment, Ontario, Canada (2016; 41);
- Reply on Amherst Island Wind Farm Natural Heritage Assessment, Ontario (2015, 38);
- Amherst Island Wind Farm Natural Heritage Assessment, Ontario (2015, 31);
- Second Reply on White Pines Wind Farm, Ontario (2015, 6);
- Reply on White Pines Wind Farm Natural Heritage Assessment, Ontario (2015, 10);
- White Pines Wind Farm Natural Heritage Assessment, Ontario (2015, 9);
- Proposed Section 24 Specific Plan Agua Caliente Band of Cahuilla Indians DEIS (2015, 9);
- Replies on 24 Specific Plan Agua Caliente Band of Cahuilla Indians FEIS (2015, 6);
- Willow Springs Solar Photovoltaic Project DEIR, Rosamond (2015; 28);
- Sierra Lakes Commerce Center Project DEIR, Fontana (2015, 9);
- Columbia Business Center MND, Riverside (2015; 8);
- West Valley Logistics Center Specific Plan DEIR, Fontana (2015, 10);
- Willow Springs Solar Photovoltaic Project DEIR (2015, 28);
- Alameda Creek Bridge Replacement Project DEIR (2015, 10);
- World Logistic Center Specific Plan FEIR, Moreno Valley (2015, 12);
- Elkhorn Valley Wind Power Project Impacts, Oregon (2015; 143);
- Bay Delta Conservation Plan EIR/EIS, Sacramento (2014, 21);
- Addison Wind Energy Project DEIR, Mojave (2014, 32);
- Replies on the Addison Wind Energy Project DEIR, Mojave (2014, 15);
- Addison and Rising Tree Wind Energy Project FEIR, Mojave (2014, 12);
- Palen Solar Electric Generating System FSA (CEC), Blythe (2014, 20);
- Rebuttal testimony on Palen Solar Energy Generating System (2014, 9);
- Seven Mile Hill and Glenrock/Rolling Hills impacts + Addendum, Wyoming (2014; 105);

- Rising Tree Wind Energy Project DEIR, Mojave (2014, 32);
- Replies on the Rising Tree Wind Energy Project DEIR, Mojave (2014, 15);
- Soitec Solar Development Project PEIR, Boulevard, San Diego County (2014, 18);
- Oakland Zoo expansion on Alameda whipsnake and California red-legged frog (2014; 3);
- Alta East Wind Energy Project FEIS, Tehachapi Pass (2013, 23);
- Blythe Solar Power Project Staff Assessment, California Energy Commission (2013, 16);
- Clearwater and Yakima Solar Projects DEIR, Kern County (2013, 9);
- West Antelope Solar Energy Project IS/MND, Antelope Valley (2013, 18);
- Cuyama Solar Project DEIR, Carrizo Plain (2014, 19);
- Desert Renewable Energy Conservation Plan (DRECP) EIR/EIS (2015, 49);
- Kingbird Solar Photovoltaic Project EIR, Kern County (2013, 19);
- Lucerne Valley Solar Project IS/MND, San Bernardino County (2013, 12);
- Tule Wind project FEIR/FEIS (Declaration) (2013; 31);
- Sunlight Partners LANDPRO Solar Project MND (2013; 11);
- Declaration in opposition to BLM fracking (2013; 5);
- Blythe Energy Project (solar) CEC Staff Assessment (2013;16);
- Rosamond Solar Project EIR Addendum, Kern County (2013; 13);
- Pioneer Green Solar Project EIR, Bakersfield (2013; 13);
- Replies on Soccer Center Solar Project MND (2013; 6);
- Soccer Center Solar Project MND, Lancaster (2013; 10);
- Plainview Solar Works MND, Lancaster (2013; 10);
- Alamo Solar Project MND, Mojave Desert (2013; 15);
- Replies on Imperial Valley Solar Company 2 Project (2013; 10);
- Imperial Valley Solar Company 2 Project (2013; 13);
- FRV Orion Solar Project DEIR, Kern County (PP12232) (2013; 9);
- Casa Diablo IV Geothermal Development Project (2013; 6);
- Reply on Casa Diablo IV Geothermal Development Project (2013; 8);
- Alta East Wind Project FEIS, Tehachapi Pass (2013; 23);
- Metropolitan Air Park DEIR, City of San Diego (2013;);
- Davidon Homes Tentative Subdivision Rezoning Project DEIR, Petaluma (2013; 9);
- Oakland Zoo Expansion Impacts on Alameda Whipsnake (2013; 10);
- Campo Verde Solar project FEIR, Imperial Valley (2013; 11pp);
- Neg Dec comments on Davis Sewer Trunk Rehabilitation (2013; 8);
- North Steens Transmission Line FEIS, Oregon (Declaration) (2012; 62);
- Summer Solar and Springtime Solar Projects Ism Lancaster (2012; 8);
- J&J Ranch, 24 Adobe Lane Environmental Review, Orinda (2012; 14);
- Replies on Hudson Ranch Power II Geothermal Project and Simbol Calipatria Plant II (2012; 8);
- Hudson Ranch Power II Geothermal Project and Simbol Calipatria Plant II (2012; 9);
- Desert Harvest Solar Project EIS, near Joshua Tree (2012; 15);
- Solar Gen 2 Array Project DEIR, El Centro (2012; 16);
- Ocotillo Sol Project EIS, Imperial Valley (2012; 4);
- Beacon Photovoltaic Project DEIR, Kern County (2012; 5);
- Butte Water District 2012 Water Transfer Program IS/MND (2012; 11);

- Mount Signal and Calexico Solar Farm Projects DEIR (2011; 16);
- City of Elk Grove Sphere of Influence EIR (2011; 28);
- Sutter Landing Park Solar Photovoltaic Project MND, Sacramento (2011; 9);
- Rabik/Gudath Project, 22611 Coleman Valley Road, Bodega Bay (CPN 10-0002) (2011; 4);
- Ivanpah Solar Electric Generating System (ISEGS) (Declaration) (2011; 9);
- Draft Eagle Conservation Plan Guidance, USFWS (2011; 13);
- Niles Canyon Safety Improvement Project EIR/EA (2011; 16);
- Route 84 Safety Improvement Project (Declaration) (2011; 7);
- Rebuttal on Whistling Ridge Wind Energy Power DEIS, Skamania County, (2010; 6);
- Whistling Ridge Wind Energy Power DEIS, Skamania County, Washington (2010; 41);
- Klickitat County's Decisions on Windy Flats West Wind Energy Project (2010; 17);
- St. John's Church Project DEIR, Orinda (2010; 14);
- Results Radio Zone File #2009-001 IS/MND, Conaway site, Davis (2010; 20);
- Rio del Oro Specific Plan Project FEIR, Rancho Cordova (2010;12);
- Results Radio Zone File #2009-001, Mace Blvd site, Davis (2009; 10);
- Answers to Questions on 33% RPS Implementation Analysis Preliminary Results Report (2009; 9);
- SEPA Determination of Non-significance regarding zoning adjustments for Skamania County, Washington (Second Declaration) (2008; 17);
- Draft 1A Summary Report to CAISO (2008; 10);
- Hilton Manor Project Categorical Exemption, County of Placer (2009; 9);
- Protest of CARE to Amendment to the Power Purchase and Sale Agreement for Procurement of Eligible Renewable Energy Resources Between Hatchet Ridge Wind LLC and PG&E (2009; 3);
- Tehachapi Renewable Transmission Project EIR/EIS (2009; 142);
- Delta Shores Project EIR, south Sacramento (2009; 11 + addendum 2);
- Declaration in Support of Care's Petition to Modify D.07-09-040 (2008; 3);
- The Public Utility Commission's Implementation Analysis December 16 Workshop for the Governor's Executive Order S-14-08 to implement a 33% Renewable Portfolio Standard by 2020 (2008; 9);
- The Public Utility Commission's Implementation Analysis Draft Work Plan for the Governor's Executive Order S-14-08 to implement a 33% Renewable Portfolio Standard by 2020 (2008; 11);
- Draft 1A Summary Report to California Independent System Operator for Planning Reserve Margins (PRM) Study (2008; 7.);
- SEPA Determination of Non-significance regarding zoning adjustments for Skamania County, Washington (Declaration) (2008; 16);
- Colusa Generating Station, California Energy Commission PSA (2007; 24);
- Rio del Oro Specific Plan Project Recirculated DEIR, Mather (2008: 66);
- Replies on Regional University Specific Plan EIR, Roseville (2008; 20);
- Regional University Specific Plan EIR, Roseville (2008: 33);
- Clark Precast, LLC's "Sugarland" project, ND, Woodland (2008: 15);
- Cape Wind Project DEIS, Nantucket (2008; 157);
- Yuba Highlands Specific Plan EIR, Spenceville, Yuba County (2006; 37);
- Replies to responses on North Table Mountain MND, Butte County (2006; 5);

- North Table Mountain MND, Butte County (2006; 15);
- Windy Point Wind Farm EIS (2006; 14 and Powerpoint slide replies);
- Shiloh I Wind Power Project EIR, Rio Vista (2005; 18);
- Buena Vista Wind Energy Project NOP, Byron (2004; 15);
- Callahan Estates Subdivision ND, Winters (2004; 11);
- Winters Highlands Subdivision IS/ND (2004; 9);
- Winters Highlands Subdivision IS/ND (2004; 13);
- Creekside Highlands Project, Tract 7270 ND (2004; 21);
- Petition to California Fish and Game Commission to list Burrowing Owl (2003; 10);
- Altamont Pass Wind Resource Area CUP renewals, Alameda County (2003; 41);
- UC Davis Long Range Development Plan: Neighborhood Master Plan (2003; 23);
- Anderson Marketplace Draft Environmental Impact Report (2003; 18);
- Negative Declaration of the proposed expansion of Temple B'nai Tikyah (2003; 6);
- Antonio Mountain Ranch Specific Plan Public Draft EIR (2002; 23);
- Replies on East Altamont Energy Center evidentiary hearing (2002; 9);
- Revised Draft Environmental Impact Report, The Promenade (2002; 7);
- Recirculated Initial Study for Calpine's proposed Pajaro Valley Energy Center (2002; 3);
- UC Merced -- Declaration (2002; 5);
- Replies on Atwood Ranch Unit III Subdivision FEIR (2003; 22);
- Atwood Ranch Unit III Subdivision EIR (2002; 19);
- California Energy Commission Staff Report on GWF Tracy Peaker Project (2002; 20);
- Silver Bend Apartments IS/MND, Placer County (2002; 13);
- UC Merced Long-range Development Plan DEIR and UC Merced Community Plan DEIR (2001; 26);
- Colusa County Power Plant IS, Maxwell (2001; 6);
- Dog Park at Catlin Park, Folsom, California (2001; 5);
- Calpine and Bechtel Corporations' Biological Resources Implementation and Monitoring Program (BRMIMP) for the Metcalf Energy Center (2000; 10);
- Metcalf Energy Center, California Energy Commission FSA (2000);
- US Fish and Wildlife Service Section 7 consultation with the California Energy Commission regarding Calpine and Bechtel Corporations' Metcalf Energy Center (2000; 4);
- California Energy Commission's Preliminary Staff Assessment of the proposed Metcalf Energy Center (2000: 11);
- Site-specific management plans for the Natomas Basin Conservancy's mitigation lands, prepared by Wildlands, Inc. (2000: 7);
- Affidavit of K. Shawn Smallwood in Spirit of the Sage Council, et al. (Plaintiffs) vs. Bruce Babbitt, Secretary, U.S. Department of the Interior, et al. (Defendants), Injuries caused by the No Surprises policy and final rule which codifies that policy (1999: 9).
- California Board of Forestry's proposed amended Forest Practices Rules (1999);
- Sunset Skyranch Airport Use Permit IS/MND (1999);
- Ballona West Bluffs Project Environmental Impact Report (1999; oral presentation);
- Draft Recovery Plan for Giant Garter Snake (Fed. Reg. 64(176): 49497-49498) (1999; 8);
- Draft Recovery Plan for Arroyo Southwestern Toad (1998);
- Pacific Lumber Co. (Headwaters) HCP & EIR, Fortuna (1998; 28);
- Natomas Basin HCP Permit Amendment, Sacramento (1998);

- San Diego Multi-Species Conservation Program FEIS/FEIR (1997; 10);

Comments on other Environmental Review Documents:

- Proposed Regulation for California Fish and Game Code Section 3503.5 (2015: 12);
- Statement of Overriding Considerations related to extending Altamont Winds, Inc.'s Conditional Use Permit PLN2014-00028 (2015; 8);
- Covell Village PEIR, Davis (2005; 19);
- Bureau of Land Management Wind Energy Programmatic EIS Scoping (2003; 7.);
- NEPA Environmental Analysis for Biosafety Level 4 National Biocontainment Laboratory (NBL) at UC Davis (2003: 7);
- Notice of Preparation of UC Merced Community and Area Plan EIR, on behalf of The Wildlife Society—Western Section (2001: 8.);
- Preliminary Draft Yolo County Habitat Conservation Plan (2001; 2 letters totaling 35.);
- Merced County General Plan Revision, notice of Negative Declaration (2001: 2.);
- Notice of Preparation of Campus Parkway EIR/EIS (2001: 7.);
- Draft Recovery Plan for the bighorn sheep in the Peninsular Range (*Ovis candensis*) (2000);
- Draft Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*), on behalf of The Wildlife Society—Western Section (2000: 10.);
- Sierra Nevada Forest Plan Amendment Draft Environmental Impact Statement, on behalf of The Wildlife Society—Western Section (2000: 7.);
- State Water Project Supplemental Water Purchase Program, Draft Program EIR (1997);
- Davis General Plan Update EIR (2000);
- Turn of the Century EIR (1999: 10);
- Proposed termination of Critical Habitat Designation under the Endangered Species Act (Fed. Reg. 64(113): 31871-31874) (1999);
- NOA Draft Addendum to the Final Handbook for Habitat Conservation Planning and Incidental Take Permitting Process, termed the HCP 5-Point Policy Plan (Fed. Reg. 64(45): 11485 - 11490) (1999; 2 + attachments);
- Covell Center Project EIR and EIR Supplement (1997).

Position Statements I prepared the following position statements for the Western Section of The Wildlife Society, and one for nearly 200 scientists:

- Recommended that the California Department of Fish and Game prioritize the extermination of the introduced southern water snake in northern California. The Wildlife Society--Western Section (2001);
- Recommended that The Wildlife Society—Western Section appoint or recommend members of the independent scientific review panel for the UC Merced environmental review process (2001);
- Opposed the siting of the University of California's 10th campus on a sensitive vernal pool/grassland complex east of Merced. The Wildlife Society--Western Section (2000);
- Opposed the legalization of ferret ownership in California. The Wildlife Society--Western Section (2000);
- Opposed the Proposed "No Surprises," "Safe Harbor," and "Candidate Conservation Agreement" rules, including permit-shield protection provisions (Fed. Reg. Vol. 62, No.

103, pp. 29091-29098 and No. 113, pp. 32189-32194). This statement was signed by 188 scientists and went to the responsible federal agencies, as well as to the U.S. Senate and House of Representatives.

Posters at Professional Meetings

Leyvas, E. and K. S. Smallwood. 2015. Rehabilitating injured animals to offset and rectify wind project impacts. Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 9-12 March 2015.

Smallwood, K. S., J. Mount, S. Standish, E. Leyvas, D. Bell, E. Walther, B. Karas. 2015. Integrated detection trials to improve the accuracy of fatality rate estimates at wind projects. Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 9-12 March 2015.

Smallwood, K. S. and C. G. Thelander. 2005. Lessons learned from five years of avian mortality research in the Altamont Pass WRA. AWEA conference, Denver, May 2005.

Neher, L., L. Wilder, J. Woo, L. Spiegel, D. Yen-Nakafugi, and K.S. Smallwood. 2005. Bird's eye view on California wind. AWEA conference, Denver, May 2005.

Smallwood, K. S., C. G. Thelander and L. Spiegel. 2003. Toward a predictive model of avian fatalities in the Altamont Pass Wind Resource Area. Windpower 2003 Conference and Convention, Austin, Texas.

Smallwood, K.S. and Eva Butler. 2002. Pocket Gopher Response to Yellow Star-thistle Eradication as part of Grassland Restoration at Decommissioned Mather Air Force Base, Sacramento County, California. White Mountain Research Station Open House, Barcroft Station.

Smallwood, K.S. and Michael L. Morrison. 2002. Fresno kangaroo rat (*Dipodomys nitratoides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. White Mountain Research Station Open House, Barcroft Station.

Smallwood, K.S. and E.L. Fitzhugh. 1989. Differentiating mountain lion and dog tracks. Third Mountain Lion Workshop, Prescott, AZ.

Smith, T. R. and K. S. Smallwood. 2000. Effects of study area size, location, season, and allometry on reported *Sorex* shrew densities. Annual Meeting of the Western Section of The Wildlife Society.

Presentations at Professional Meetings and Seminars

Dog detections of bat and bird fatalities at wind farms in the Altamont Pass Wind Resource Area. East Bay Regional Park District 2019 Stewardship Seminar, Oakland, California, 13 November 2019.

Repowering the Altamont Pass. Altamont Symposium, The Wildlife Society – Western Section, 5 February 2017.

Developing methods to reduce bird mortality in the Altamont Pass Wind Resource Area, 1999-

2007. Altamont Symposium, The Wildlife Society – Western Section, 5 February 2017.

Conservation and recovery of burrowing owls in Santa Clara Valley. Santa Clara Valley Habitat Agency, Newark, California, 3 February 2017.

Mitigation of Raptor Fatalities in the Altamont Pass Wind Resource Area. Raptor Research Foundation Meeting, Sacramento, California, 6 November 2015.

From burrows to behavior: Research and management for burrowing owls in a diverse landscape. California Burrowing Owl Consortium meeting, 24 October 2015, San Jose, California.

The Challenges of repowering. Keynote presentation at Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 10 March 2015.

Research Highlights Altamont Pass 2011-2015. Scientific Review Committee, Oakland, California, 8 July 2015.

Siting wind turbines to minimize raptor collisions: Altamont Pass Wind Resource Area. US Fish and Wildlife Service Golden Eagle Working Group, Sacramento, California, 8 January 2015.

Evaluation of nest boxes as a burrowing owl conservation strategy. Sacramento Chapter of the Western Section, The Wildlife Society. Sacramento, California, 26 August 2013.

Predicting collision hazard zones to guide repowering of the Altamont Pass. Conference on wind power and environmental impacts. Stockholm, Sweden, 5-7 February 2013.

Impacts of Wind Turbines on Wildlife. California Council for Wildlife Rehabilitators, Yosemite, California, 12 November 2012.

Impacts of Wind Turbines on Birds and Bats. Madrone Audubon Society, Santa Rosa, California, 20 February 2012.

Comparing Wind Turbine Impacts across North America. California Energy Commission Staff Workshop: Reducing the Impacts of Energy Infrastructure on Wildlife, 20 July 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. California Energy Commission Staff Workshop: Reducing the Impacts of Energy Infrastructure on Wildlife, 20 July 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. Alameda County Scientific Review Committee meeting, 17 February 2011

Comparing Wind Turbine Impacts across North America. Conference on Wind energy and Wildlife impacts, Trondheim, Norway, 3 May 2011.

Update on Wildlife Impacts in the Altamont Pass Wind Resource Area. Raptor Symposium, The Wildlife Society—Western Section, Riverside, California, February 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. Raptor Symposium, The Wildlife

Society - Western Section, Riverside, California, February 2011.

Wildlife mortality caused by wind turbine collisions. Ecological Society of America, Pittsburgh, Pennsylvania, 6 August 2010.

Map-based repowering and reorganization of a wind farm to minimize burrowing owl fatalities. California burrowing Owl Consortium Meeting, Livermore, California, 6 February 2010.

Environmental barriers to wind power. Getting Real About Renewables: Economic and Environmental Barriers to Biofuels and Wind Energy. A symposium sponsored by the Environmental & Energy Law & Policy Journal, University of Houston Law Center, Houston, 23 February 2007.

Lessons learned about bird collisions with wind turbines in the Altamont Pass and other US wind farms. Meeting with Japan Ministry of the Environment and Japan Ministry of the Economy, Wild Bird Society of Japan, and other NGOs Tokyo, Japan, 9 November 2006.

Lessons learned about bird collisions with wind turbines in the Altamont Pass and other US wind farms. Symposium on bird collisions with wind turbines. Wild Bird Society of Japan, Tokyo, Japan, 4 November 2006.

Responses of Fresno kangaroo rats to habitat improvements in an adaptive management framework. California Society for Ecological Restoration (SERCAL) 13th Annual Conference, UC Santa Barbara, 27 October 2006.

Fatality associations as the basis for predictive models of fatalities in the Altamont Pass Wind Resource Area. EEI/APLIC/PIER Workshop, 2006 Biologist Task Force and Avian Interaction with Electric Facilities Meeting, Pleasanton, California, 28 April 2006.

Burrowing owl burrows and wind turbine collisions in the Altamont Pass Wind Resource Area. The Wildlife Society - Western Section Annual Meeting, Sacramento, California, February 8, 2006.

Mitigation at wind farms. Workshop: Understanding and resolving bird and bat impacts. American Wind Energy Association and Audubon Society. Los Angeles, CA. January 10 and 11, 2006.

Incorporating data from the California Wildlife Habitat Relationships (CWHR) system into an impact assessment tool for birds near wind farms. Shawn Smallwood, Kevin Hunting, Marcus Yee, Linda Spiegel, Monica Parisi. Workshop: Understanding and resolving bird and bat impacts. American Wind Energy Association and Audubon Society. Los Angeles, CA. January 10 and 11, 2006.

Toward indicating threats to birds by California's new wind farms. California Energy Commission, Sacramento, May 26, 2005.

Avian collisions in the Altamont Pass. California Energy Commission, Sacramento, May 26, 2005.

Ecological solutions for avian collisions with wind turbines in the Altamont Pass Wind Resource Area. EPRI Environmental Sector Council, Monterey, California, February 17, 2005.

Ecological solutions for avian collisions with wind turbines in the Altamont Pass Wind Resource Area. The Wildlife Society—Western Section Annual Meeting, Sacramento, California, January 19, 2005.

Associations between avian fatalities and attributes of electric distribution poles in California. The Wildlife Society - Western Section Annual Meeting, Sacramento, California, January 19, 2005.

Minimizing avian mortality in the Altamont Pass Wind Resources Area. UC Davis Wind Energy Collaborative Forum, Palm Springs, California, December 14, 2004.

Selecting electric distribution poles for priority retrofitting to reduce raptor mortality. Raptor Research Foundation Meeting, Bakersfield, California, November 10, 2004.

Responses of Fresno kangaroo rats to habitat improvements in an adaptive management framework. Annual Meeting of the Society for Ecological Restoration, South Lake Tahoe, California, October 16, 2004.

Lessons learned from five years of avian mortality research at the Altamont Pass Wind Resources Area in California. The Wildlife Society Annual Meeting, Calgary, Canada, September 2004.

The ecology and impacts of power generation at Altamont Pass. Sacramento Petroleum Association, Sacramento, California, August 18, 2004.

Burrowing owl mortality in the Altamont Pass Wind Resource Area. California Burrowing Owl Consortium meeting, Hayward, California, February 7, 2004.

Burrowing owl mortality in the Altamont Pass Wind Resource Area. California Burrowing Owl Symposium, Sacramento, November 2, 2003.

Raptor Mortality at the Altamont Pass Wind Resource Area. National Wind Coordinating Committee, Washington, D.C., November 17, 2003.

Raptor Behavior at the Altamont Pass Wind Resource Area. Annual Meeting of the Raptor Research Foundation, Anchorage, Alaska, September, 2003.

Raptor Mortality at the Altamont Pass Wind Resource Area. Annual Meeting of the Raptor Research Foundation, Anchorage, Alaska, September, 2003.

California mountain lions. Ecological & Environmental Issues Seminar, Department of Biology, California State University, Sacramento, November, 2000.

Intra- and inter-turbine string comparison of fatalities to animal burrow densities at Altamont Pass. National Wind Coordinating Committee, Carmel, California, May, 2000.

Using a Geographic Positioning System (GPS) to map wildlife and habitat. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

Suggested standards for science applied to conservation issues. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

The indicators framework applied to ecological restoration in Yolo County, California. Society for Ecological Restoration, September 25, 1999.

Ecological restoration in the context of animal social units and their habitat areas. Society for Ecological Restoration, September 24, 1999.

Relating Indicators of Ecological Health and Integrity to Assess Risks to Sustainable Agriculture and Native Biota. International Conference on Ecosystem Health, August 16, 1999.

A crosswalk from the Endangered Species Act to the HCP Handbook and real HCPs. Southern California Edison, Co. and California Energy Commission, March 4-5, 1999.

Mountain lion track counts in California: Implications for Management. Ecological & Environmental Issues Seminar, Department of Biological Sciences, California State University, Sacramento, November 4, 1998.

“No Surprises” -- Lack of science in the HCP process. California Native Plant Society Annual Conservation Conference, The Presidio, San Francisco, September 7, 1997.

In Your Interest. A half hour weekly show aired on Channel 10 Television, Sacramento. In this episode, I served on a panel of experts discussing problems with the implementation of the Endangered Species Act. Aired August 31, 1997.

Spatial scaling of pocket gopher (*Geomyidae*) density. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Estimating prairie dog and pocket gopher burrow volume. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Ten years of mountain lion track survey. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Study and interpretive design effects on mountain lion density estimates. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Small animal control. Session moderator and speaker at the California Farm Conference, Sacramento, California, Feb. 28, 1995.

Small animal control. Ecological Farming Conference, Asylomar, California, Jan. 28, 1995.

Habitat associations of the Swainson’s Hawk in the Sacramento Valley’s agricultural landscape. 1994 Raptor Research Foundation Meeting, Flagstaff, Arizona.

Alfalfa as wildlife habitat. Seed Industry Conference, Woodland, California, May 4, 1994.

Habitats and vertebrate pests: impacts and management. Managing Farmland to Bring Back Game Birds and Wildlife to the Central Valley. Yolo County Resource Conservation District, U.C. Davis, February 19, 1994.

Management of gophers and alfalfa as wildlife habitat. Orland Alfalfa Production Meeting and Sacramento Valley Alfalfa Production Meeting, February 1 and 2, 1994.

Patterns of wildlife movement in a farming landscape. Wildlife and Fisheries Biology Seminar Series: Recent Advances in Wildlife, Fish, and Conservation Biology, U.C. Davis, Dec. 6, 1993.

Alfalfa as wildlife habitat. California Alfalfa Symposium, Fresno, California, Dec. 9, 1993.

Management of pocket gophers in Sacramento Valley alfalfa. California Alfalfa Symposium, Fresno, California, Dec. 8, 1993.

Association analysis of raptors in a farming landscape. Plenary speaker at Raptor Research Foundation Meeting, Charlotte, North Carolina, Nov. 6, 1993.

Landscape strategies for biological control and IPM. Plenary speaker, International Conference on Integrated Resource Management and Sustainable Agriculture, Beijing, China, Sept. 11, 1993.

Landscape Ecology Study of Pocket Gophers in Alfalfa. Alfalfa Field Day, U.C. Davis, July 1993.

Patterns of wildlife movement in a farming landscape. Spatial Data Analysis Colloquium, U.C. Davis, August 6, 1993.

Sound stewardship of wildlife. Veterinary Medicine Seminar: Ethics of Animal Use, U.C. Davis. May 1993.

Landscape ecology study of pocket gophers in alfalfa. Five County Grower's Meeting, Tracy, California. February 1993.

Turbulence and the community organizers: The role of invading species in ordering a turbulent system, and the factors for invasion success. Ecology Graduate Student Association Colloquium, U.C. Davis. May 1990.

Evaluation of exotic vertebrate pests. Fourteenth Vertebrate Pest Conference, Sacramento, California. March 1990.

Analytical methods for predicting success of mammal introductions to North America. The Western Section of the Wildlife Society, Hilo, Hawaii. February 1988.

A state-wide mountain lion track survey. Sacramento County Dept Parks and Recreation. April 1986.

The mountain lion in California. Davis Chapter of the Audubon Society. October 1985.

Ecology Graduate Student Seminars, U.C. Davis, 1985-1990: Social behavior of the mountain lion;

Mountain lion control; Political status of the mountain lion in California.

Other forms of Participation at Professional Meetings

- Scientific Committee, Conference on Wind energy and Wildlife impacts, Berlin, Germany, March 2015.

- Scientific Committee, Conference on Wind energy and Wildlife impacts, Stockholm, Sweden, February 2013.

- Workshop co-presenter at Birds & Wind Energy Specialist Group (BAWESG) Information sharing week, Bird specialist studies for proposed wind energy facilities in South Africa, Endangered Wildlife Trust, Darling, South Africa, 3-7 October 2011.

- Scientific Committee, Conference on Wind energy and Wildlife impacts, Trondheim, Norway, 2-5 May 2011.

- Chair of Animal Damage Management Session, The Wildlife Society, Annual Meeting, Reno, Nevada, September 26, 2001.

- Chair of Technical Session: Human communities and ecosystem health: Comparing perspectives and making connection. Managing for Ecosystem Health, International Congress on Ecosystem Health, Sacramento, CA August 15-20, 1999.

- Student Awards Committee, Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

- Student Mentor, Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

Printed Mass Media

Smallwood, K.S., D. Mooney, and M. McGuinness. 2003. We must stop the UCD biolab now. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 2002. Spring Lake threatens Davis. Op-Ed to the Davis Enterprise.

Smallwood, K.S. Summer, 2001. Mitigation of habitation. The Flatlander, Davis, California.

Entrikan, R.K. and K.S. Smallwood. 2000. Measure O: Flawed law would lock in new taxes. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 2000. Davis delegation lobbies Congress for Wildlife conservation. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 1998. Davis Visions. The Flatlander, Davis, California.

Smallwood, K.S. 1997. Last grab for Yolo's land and water. The Flatlander, Davis, California.

Smallwood, K.S. 1997. The Yolo County HCP. Op-Ed to the Davis Enterprise.

Radio/Television

PBS News Hour,

FOX News, Energy in America: Dead Birds Unintended Consequence of Wind Power Development, August 2011.

KXJZ Capital Public Radio -- Insight (Host Jeffrey Callison). Mountain lion attacks (with guest Professor Richard Coss). 23 April 2009;

KXJZ Capital Public Radio -- Insight (Host Jeffrey Callison). Wind farm Rio Vista Renewable Power. 4 September 2008;

KQED QUEST Episode #111. Bird collisions with wind turbines. 2007;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. December 27, 2001;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. May 3, 2001;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. February 8, 2001;

KDVS Speaking in Tongues (host Ron Glick & Shawn Smallwood), California Energy Crisis: 1 hour. Jan. 25, 2001;

KDVS Speaking in Tongues (host Ron Glick), Headwaters Forest HCP: 1 hour. 1998;

Davis Cable Channel (host Gerald Heffernon), Burrowing owls in Davis: half hour. June, 2000;

Davis Cable Channel (hosted by Davis League of Women Voters), Measure O debate: 1 hour. October, 2000;

KXTV 10, In Your Interest, The Endangered Species Act: half hour. 1997.

Reviews of Journal Papers (Scientific journals for whom I've provided peer review)

Journal	**Journal**
American Naturalist	Journal of Animal Ecology
Journal of Wildlife Management	Western North American Naturalist
Auk	Journal of Raptor Research
Biological Conservation	National Renewable Energy Lab reports
Canadian Journal of Zoology	Oikos
Ecosystem Health	The Prairie Naturalist
Environmental Conservation	Restoration Ecology

Journal	Journal
Environmental Management	Southwestern Naturalist
Functional Ecology	The Wildlife Society--Western Section Trans.
Journal of Zoology (London)	Proc. Int. Congress on Managing for Ecosystem Health
Journal of Applied Ecology	Transactions in GIS
Ecology	Tropical Ecology
Wildlife Society Bulletin	Peer J
Biological Control	The Condor

Committees

- Scientific Review Committee, Alameda County, Altamont Pass Wind Resource Area
- Ph.D. Thesis Committee, Steve Anderson, University of California, Davis
- MS Thesis Committee, Marcus Yee, California State University, Sacramento

Other Professional Activities or Products

Testified in Federal Court in Denver during 2005 over the fate of radio-nuclides in the soil at Rocky Flats Plant after exposure to burrowing animals. My clients won a judgment of $553,000,000. I have also testified in many other cases of litigation under CEQA, NEPA, the Warren-Alquist Act, and other environmental laws. My clients won most of the cases for which I testified.

Testified before Environmental Review Tribunals in Ontario, Canada regarding proposed White Pines, Amherst Island, and Fairview Wind Energy projects.

Testified in Skamania County Hearing in 2009 on the potential impacts of zoning the County for development of wind farms and hazardous waste facilities.

Testified in deposition in 2007 in the case of O'Dell et al. vs. FPL Energy in Houston, Texas.

Testified in Klickitat County Hearing in 2006 on the potential impacts of the Windy Point Wind Farm.

Memberships in Professional Societies

The Wildlife Society
Raptor Research Foundation

Honors and Awards

Fulbright Research Fellowship to Indonesia, 1987
J.G. Boswell Full Academic Scholarship, 1981 college of choice
Certificate of Appreciation, The Wildlife Society—Western Section, 2000, 2001
Northern California Athletic Association Most Valuable Cross Country Runner, 1984
American Legion Award, Corcoran High School, 1981, and John Muir Junior High, 1977
CIF Section Champion, Cross Country in 1978
CIF Section Champion, Track & Field 2 mile run in 1981
National Junior Record, 20 kilometer run, 1982
National Age Group Record, 1500 meter run, 1978

Community Activities

District 64 Little League Umpire, 2003-2007
Dixon Little League Umpire, 2006-07
Davis Little League Chief Umpire and Board member, 2004-2005
Davis Little League Safety Officer, 2004-2005
Davis Little League Certified Umpire, 2002-2004
Davis Little League Scorekeeper, 2002
Davis Visioning Group member
Petitioner for Writ of Mandate under the California Environmental Quality Act against City of Woodland decision to approve the Spring Lake Specific Plan, 2002
Served on campaign committees for City Council candidates

Representative Clients/Funders

Law Offices of Stephan C. Volker
Blum Collins, LLP
Eric K. Gillespie Professional Corporation
Law Offices of Berger & Montague
Lozeau | Drury LLP
Law Offices of Roy Haber
Law Offices of Edward MacDonald
Law Office of John Gabrielli
Law Office of Bill Kopper
Law Office of Donald B. Mooney
Law Office of Veneruso & Moncharsh
Law Office of Steven Thompson
Law Office of Brian Gaffney
California Wildlife Federation
Defenders of Wildlife
Sierra Club
National Endangered Species Network
Spirit of the Sage Council
The Humane Society
Hagens Berman LLP
Environmental Protection Information Center
Goldberg, Kamin & Garvin, Attorneys at Law
Californians for Renewable Energy (CARE)
Seatuck Environmental Association
Friends of the Columbia Gorge, Inc.
Save Our Scenic Area
Alliance to Protect Nantucket Sound
Friends of the Swainson's Hawk
Alameda Creek Alliance
Center for Biological Diversity
California Native Plant Society
Endangered Wildlife Trust
and BirdLife South Africa
AquAlliance
Oregon Natural Desert Association
Save Our Sound
G3 Energy and Pattern Energy
Emerald Farms
Pacific Gas & Electric Co.
Southern California Edison Co.
Georgia-Pacific Timber Co.
Northern Territories Inc.
David Magney Environmental Consulting
Wildlife History Foundation
NextEra Energy Resources, LLC
Ogin, Inc.
EDF Renewables
National Renewable Energy Lab
Altamont Winds LLC
Salka Energy
Comstocks Business (magazine)
BioResource Consultants
Tierra Data
Black and Veatch
Terry Preston, Wildlife Ecology Research Center
EcoStat, Inc.
US Navy
US Department of Agriculture
US Forest Service
US Fish & Wildlife Service
US Department of Justice
California Energy Commission
California Office of the Attorney General
California Department of Fish & Wildlife
California Department of Transportation
California Department of Forestry
California Department of Food & Agriculture
Ventura County Counsel
County of Yolo
Tahoe Regional Planning Agency
Sustainable Agriculture Research & Education Program
Sacramento-Yolo Mosquito and Vector Control District
East Bay Regional Park District
County of Alameda
Don & LaNelle Silverstien
Seventh Day Adventist Church
Escuela de la Raza Unida
Susan Pelican and Howard Beeman
Residents Against Inconsistent Development, Inc.
Bob Sarvey
Mike Boyd
Hillcroft Neighborhood Fund
Joint Labor Management Committee, Retail Food Industry
Lisa Rocca
Kevin Jackson
Dawn Stover and Jay Letto
Nancy Havassy
Catherine Portman (for Brenda Cedarblade)
Ventus Environmental Solutions, Inc.
Panorama Environmental, Inc.
Adams Broadwell Professional Corporation

Representative special-status species experience

Common name	Species name	Description
Field experience		
California red-legged frog	*Rana aurora draytonii*	Protocol searches; Many detections
Foothill yellow-legged frog	*Rana boylii*	Presence surveys; Many detections
Western spadefoot	*Spea hammondii*	Presence surveys; Few detections
California tiger salamander	*Ambystoma californiense*	Protocol searches; Many detections
Coast range newt	*Taricha torosa torosa*	Searches and multiple detections
Blunt-nosed leopard lizard	*Gambelia sila*	Detected in San Luis Obispo County
California horned lizard	*Phrynosoma coronatum frontale*	Searches; Many detections
Western pond turtle	*Clemmys marmorata*	Searches; Many detections
San Joaquin kit fox	*Vulpes macrotis mutica*	Protocol searches; detections
Sumatran tiger	*Panthera tigris*	Track surveys in Sumatra
Mountain lion	*Puma concolor californicus*	Research and publications
Point Arena mountain beaver	*Aplodontia rufa nigra*	Remote camera operation
Giant kangaroo rat	*Dipodomys ingens*	Detected in Cholame Valley
San Joaquin kangaroo rat	*Dipodomys nitratoides*	Monitoring & habitat restoration
Monterey dusky-footed woodrat	*Neotoma fuscipes luciana*	Non-target captures and mapping of dens
Salt marsh harvest mouse	*Reithrodontomys raviventris*	Habitat assessment, monitoring
Salinas harvest mouse	*Reithrodontomys megalotus distichlus*	Captures; habitat assessment
Bats		Thermal imaging surveys
California clapper rail	*Rallus longirostris*	Surveys and detections
Golden eagle	*Aquila chrysaetos*	Numerical & behavioral surveys
Swainson's hawk	*Buteo swainsoni*	Numerical & behavioral surveys
Northern harrier	*Circus cyaeneus*	Numerical & behavioral surveys
White-tailed kite	*Elanus leucurus*	Numerical & behavioral surveys
Loggerhead shrike	*Lanius ludovicianus*	Large area surveys
Least Bell's vireo	*Vireo bellii pusillus*	Detected in Monterey County
Willow flycatcher	*Empidonax traillii extimus*	Research at Sierra Nevada breeding sites
Burrowing owl	*Athene cunicularia hypugia*	Numerical & behavioral surveys
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Monitored success of relocation and habitat restoration
Analytical		
Arroyo southwestern toad	*Bufo microscaphus californicus*	Research and report.
Giant garter snake	*Thamnophis gigas*	Research and publication
Northern goshawk	*Accipiter gentilis*	Research and publication
Northern spotted owl	*Strix occidentalis*	Research and reports
Alameda whipsnake	*Masticophis lateralis euryxanthus*	Expert testimony

Noriko Lena Smallwood

530-601-6852 | norikosmallwood@yahoo.com | Temecula, CA

Education

M.S., Environmental Sciences **Aug 2019 – Aug 2021**

California State University Los Angeles, *Advisor: Dr. Eric Wood*

Thesis: The influence of native plants on urban wildlife in Southern California residential yards

- *GIS certificate*
- *Special Recognition in Graduate Studies award, 2020*

B.S., Environmental and Ecosystem Sciences **Aug 2015 – Dec 2018**

Washington State University, Pullman, Washington

- *Minors: Biology, Geology*

Professional Experience

Wildlife Ecologist, Dr. Shawn Smallwood, Environmental Consultant **June 1, 2016 – Present**

- Independently conduct biological resource surveys at proposed project sites for CEQA review throughout California
  - Survey for species presence and habitat suitability of birds, mammals, herpetofauna, insects, and plants, especially special status species
- Assist with the writing of comment letters for proposed project sites undergoing CEQA review
- Conduct biological resource surveys for various research projects on wildlife conservation
- Manage and analyze large datasets
- Assisted with nest surveys of burrowing owl and loggerhead shrike, and raptor behavior surveys as a part of a research study on 46 plots in the Altamont Pass Wind Resource Area
- Processed documents and data relating to human structure impacts on wildlife

Biologist, Bargas Environmental Consulting **June 9, 2020 – June 2022**

- Supported various utility-sector projects in Southern and Central California including Southern California Edison, SoCal Gas, and Spectrum
- Conducted pre-construction surveys and construction monitoring for nesting birds and plant and wildlife species of special concern, including woodpeckers, raptors, burrowing owl, golden eagle, bald eagle, peregrine falcon, California gnatcatcher, least Bell's vireo, San Bernardino kangaroo rat, Southern rubber boa, monarch butterfly, California red-legged frog, coast horned lizard, Joshua tree, Santa Susana tarplant, and many others. Surveys and monitoring intended to limit or eliminate disturbance to species and habitat
- Pre-construction surveys and construction monitoring for water resources (streams and washes)
- Delineated and mapped water features in the Mojave desert
- Mapped and classified vegetation using the Manual of California Vegetation (MCV)
- Used ESRI Survey 123, Collector, and Field Maps, Gaia GPS, and Solocator to collect data and prepare reports
- Worked alone and in groups, and often communicated with other biologists as well as construction crew members, including conducting tailboard meetings before construction

- Trained new biologists in the field by teaching species identification, habitat assessments, ESRI software, and explained job duties
- Served as a Field Lead on large SCE projects to provide full-time support and maintain communication between Field Biologists, Project Managers, and Contractors
- Conducted desktop reviews to assess landscape and potential suitable habitat for special status species

Graduate Researcher, California State University Los Angeles **Aug 1, 2019 – Aug 6, 2021**

- Thesis: "The influence of native plants on urban wildlife in Southern California residential yards"
- Preparation of research project: conducted literature review, public outreach to obtain volunteers, and wrote grant proposals to obtain research funding
- Planned, scheduled, and conducted field surveys for birds, pollinating insects, and vegetation in residential yards
- Managed a large dataset and conducted statistical analysis in the software,"R"
- Conducted remote sensing analyses and created maps using ArcMap and ArcGIS Pro
- Gave presentations on my research to a conference and non-profit organizations

Research Assistant, University of Idaho **Feb 15, 2019 – Aug 31, 2019**

- Processed images using the software, "ImageJ," for research relating to the effects of cattle grazing on greater sage-grouse nests

Lab Assistant, University of Idaho **Sep 15, 2017 – May 15, 2019**

- Set up and maintained lab experiments with nematodes including a research project relating to heat stress on the entomopathogenic nematode, *S. feltiae*

Teaching Experience

Graduate Assistant, California State University **Jan 20, 2020 – Dec 23, 2020**

- Graded and provided feedback on assignments and exams for 150 and 90 undergraduate students in BIOL 3600: Integrative Organismal Biology and 80 students in MICR 1010: Intro to Microbiology

Tutor, Hayutin & Associates **July 25, 2019 – May 31, 2020**

- Independently tutored K-12 student in test prep (ISEE test), executive function coaching, and subject tutoring (science and mathematics)

Volunteer Experience

Restoration Volunteer, Washington State University **Dec 5, 2018**

- Participated in a restoration project by planting native willows in an eroded and degraded stream bed in the South Fork of the Palouse River near Moscow, Idaho

Field Surveyor, Washington State University **Oct 27-29, 2018**

- Participated in a research project on deer vehicle strikes by surveying locations of local radio collared mule and white-tailed deer in Winthrop, Washington using VHF radiotelemetry

Field Surveyor, University of Idaho **Sep 22-23, 2018**

- Participated in a research project on the declining populations of pygmy rabbit by surveying pygmy rabbit burrows in the sagebrush ecosystem near Leadore, Idaho using Garmin GPS devices

Restoration Volunteer, Washington State University **April 2016**

- Participated in a restoration project by removing invasive reed canary grass and planting native plants in Missouri Flat Creek in Pullman, Washington

Publications

Smallwood, K.S. and **N.L. Smallwood.** 2023. Measured effects of anthropogenic development on vertebrate wildlife diversity. *Diversity* 15(10):1037.

Smallwood, N.L. and E.M. Wood. 2023. The ecological role of native-plant landscaping in residential yards to birds during the nonbreeding period. *Ecosphere* 14(1): e4360.

Smallwood, N.L. and E.M. Wood. 2022 Native-plant landscaping in residential yards provides habitat and refuge for birds in Southern California. *Los Angeles Audubon Society Western Tanager* 89(2).

Smallwood, K.S. and **N.L. Smallwood.** 2021. Breeding Density and Collision Mortality of Loggerhead Shrike (*Lanius ludovicianus*) in the Altamont Pass Wind Resource Area. *Diversity* 13(11):540.

Presentations

Smallwood, N.L. The ecological role of native-plant landscaping in residential yards to birds during the nonbreeding period. American Ornithological Society/Society of Canadian Ornithologists Conference. August 8 2023, London, Ontario, Canada.

Smallwood, N.L. The ecological role of native-plant landscaping in residential yards to birds during the nonbreeding period. University of California Riverside Palm Desert Center. March 2, 2023, Palm Desert, California.

Smallwood, N.L. The ecological role of native-plant landscaping in residential yards to urban wildlife. *Southern California Academy of Sciences Annual Meeting*, May 6, 2022, Fullerton, CA.

Smallwood, N.L. Gardening for Biodiversity, a guided tour. *Arlington Garden*, December 11, 2021, Pasadena, CA.

Smallwood, N.L. The influence of native plant landscaping on urban wildlife in Southern California residential yards. *California Native Plant Society Los Angeles/Santa Monica Mountains Chapter*, October 12, 2021, virtual.

Smallwood, N.L. and E.M. Wood. The influence of native plants on urban wildlife in Southern California residential yards. *International Urban Wildlife Conference*, May 25-27, 2021, virtual.

Smallwood, N.L. The influence of native plants on urban wildlife in Southern California residential yards. *Theodore Payne Foundation Poppy Hour*, March 18, 2021, virtual.

Grants

	Total	Year(s)
Travel award, *American Ornithological Society meeting 2023*	$936	2023
Graduate Equity Fellowship, *California State University Los Angeles*	$2,000	2020 – 2021
Pasadena Audubon Society Grant	$3,000	2020
State University Grant, *California State University Los Angeles*	$14,352	2019 – 2021
Cougar Academic Award, *Washington State University*	$45,500	2015 – 2018

Workshops

Level 1 Venomous Handling Certification Course, Save the Snakes , 29-30 April 2023. 16 hours, Sacramento, California

Rare Pond Species Workshop, The Laguna de Santa Rosa Foundation/The Wildlife Project, 11-12 March 2023, 14 hours, Santa Rosa, California.

Burrowing Owl Training. The Western Section of The Wildlife Society Meeting, 6 February 2023, 2 hours, Riverside, California.

Introduction to the Mojave Desert Tortoise. Desert Tortoise Council. October/November 2022, 17 hours, online lectures and field training in Ridgecrest, California.

Association of Environmental Professionals' 2021 Intermediate CEQA Workshop, February 2021, 4 hours, online.

Memberships

The Western Section of The Wildlife Society
Association of Environmental Professionals

Skills and Coursework

Research Interests	Ecology, Conservation Biology, Urban Ecology, Ornithology, Mammalogy, Habitat Conservation, Habitat Restoration, Wildlife-Human Interactions
Species (T&E)	Swainson's hawk, California gnatcatcher, least Bell's vireo, Tricolored blackbird, Mojave desert tortoise, California red-legged frog, California tiger salamander, San Bernardino kangaroo rat, Stephens' kangaroo rat
Field Techniques	Biological resource surveys, habitat assessment, water resource surveys, construction monitoring, bird point counting, bird behavior surveys, nest searching, nest and resource mapping, small mammal burrow surveys, insect transect surveys, vegetation cover surveys, locating wildlife using radio telemetry Experience hiking, backpacking, and operating four-wheel drive vehicles off road
Software	R, ArcMap, ArcGIS Pro, QGIS, ImageJ, Digital Photo Professional 4, GPS operation
Related Coursework	**Wildlife and Ecology:** Wildlife Habitat Ecology (3 semester units), Methods in Wildlife Ecology (4), Restoration Ecology (3), General Ecology (4), Natural Resource Ecology (3), Community Ecology (3), Animal Behavior (3), Ornithology (4), Marine Ecology (3), Rivers: Form, Function, and Management (3), Natural Resource and Environmental Policy and Law (3), Natural Resources: Society and the Environment (3), Environment, Human Life, Sustainability (4) **Botany:** Plant Systematics (3), Plant Ecology (4), Hot Topics Seminar: "What Kills Trees?" (3) **Statistics and GIS:** Data Analysis in Biological Sciences (3), Statistical Methods in Research (3), Intro to Statistical Methods (4), Intro to GIS (3), GIS Applications (3), Remote Sensing (3), Digital Cartography (3) **Other:** Professional Writing in Life Sciences (2), Environmental Geology (3), Water and the Earth (3), Oceanography, General Genetics (4)

EXHIBIT B

Clark & Associates
Environmental Consulting, Inc.

OFFICE
12405 Venice Blvd
Suite 331
Los Angeles, CA 90066

PHONE
310-907-6165

FAX
310-398-7626

EMAIL
jclark.assoc@gmail.com

June 13, 2024

Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612

Attn: Ms. Kylah Staley

Subject: Comment Letter on Initial Study/Mitigated Negative Declaration (IS/MND) For Zone Change #23-0007/Conditional Use Permit #23-0027/Initial Study #23-0033 Cal 98 Holdings Prepared For Imperial County (the County)

Dear Ms. Staley:

At the request of Lozeau Drury LLP (Lozeau Drury), Clark and Associates (Clark) has reviewed materials related to the above referenced project.

Clark's review of the materials in no way constitutes a validation of the conclusions or materials contained within the IS/MND. If we do not comment on a specific item, this does not constitute acceptance of the item.

Project Description:

The proposed Cal 98 Holdings Project (the Project) involves the construction and operation of a trucking and warehousing operation that will consist of a warehouse totaling 120,245 square feet, 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. The proposed hours for the trucking and warehousing operation are 8 am - 9 pm with a proposed total of 100 trucks per day coming to and from the site and 20 onsite employees.

The surrounding lands consist of the New River to the south, with Agriculture lands to the north. Both east and west of the project along SR-98 consist of a combination of agricultural, residential, commercial and light industrial zoned properties. These surrounding properties contain houses, agricultural fields, self-storage and a vehicle dismantling yard all within 0.5 miles of the project site. In addition, the City of Calexico lies 0.4 miles east of the project site and further west along SR-98 +/- 1 mile away is a solar power facility.

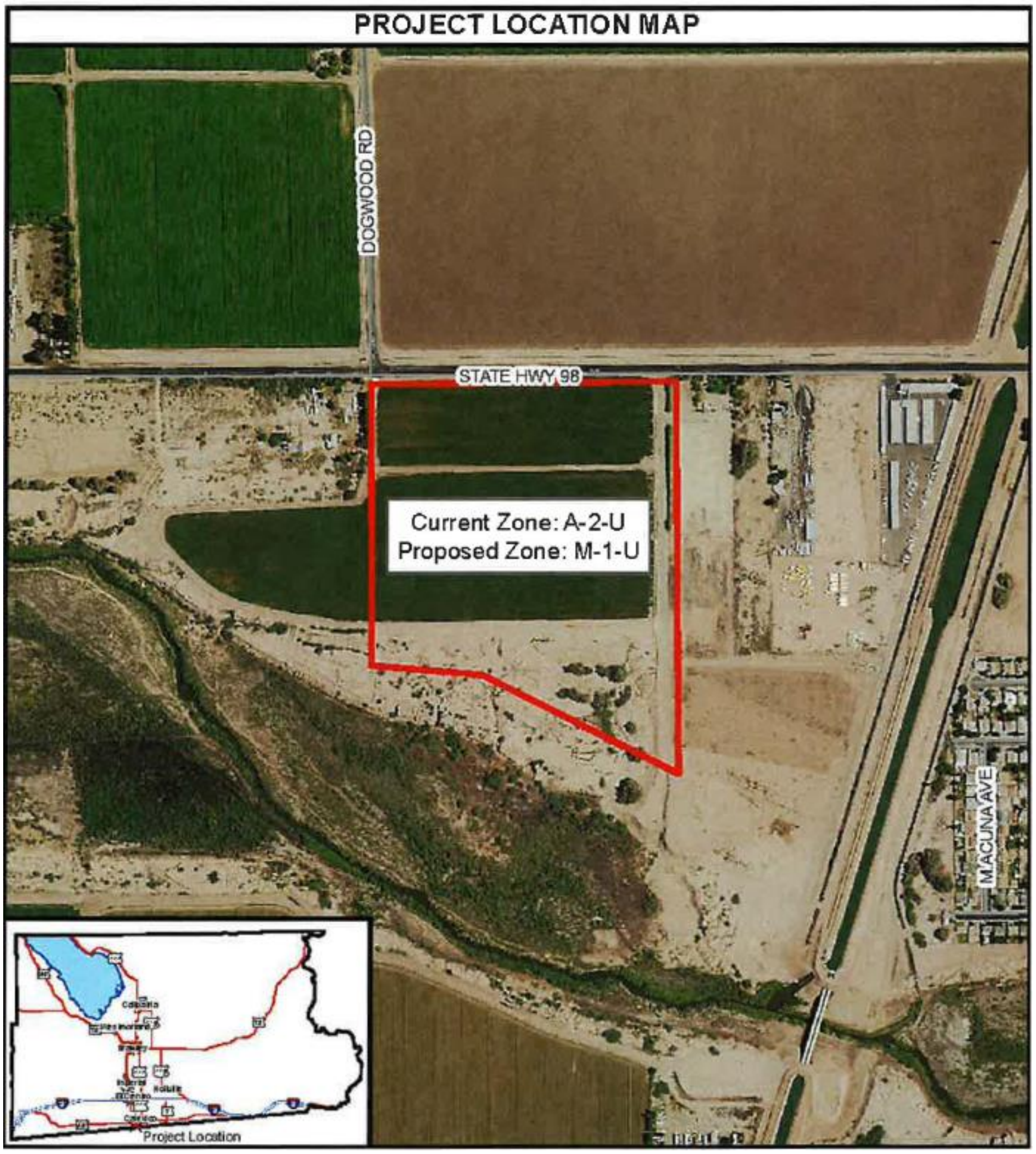

Figure 1: Project Site Location

According to the IS/MND[1], the proposed Project would be constructed in a single phase. The site has been previously developed and is relatively flat so earthwork would be limited and is expected to be balanced onsite (i.e., no import or export of soil). Construction is currently expected to commence in early 2025 and be completed in 2027.

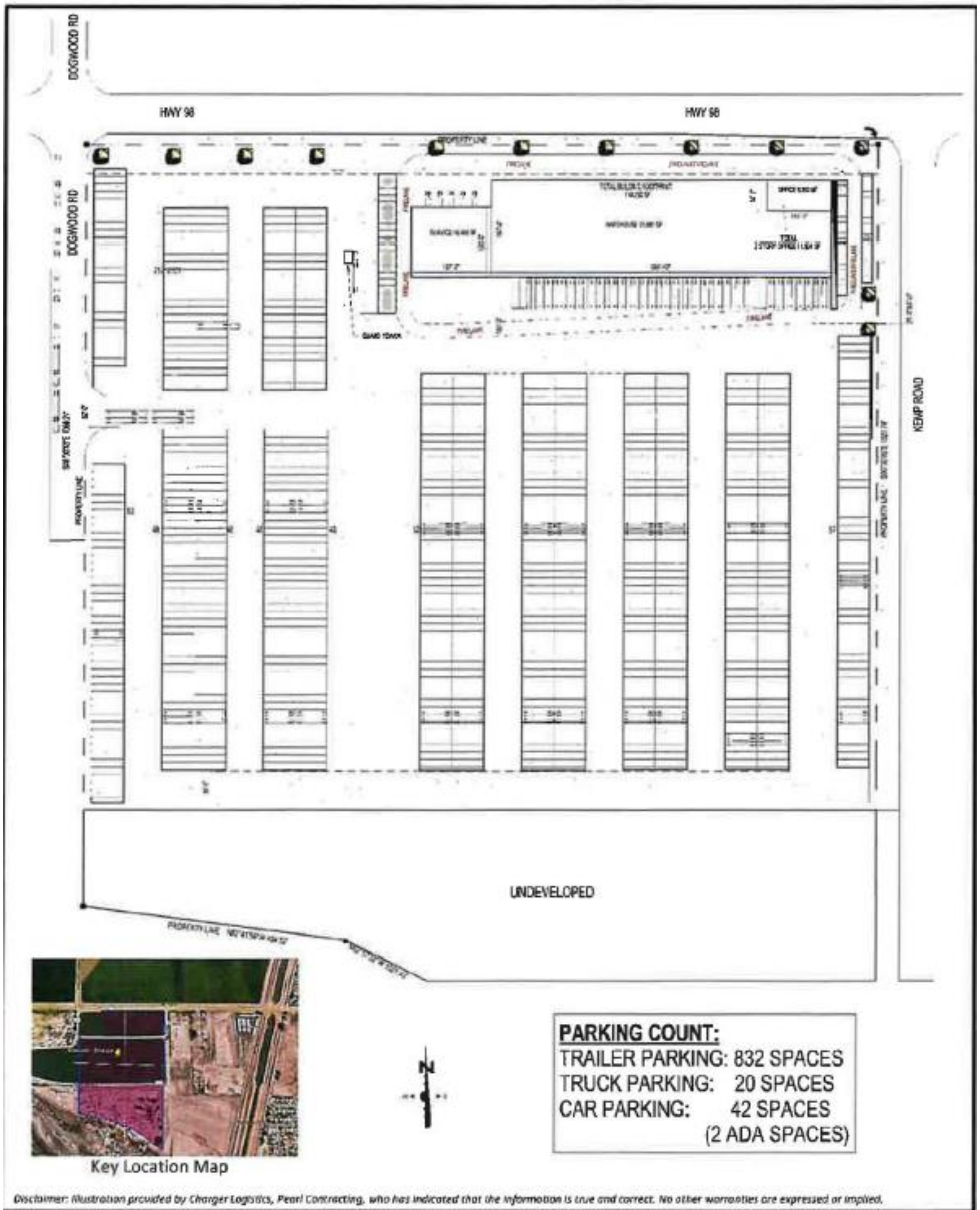

Figure 2: Project Site Plan

[1] Fagan. 2024. Initial Study/Mitigated Negative Declaration for Patterson Business Center, 5030 Patterson Avenue, Development Plan Review 22-00013. Prepared by Matthew Fagan Consulting Services, Inc. pg 11.

The IS/MND concludes that no mitigation is required to prevent impacts from the project on air quality in the area. This conclusion is in conflict with the facts provided within the IS/MND.

Specific Comments:

1. The Analysis Presented In The IS/MND Fails To Account For Significant Pollution Burden In Calexico And The Immediate Vicinity Of The Project

It is clear from the Air Quality analysis presented with the IS/MND that the Project will add to the already heavily impacted regional problem of particulate matter (PM), ozone (O_3) and toxic air contaminants. The Imperial County is designated as being in nonattainment for ozone and fine PM ($PM_{2.5}$); and serious nonattainment for respirable PM (PM_{10}).

The Project Site is located in census tract 6025011900 (zipcode 92231). This tract and all of the surrounding census tracts are designated at Senate Bill 535 (SB 535) Disadvantaged Communities. Using the Office of Environmental Health and Hazard Assessment's (OEHHA's) California Communities Environmental Health Screening Tool Version·4.0 (CalEnviroScreen) it is possible to assess the existing concerns for the census tract in which the project is located.

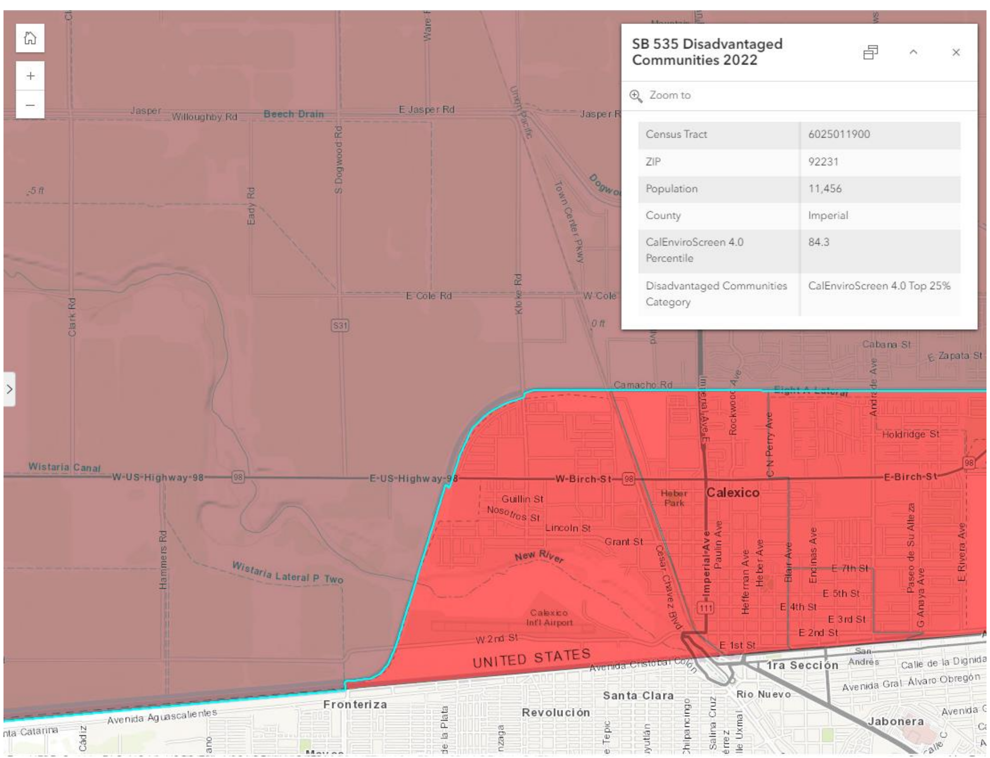

Figure 3: SB 535 Disadvantaged Communities

Based on the CalEnviroScreen summary of zipcode 92231, it is clear that the area is in the top

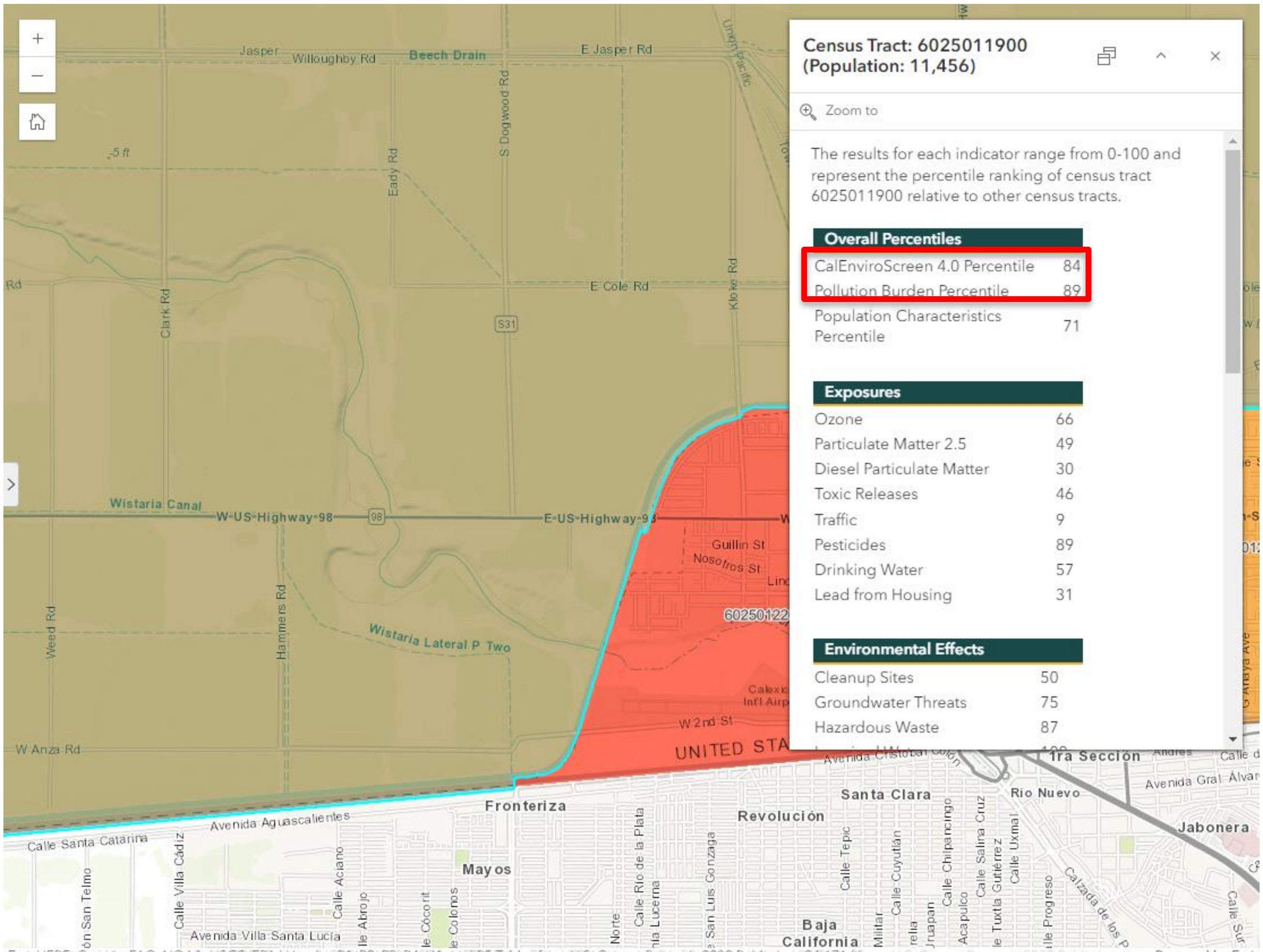

Figure 4: CalEnviroScreen Analysis Of Project Site Zipcode

34% of all communities in the State of California impacted by Ozone (O_3). The City of Calexico (specifically the area due south of the Project Site) is in the top 5% of polluted areas in California. It ranks in the top 13th percentile for DPM emissions. The area the Project is located in is in the top 16% of polluted areas of CA.

Increasing the number of sources of unburned hydrocarbons (a necessary component for the creation of ozone) within the community via the construction of the project will increase the Pollution Burden on the community even more placing a greater health burden on the community.

Given the severe air impacts currently existing in the vicinity of the Project site; and, the status of the community that will be impacted immediately by the Project, an environmental impact report (EIR) should be prepared to assure the public that the cumulative impacts from the Project have been fully evaluated and mitigated.

2. The IS/MND Fails To Consider Impact On Air Quality From Vehicles Entering From Mexico.

According to the Project description in the Health Risk Analysis of the IS/MND, trucks will travel to and from Mexico, San Diego, and Imperial County[2] to the Project Site. The HRA goes on to state that the "project expects that 65 percent of the inbound trips will be from Mexico, 15 percent will be from San Diego and 20 percent will be from Imperial County north of the project site. Thirty percent of the outbound trips will be to Mexico, 50 percent will be to San Diego and 20 percent will be to Imperial County."[3] The IS/MND fails to consider that there are three major truck border crossings with Mexico, averaging 4,000 trucks in each direction daily. Over 90% of these border crossings are made by Mexican-domiciled motor carriers. Currently, there's a lack of data on the environmental impact and activity of border-crossing trucks. The most impacted are the Calexico-El Centro-Heber Community near the Calexico Border Crossing and the International Border Community near the Otay Mesa Border Crossing. Mexican trucks entering California often have dual license plate registrations. This data gap hinders the understanding of fleet characteristics, such as age distribution and fleet size, which CARB needs to estimate the emissions profile of Mexican trucks in California. Also, Mexican-based trucks engage in drayage and long-haul movements through Southern California to Arizona and Nevada, but little is known about their activity distribution. This lack of data affects the ability to plan infrastructure investments for the transition of Mexican trucks to zero-emission technologies in the future.

The EMFAC analysis included in the Air Quality study is based on a survey of vehicles registered in Imperial County. Of the 2,944 heavy duty vehicles registered to an Imperial County address, 2,114 are more than 7 years old (vehicles produced in 1976 through 2017 to be exact). The older the fleet the greater the emissions from the fleet. Since the EMFAC analysis relies on the registration of the vehicle and there is no accounting for the age of the fleet coming from Mexico, it is clear that the emission estimate utilized in the Air Quality Analysis and the resulting Health Risk Analysis of mobile emissions is speculative at best. An environmental impact report (EIR) must be

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[2] UltraSystems. 2023. Air Toxics Health Risk Assessment For Cal98 Charger Logistics Project, Calexico, California. Dated January 31, 2023. Pg 1

[3] UltraSystems. 2023. Air Toxics Health Risk Assessment For Cal98 Charger Logistics Project, Calexico, California. Dated January 31, 2023. Pg 11

prepared to assess the actual emissions from the fleet of vehicles that will be used in this already overburdened community.

3. The IS/MND Air Quality Study Failed To Assess Emissions From Stationary Sources On Site.

According to the Air Quality Analysis prepared for the Project, operational emissions were calculated using the CalEEMOD (Version 2022.1) software. Included in the analysis are area source emissions and mobile source emissions. No stationary sources, including fire pumps that would be required and back-up generators that could be installed are not evaluated.

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

Not included in the analysis are emissions from the back-up generator that will need to be installed. This error must be corrected in an EIR report for the Project.

4. The IS/MND Fails To Include An Analysis Of The Odors Emanating From The City of Calexico's Wastewater Treatment Plant.

According to the Imperial County CEQA Handbook, if a project is proposed within the screening level distance in Table 3, the ICAPCD should be contacted for information regarding potential odor problems. For projects that involve new receptors located near an existing odor source(s), a public information reviewing request should be submitted to the ICAPCD for a review of any existing odor complaints and for the nearest odor emitting facility(ies).

Table 3, Project Screening Distances for Potential Odor Sources

Type of Operation	Project Screening Distance
Wastewater Treatment Plant	1 mile
Sanitary Landfill	1 mile
Composting Station	1 mile
Feedlot	1 mile
Asphalt Plant	1 mile
Painting/Coating Operations (auto body shops)	1 mile
Rendering Plant	1 mile

A review of aerial photographs for the region shows that the City of Calexico's wastewater treatment plant (located on the ground of the airport) is located less than 1 mile from the Project site.

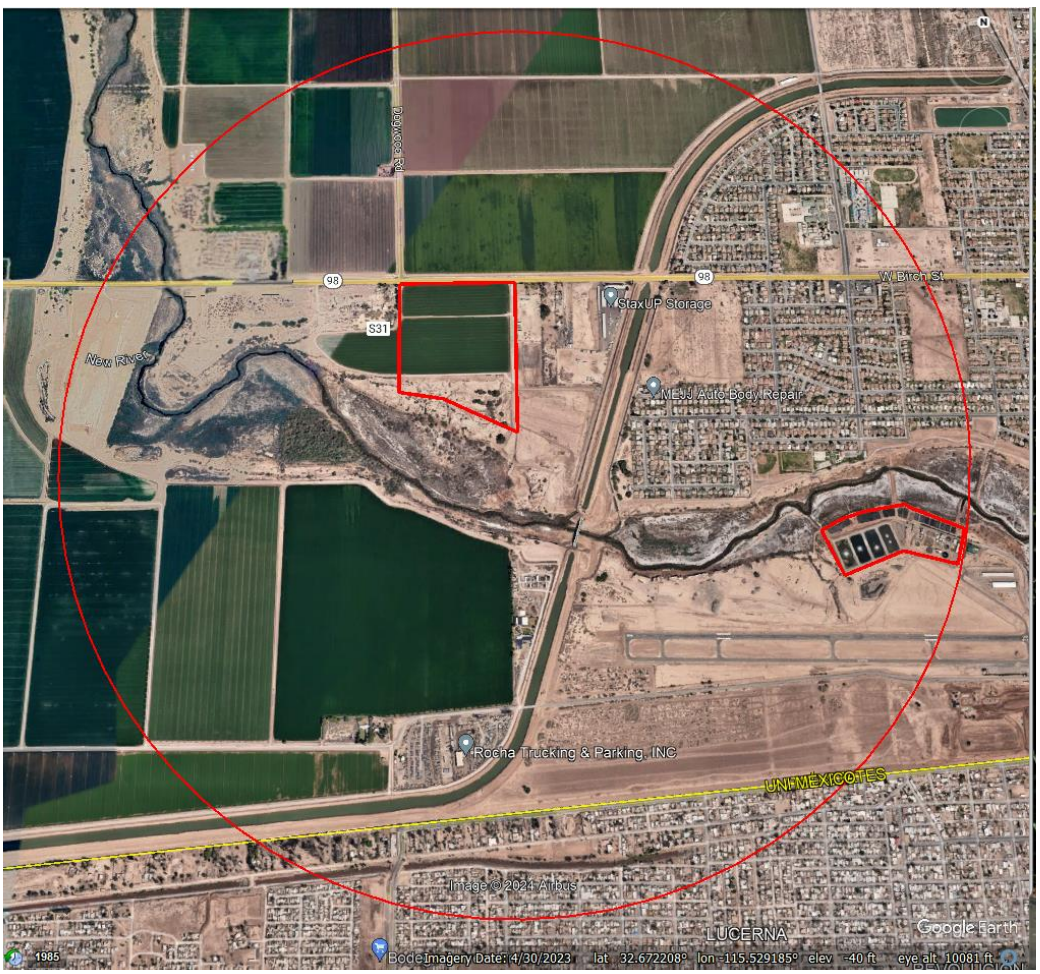


Figure 5: Location of Project And Wasterwater Treatment Plant

5. The IS/MND Underestimates The Average Truck Trip Length For Heavy Duty Trucks Using The Project Site, Thereby Underestimating The Regional Air Quality Impacts

The types of vehicles using the Project Site along with the distance traveled have a direct relationship on the air quality impacts for a project. According to the Air Quality Analysis for the IS/MND, the daily emissions of all pollutants are below the Tier 1 thresholds and there is no need for mitigation.[4] The largest source of particulate matter (PM10 and PM2.5) is associated with mobile sources using the Project Site. The calculations of the daily emissions are based on flawed assumptions and should be re-evaluated in an EIR.

Table 4.5-2
DAILY PROJECT OPERATIONAL EMISSIONS

Emissions Source	Pollutant (maximum lbs/day)				
	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
Area	3.64	0.04	5.23	0.01	0.01
Energy	0.03	0.59	0.50	0.04	0.04
Mobile	1.42	0.79	7.10	96.3	9.78
Waste	ND	ND	ND	ND	ND
Water	ND	ND	ND	ND	ND
Total Operational Emissions	5.09	1.42	12.83	96.35	9.78
Thresholds for Tier II	*137*	*137*	*550*	*150*	*550*
Tier	I	I	I	I	I

ND = *No Data*

Taking the vehicle miles traveled (VMT) per day (VMT/day) and dividing it by the number of trips per day, the average trip length is generated. My analysis of the CalEEMOD model shows that the average trip length in the operational phase of the Project is 4.21 miles. This trip length is 1/10th the distance typically (40 miles) which is incorporated in the CalEEMod analysis and does not accurately reflect the likely distances traveled for heavy duty trucks coming from regional transport centers.

[4] UltraSystems. 2024. Air Quality And Greenhouse Gas Emissions Study For Cal98 Charger Logistics Project, Calexico, California. Dated February, 2024. Pg 23

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	189	189	189	68,807	794	794	794	289,937
General Office Building	116	26.3	8.33	32,035	489	111	35.1	134,987
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	189	189	189	68,807	794	794	794	289,937
General Office Building	116	26.3	8.33	32,035	489	111	35.1	134,987
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Figure 6: Miles Traveled Daily From CalEEMOD Model

The SCAQMD's Final Environmental Assessment and Adoption of Proposed Rule 2305 – Warehouse Indirect Source Rule (WAIRE), indicated that the trip length for Class 8 trucks (heavy duty multi-axle trucks) are assumed to travel 39.9 miles per trip based on modeling conducted for the 2016 Regional Transportation Plan (RTP) from SCAG and the 2016 Air Quality Management Plan (AQMP).[5]

The County must also correct the discrepancy in the air quality models presented for the Project. The CalEEMOD analysis in the Health Risk Analysis of the Project[6], approximately 200 trips per day from diesel powered trucks is assumed. This represents a 5.5 percent (5.5%) increase in the number of trips assumed over the Air Quality Analysis.[7] Additionally, the HRA analysis includes a variety of trucks not incorporated in the Air Quality Analysis.[8] The HRA include two categories of light-heavy duty trucks (LHDT); medium-heavy duty trucks (MHDT); and heavy-heavy duty trucks (HHDT).

[5] SCAQMD. 2021. BOARD MEETING DATE: MAY 7, 2021 AGENDA NO. 27 pg 815. http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf

[6] UltraSystems Environmental Incorporated. 2023. Air Toxics Health Risk Assessment for Cal98 Charger Logistics Project, Calexico, California

[7] UltraSystems. 2024. Air Quality And Greenhouse Gas Emissions Study For Cal98 Charger Logistics Project, Calexico, California. Dated February, 2024.

[8] ibid

Table 2.2-2
DEFINITIONS AND DISTRIBUTIONS OF TRUCK CATEGORIES

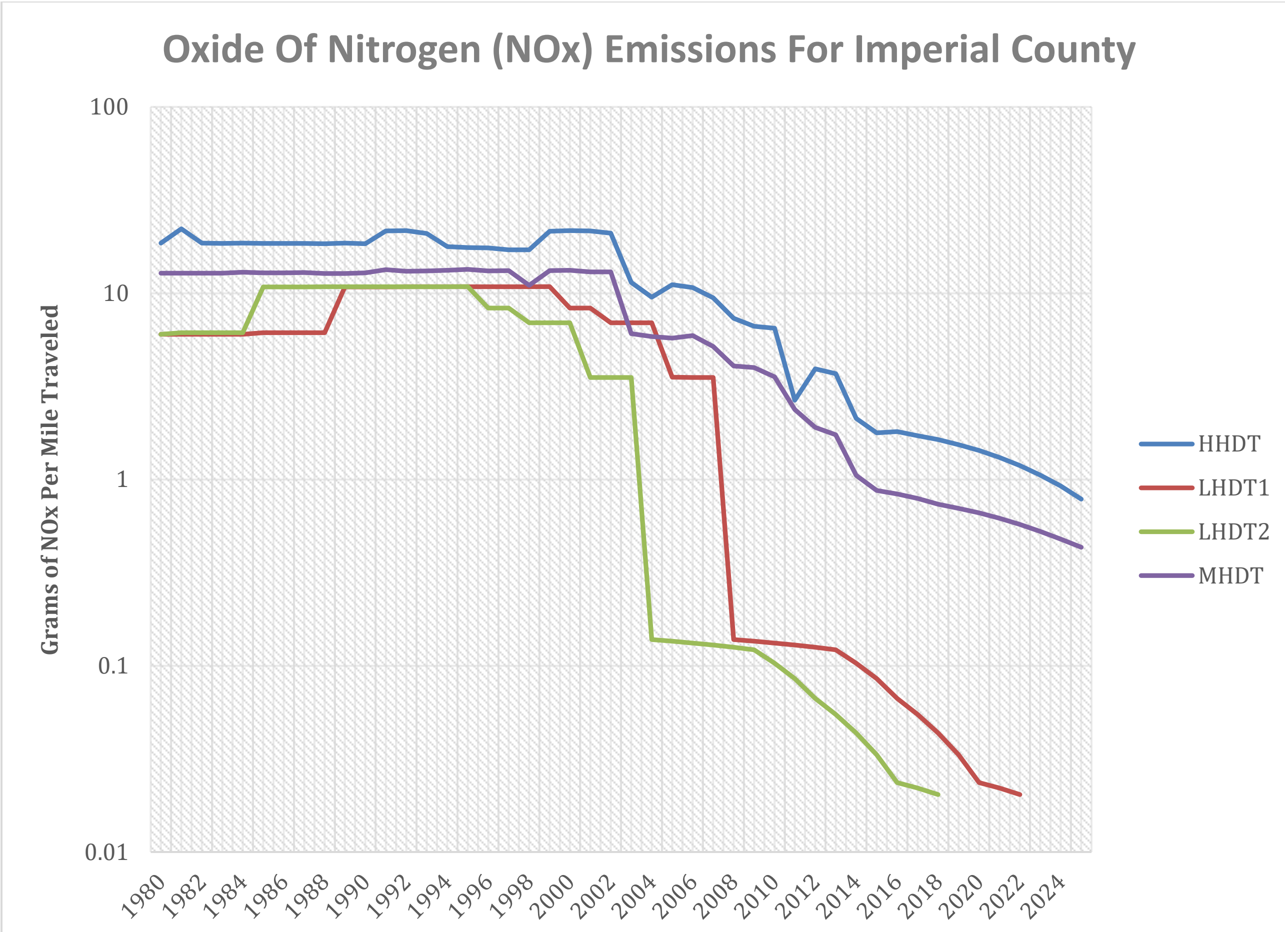
Category	Axles	EMFAC2007 Class	Fraction of Total Heavy Duty Trucks[a]	No. Trucks Trips per Day
Light Heavy Duty	2	LHD1	0.1565	31
		LHD2	0.0494	10
Medium Heavy Duty	3	MHDT	0.1764	35
Heavy Heavy Duty	4 or more	HHDT	0.6177	124

[a]Fractions of total trucks calculated from fleet distribution projects by CalEEMod.

Figure 7: Truck Categories Assumed In HRA

Changing the trip length from 4.2 miles to 40 miles increases the NOx values by an order of magnitude. For NOx, the emissions from the trucks went from 0.79 lbs/day to 13.89 lbs/day. The critical factors in the analysis (in the CalEEMOD) are the year of operation and assumed age of the fleet, then the distance. The Air Quality Analysis model has a default to use a newer averaged fleet.

Using the EMFAC database, I have compiled the emissions estimates for HHDT, MHDT, LHDT2, and LHDT1 vehicles registered in Imperial County. The vehicles range in age from 1980 to 2025. It is evident that older vehicles in the County produce the greatest amount of pollution per mile being driven. One example of the impact of the age is evident in the figure below.

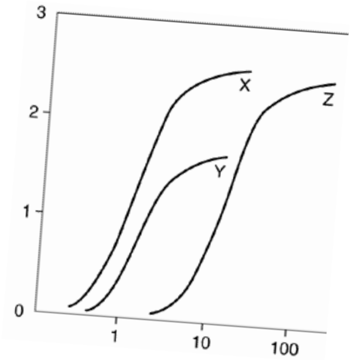


For the HHDTs (the biggest trucks) NOx emissions for trucks from 1980 through 2004 are on average twice as high as trucks produced in 2007. For the HHDTs, the NOx emissions for trucks from 1980 through 2004 are on average three times higher than trucks produced in 2010. For the HHDTs, the NOx emissions for trucks from 1980 through 2004 are on average 10 to 13 times higher than trucks from 2018. For the MHDT, LHDT1, and LHDT2 vehicles the pattern is the same. The County must revise the IS/MND's air quality analysis in an EIR to accurately calculate emissions using fact-based, reasonably foreseeable truck trip lengths.

Conclusion

The facts identified and referenced in this comment letter lead me to reasonably conclude that the Project could result in significant impacts if allowed to proceed. An EIR should be prepared to address these substantial concerns.

Sincerely,



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James J. J. Clark, Ph.D.

Principal Toxicologist

Toxicology/Exposure Assessment Modeling

Risk Assessment/Analysis/Dispersion Modeling

Education:

Ph.D., Environmental Health Science, University of California, 1995

M.S., Environmental Health Science, University of California, 1993

B.S., Biophysical and Biochemical Sciences, University of Houston, 1987

Professional Experience:

Dr. Clark is a well-recognized toxicologist, air modeler, and health scientist specializing in dose reconstruction. He has 30 years of experience in tying together environmental contaminants measurements to human health impacts. Using environmental fate and transport modeling (SCREEN3, CALPUFF, AEROMOD, ISCST3, Johnson-Ettinger Vapor Intrusion Modeling, RESRAD, GENII); exposure assessment modeling (partitioning of contaminants in the environment as well as PBPK modeling); Dr. Clark has testified in Federal and State courts on dose reconstructions for personal injury and in mass tort claims.

SELECTED AIR MODELING RESEARCH/PROJECTS

Client(s) – Multiple

Indoor Air Evaluations, California: Performed multiple indoor air screening evaluations and risk characterizations consistent with California Environmental Protection Agency's (Cal/EPA) Department of Toxic Substances Control (DTSC) and Regional Water Quality Control Board (RWQCB) methodologies. Characterizations included the use of DTSC's modified Johnson & Ettinger Model and USEPA models, as well as the attenuation factor model currently advocated by Cal/EPA's Office of Environmental Health and Hazard Assessment (OEHHA).

Client – Confidential

Dr. Clark performed a comprehensive evaluation of criteria pollutants, air toxins, and particulate matter emissions from a carbon black production facility to determine the impacts on the surrounding communities. The results of the dispersion model were used to estimate acute and chronic exposure concentrations to multiple contaminants and were be incorporated into a comprehensive risk evaluation.

Client – Confidential

Dr. Clark performed a comprehensive evaluation of air toxins and particulate matter emissions from a railroad tie manufacturing facility to determine the impacts on the surrounding communities. The results of the dispersion model have been used to estimate acute and chronic exposure concentrations to multiple contaminants and have been incorporated into a comprehensive risk evaluation.

EMERGING/PERSISTENT CONTAMINANT RESEARCH/PROJECTS

Client: City of Santa Clarita, Santa Clarita, California

Dr. Clark managed the oversight of the characterization, remediation and development activities of a former 1,000 acre munitions manufacturing facility for the City of Santa Clarita. The site is impacted with a number of contaminants including perchlorate, unexploded ordinance, and volatile organic compounds (VOCs). The site is currently under a number of regulatory consent orders, including an Immanent and Substantial Endangerment Order. Dr. Clark assisted the impacted municipality with the development of remediation strategies, interaction with the responsible parties and stakeholders, as well as interfacing with the regulatory agency responsible for oversight of the site cleanup.

Client – Confidential, Los Angeles, California

Dr. Clark is performing a comprehensive review of the potential for pharmaceuticals and their by-products to impact groundwater and surface water supplies. This evaluation will include a review if available data on the history of pharmaceutical production in the United States; the chemical characteristics of various pharmaceuticals; environmental fate and transport; uptake by xenobiotics; the potential effects of pharmaceuticals on water treatment systems; and the potential threat to public health. The results of the evaluation may be used as a briefing tool for non-public health professionals.

PUBLIC HEALTH/TOXICOLOGY

Client: Brayton Purcell, Novato, California

Dr. Clark performed a toxicological assessment of residents exposed to methyl-tertiary butyl ether (MTBE) from leaking underground storage tanks (LUSTs) adjacent to the subject property. The symptomology of residents and guests of the subject property were evaluated against the known outcomes in published literature to exposure to MTBE. The study found that residents had been exposed to MTBE in their drinking water; that concentrations of MTBE detected at the site were above regulatory guidelines; and, that the symptoms and outcomes expressed by residents and guests were consistent with symptoms and outcomes documented in published literature.

Client: Covanta Energy, Westwood, California

Evaluated health risk from metals in biosolids applied as soil amendment on agricultural lands. The biosolids were created at a forest waste cogeneration facility using 96% whole tree wood chips and 4 percent green waste. Mass loading calculations were used to estimate Cr(VI) concentrations in agricultural soils based on a maximum loading rate of 40 tons of biomass per acre of agricultural soil. The results of the study were used by the Regulatory agency to determine that the application of biosolids did not constitute a health risk to workers applying the biosolids or to residences near the agricultural lands.

Client: Kaiser Venture Incorporated, Fontana, California

Prepared PBPK assessment of lead risk of receptors at a 1,100-acre former steel mill. This evaluation was used as the basis for granting closure of the site by lead regulatory agency.

RISK ASSESSMENTS/REMEDIAL INVESTIGATIONS

Kaiser Ventures Incorporated, Fontana, California

Prepared health risk assessment of semi-volatile organic chemicals and metals for a fifty-year old wastewater treatment facility used at a 1,100-acre former steel mill. This evaluation was used as the basis for granting closure of the site by lead regulatory agency.

ANR Freight - Los Angeles, California

Prepared a comprehensive Preliminary Endangerment Assessment (PEA) of petroleum hydrocarbon and metal contamination of a former freight depot. This evaluation was as the basis for reaching closure of the site with lead regulatory agency.

Kaiser Ventures Incorporated, Fontana, California

Prepared comprehensive health risk assessment of semi-volatile organic chemicals and metals for 23-acre parcel of a 1,100-acre former steel mill. The health risk assessment was used to determine clean up goals and as the basis for granting closure of the site by lead regulatory agency. Air dispersion modeling using ISCST3 was performed to determine downwind exposure point concentrations at sensitive receptors within a 1 kilometer radius of the site. The results of the health risk assessment were presented at a public meeting sponsored by the Department of Toxic Substances Control (DTSC) in the community potentially affected by the site.

Unocal Corporation - Los Angeles, California

Prepared comprehensive assessment of petroleum hydrocarbons and metals for a former petroleum service station located next to sensitive population center (elementary school). The assessment used a probabilistic approach to estimate risks to the community and was used as the basis for granting closure of the site by lead regulatory agency.

Client: Confidential, Los Angeles, California

Managed oversight of remedial investigation most contaminated heavy metal site in California. Lead concentrations in soil excess of 68,000,000 parts per billion (ppb) have been measured at the site. This State Superfund Site was a former hard chrome plating operation that operated for approximately 40-years.

Client: Confidential, San Francisco, California

Coordinator of regional monitoring program to determine background concentrations of metals in air. Acted as liaison with SCAQMD and CARB to perform co-location sampling and comparison of accepted regulatory method with ASTM methodology.

Client: Confidential, San Francisco, California

Analyzed historical air monitoring data for South Coast Air Basin in Southern California and potential health risks related to ambient concentrations of carcinogenic metals and volatile organic compounds. Identified and reviewed the available literature and calculated risks from toxins in South Coast Air Basin.

IT Corporation, North Carolina

Prepared comprehensive evaluation of potential exposure of workers to air-borne VOCs at hazardous waste storage facility under SUPERFUND cleanup decree. Assessment used in developing health based clean-up levels.

Past Professional Associations

American Public Health Association (APHA)

Association for Environmental Health and Sciences (AEHS)

American Chemical Society (ACS)

International Society of Environmental Forensics (ISEF)

Society of Environmental Toxicology and Chemistry (SETAC)

Publications and Presentations:

Books and Book Chapters

Sullivan, P., **J.J. J. Clark,** F.J. Agardy, and P.E. Rosenfeld. (2007). *Synthetic Toxins In The Food, Water and Air of American Cities*. Elsevier, Inc. Burlington, MA.

Sullivan, P. and **J.J. J. Clark**. 2006. *Choosing Safer Foods, A Guide To Minimizing Synthetic Chemicals In Your Diet*. Elsevier, Inc. Burlington, MA.

Sullivan, P., Agardy, F.J., and **J.J.J. Clark**. 2005. *The Environmental Science of Drinking Water*. Elsevier, Inc. Burlington, MA.

Sullivan, P.J., Agardy, F.J., **Clark, J.J.J.** 2002. *America's Threatened Drinking Water: Hazards and Solutions*. Trafford Publishing, Victoria B.C.

Clark, J.J.J. 2001. "TBA: Chemical Properties, Production & Use, Fate and Transport, Toxicology, Detection in Groundwater, and Regulatory Standards" in *Oxygenates in the Environment.* Art Diaz, Ed.. Oxford University Press: New York.

Clark, J.J.J. 2000. "Toxicology of Perchlorate" in *Perchlorate in the Environment.* Edward Urbansky, Ed. Kluwer/Plenum: New York.

Clark, J.J.J. 1995. Probabilistic Forecasting of Volatile Organic Compound Concentrations At The Soil Surface From Contaminated Groundwater. UMI.

Baker, J.; **Clark, J.J.J.**; Stanford, J.T. 1994. Ex Situ Remediation of Diesel Contaminated Railroad Sand by Soil Washing. Principles and Practices for Diesel Contaminated Soils, Volume III. P.T. Kostecki, E.J. Calabrese, and C.P.L. Barkan, eds. Amherst Scientific Publishers, Amherst, MA. pp 89-96.

Journal and Proceeding Articles

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equialency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. Organohalogen Compounds, Volume 70 (2008) page 002254.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. Organohalogen Compounds, Volume 70 (2008) page 000527

Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** (2007). "Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." *Environmental Research.* 105:194-199.

Rosenfeld, P.E., **Clark, J. J.,** Hensley, A.R., and Suffet, I.H. 2007. "The Use Of An Odor Wheel Classification For The Evaluation of Human Health Risk Criteria For Compost Facilities" Water Science & Technology. 55(5): 345-357.

Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** 2006. "Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006, August 21 – 25, 2006. Radisson SAS Scandinavia Hotel in Oslo Norway.

Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2005. "The Value Of An Odor Quality Classification Scheme For Compost Facility Evaluations" The U.S. Composting Council's 13^{th} Annual Conference January 23 - 26, 2005, Crowne Plaza Riverwalk, San Antonio, TX.

Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2004. "The Value Of An Odor Quality Classification Scheme For Urban Odor" WEFTEC 2004. 77th Annual Technical Exhibition & Conference October 2 - 6, 2004, Ernest N. Morial Convention Center, New Orleans, Louisiana.

Clark, J.J.J. 2003. "Manufacturing, Use, Regulation, and Occurrence of a Known Endocrine Disrupting Chemical (EDC), 2,4-Dichlorophnoxyacetic Acid (2,4-D) in California Drinking Water Supplies." National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Minneapolis, MN. March 20, 2003.

Rosenfeld, P. and **J.J.J. Clark**. 2003. "Understanding Historical Use, Chemical Properties, Toxicity, and Regulatory Guidance" National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Phoenix, AZ. February 21, 2003.

Clark, J.J.J., Brown A. 1999. Perchlorate Contamination: Fate in the Environment and Treatment Options. In Situ and On-Site Bioremediation, Fifth International Symposium. San Diego, CA, April, 1999.

Clark, J.J.J. 1998. Health Effects of Perchlorate and the New Reference Dose (RfD). Proceedings From the Groundwater Resource Association Seventh Annual Meeting, Walnut Creek, CA, October 23, 1998.

Browne, T., **Clark, J.J.J.** 1998. Treatment Options For Perchlorate In Drinking Water. Proceedings From the Groundwater Resource Association Seventh Annual Meeting, Walnut Creek, CA, October 23, 1998.

Clark, J.J.J., Brown, A., Rodriguez, R. 1998. The Public Health Implications of MtBE and Perchlorate in Water: Risk Management Decisions for Water Purveyors. Proceedings of the National Ground Water Association, Anaheim, CA, June 3-4, 1998.

Clark J.J.J., Brown, A., Ulrey, A. 1997. Impacts of Perchlorate On Drinking Water In The Western United States. U.S. EPA Symposium on Biological and Chemical Reduction of Chlorate and Perchlorate, Cincinnati, OH, December 5, 1997.

Clark, J.J.J.; Corbett, G.E.; Kerger, B.D.; Finley, B.L.; Paustenbach, D.J. 1996. Dermal Uptake of Hexavalent Chromium In Human Volunteers: Measures of Systemic Uptake From Immersion in Water At 22 PPM. Toxicologist. 30(1):14.

Dodge, D.G.; **Clark, J.J.J.**; Kerger, B.D.; Richter, R.O.; Finley, B.L.; Paustenbach, D.J. 1996. Assessment of Airborne Hexavalent Chromium In The Home Following Use of Contaminated Tapwater. Toxicologist. 30(1):117-118.

Paulo, M.T.; Gong, H., Jr.; **Clark, J.J.J.** (1992). Effects of Pretreatment with Ipratroprium Bromide in COPD Patients Exposed to Ozone. American Review of Respiratory Disease. 145(4):A96.

Harber, P.H.; Gong, H., Jr.; Lachenbruch, A.; **Clark, J.**; Hsu, P. (1992). Respiratory Pattern Effect of Acute Sulfur Dioxide Exposure in Asthmatics. American Review of Respiratory Disease. 145(4):A88.

McManus, M.S.; Gong, H., Jr.; Clements, P.; **Clark, J.J.J.** (1991). Respiratory Response of Patients With Interstitial Lung Disease To Inhaled Ozone. American Review of Respiratory Disease. 143(4):A91.

Gong, H., Jr.; Simmons, M.S.; McManus, M.S.; Tashkin, D.P.; Clark, V.A.; Detels, R.; **Clark, J.J.** (1990). Relationship Between Responses to Chronic Oxidant and Acute Ozone Exposures in Residents of Los Angeles County. American Review of Respiratory Disease. 141(4):A70.

Tierney, D.F. and **J.J.J. Clark.** (1990). Lung Polyamine Content Can Be Increased By Spermidine Infusions Into Hyperoxic Rats. American Review of Respiratory Disease. 139(4):A41.

EXHIBIT C

2 July 2024

Richard Dury
Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612

Subject: *Cal 98 Warehouse MND Evaluation*
Review of Noise and Vibration Impact Analysis

Dear Mr. Dury:

This letter presents our comments on the Cal 98 Holdings Warehouse MND, dated March 14, 2024 and prepared by County of Imperial Planning & Development Services Department with emphasis on the acoustic appendix entitled Noise Study Report for CAL98 Charger Logistics Project prepared by UltraSystems Environmental.

The proposed Project involves the construction of 91,881 square foot warehouse that will have 16,460 square feet of service space as well as 11,904 square feet of office space. This project involves the construction of a parking lot that will include 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces. This project is to be located at the intersection of State Route 98 and Kemp Road in Imperial County, California.

While the Cal 98 Holdings Warehouse MND recognizes potential operational noise issues as well as construction noise and vibration issues, it fails to go into detail to address outdoor mechanical noise, does not include a properly cited parking lot noise analysis, and omits a vibration analysis on the use of rollers. In addition, the measured ambient noise levels were derived from 15-min samples which is not an acceptable amount of time for ambient measurements.

Wilson Ihrig, Acoustical Consultants, has practiced exclusively in the field of acoustics since 1966. During our 58 years of operation, we have prepared hundreds of noise studies for Environmental Impact Reports and Statements. We have one of the largest technical laboratories in the acoustical consulting industry. We also regularly utilize industry-standard acoustical programs such as Environmental Noise Model (ENM), Traffic Noise Model (TNM), SoundPLAN, and CADNA. In short, we are well qualified to prepare environmental noise studies and review studies prepared by others.

Adverse Effects of Noise[1]

Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive.

Noise-Induced Hearing Loss. If a person is repeatedly exposed to loud noises, he or she may experience noise-induced hearing impairment or loss. In the United States, both the Occupational Health and Safety Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) promote standards and regulations to protect the hearing of people exposed to high levels of industrial noise.

Speech Interference. Another common problem associated with noise is speech interference. In addition to the obvious issues that may arise from misunderstandings, speech interference also leads to problems with concentration fatigue, irritation, decreased working capacity, and automatic stress reactions. For complete speech intelligibility, the sound level of the speech should be 15 to 18 dBA higher than the background noise. Typical indoor speech levels are 45 to 50 dBA at 1 meter, so any noise above 30 dBA begins to interfere with speech intelligibility. The common reaction to higher background noise levels is to raise one's voice. If this is required persistently for long periods of time, stress reactions and irritation will likely result.

Sleep Disturbance. Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as increased fatigue, depressed mood, and decreased work performance.

Cardiovascular and Physiological Effects. Human's bodily reactions to noise are rooted in the "fight or flight" response that evolved when many noises signaled imminent danger. These include increased blood pressure, elevated heart rate, and vasoconstriction. Prolonged exposure to acute noises can result in permanent effects such as hypertension and heart disease.

Impaired Cognitive Performance. Studies have established that noise exposure impairs people's abilities to perform complex tasks (tasks that require attention to detail or analytical processes) and it makes reading, paying attention, solving problems, and memorizing more difficult. This is why there are standards for classroom background noise levels and why offices and libraries are designed to provide quiet work environments.

Operational Noise Analysis is Incomplete

The Noise Study Report states the following in section 5.2.1: "Onsite noise sources from the proposed warehouse facility would include operation of rooftop mechanical equipment such as air conditioners…" as well as "Noise levels form these sources are generally lower than from the traffic on streets bordering the project site." The analysis includes no discussion of expected noise levels from mechanical equipment in comparison to the noise levels of the street traffic. Typical noise levels

[1] More information on these and other adverse effects of noise may be found in *Guidelines for Community Noise*, eds B Berglund, T Lindvall, and D Schwela, World Health Organization, Geneva, Switzerland, 1999. (https://www.who.int/publications/i/item/a68672)

associated with mechanical equipment can be placed in a noise model with distance attenuation and project geometry to determine if there is an impact that would require mitigation. To confirm a less than significant impact, the Project Applicant should demonstrate that the level generated by the mechanical equipment is below appropriate significance thresholds. Section 4.3.1 already presents this threshold of significance, 3 dB plus the ambient level when the ambient noise level equals or exceeds a property line standard. This impact has the potential to be significant and should be studied in an Environmental Impact Report (EIR).

Baseline Noise Level Characterizations are Incomplete

The noise analysis relies on five short-term measurements of 15-minute duration on Tuesday, September 20, 2022, between 11:30am and 12:30pm as shown in table 3.6-1 of the Noise Study. The manner in which the existing noise environment is determined is poorly supported. Not only will the parking lot be expected to be accessible between 9am and 9pm daily, but the noise environment is affected by transportation sources that can change from hour to hour and day to day. Measurements were taken during daytime hours and do not provide an accurate representation of evening and nighttime noise levels, which are expected to be lower compared to daytime hours. Given that the parking lot is to be accessible until 9pm, the current measurements overestimate the noise thresholds that are based off ambient measurements, and thus miss potential noise impacts due to an improperly high noise threshold. Best practices call for documentation of the existing condition with measurements at different times over several days.

Furthermore, the noise analysis relies on these short-term measurements without any discussion of how typical these data were for daytime conditions or how they would apply to evening or nighttime conditions. Environmental noise can vary widely throughout the day (perhaps +/-10 dBA or more for areas with intermittent local traffic) and relying on measurements that represent only 2% of the time on one particular day during only afternoon hours is not a sound basis for a technical analysis.

An EIR should be prepared that includes thorough baseline measurements taken at key locations over a multi-day period and an analysis should be prepared that assesses the project noise in the context of the existing ambient as required by CEQA.

Parking Lot Noise Levels Lack Proper Citing

The onsite Sources section 5.2.1 does include analysis of the parking lot of the facility. However, the report states “The SEL for parking lot activity has been estimated to be 71 dB at 50 feet.” The article that was linked to cite these findings is no longer available to verify the assumptions used in the parking lot analysis. The parking lot for this project will include 832 trailer parking spaces, 20 truck parking spaces, and 42 car parking spaces in addition to 100 heavy-duty trucks. Heavy duty trucks and trailers typically have a different noise profile than cars due to the source of the engine noise being a taller height than a typical car as well as high-powered trucks being typically louder[2]. Furthermore, the Federal Transit Administration’s (FTA) Transit Noise and Vibration Impact

[2] Federal Highway Administration's Traffic Noise Model (FHWA TNM®), Version 1.0 - Technical Manual: https://www.fhwa.dot.gov/environment/noise/traffic_noise_model/old_versions/tnm_version_10/tech_manual/tnm02.cfm#tnm21

Assessment Manual[3] states in Table 4-13 that a Parking Garage with 1,000 car capacity in peak activity hour has an SEL of 92 at 50 feet which is significantly higher than the 71 dB at 50 feet stated in the report.

The report should include parking lot noise levels as well as the vehicle types and quantity. Additionally, the report should include analysis of the parking lot noise levels at the nearest noise sensitive receivers as it has the potential to cause a significant impact. The parking lot noise levels should be studied in an Environmental Impact Report (EIR).

Inadequate Construction Vibration Assessment of Roller

The Cal 98 Holdings Warehouse project lacks an assessment of construction-related activities of a roller during the paving construction phase. The construction noise assessment indicates the use of 2 rollers in Table 5.1-1 during the paving construction phase and while the maximum sound levels are provided in this table for the rollers, there are no Peak Particle Velocity (PPV) vibration levels indicated in Table 5.3-1. There is also no indication of the type of roller used, which could include a highly intrusive vibratory roller with the potential of causing damage to nearby structures. A vibration analysis and assessment should be included for rollers used during construction as they are some of the most vibration generating activities. See figure below of Table 7-4 of the aforementioned FTA manual which shows the PPV at 25 feet of the vibratory roller in comparison to other construction equipment. The Vibraory Roller has a higher source than anything analyzed on the project, and thus the highest potential to cross damage thresholds.

Table 7-4 Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft, in/sec	Approximate Lv* at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.17	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.21	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

* RMS velocity in decibels, VdB re 1 micro-in/sec

Figure 1: Table 7-4 Vibration Source Levels for Construction Equipment

The use of a vibratory roller has the potential to cause significant vibration impact and should be studied in an Environmental Impact Report (EIR).

[3] Transit Noise and Vibration Impact Assessment Manual PDF: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

* * *

The MND has several errors that should be corrected in an updated MND or EIR, including no analysis of outdoor mechanical noise, an improperly properly cited parking lot noise analysis, the omissions of a vibration analysis on the potential use of vibratory rollers, and insufficient noise measurements. Please feel free to contact us with any information.

Very truly yours,

WILSON IHRIG

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WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

JACK MEIGHAN

Associate

Jack joined Wilson Ihrig in 2021 and works out of our Los Angeles office. He is an experienced acoustical engineer with expertise in projects involving rail transit systems, highways, CEQA analysis, environmental noise reduction, mechanical drawing reviews, and construction noise and vibration mitigation. He has hands-on experience with project management, including client coordination and presentations, as well as in designing, developing, and testing MATLAB code used in acoustics applications. His expertise includes field measurements, developing test plans and specifying, purchasing, setting up and repairing acoustic measurement equipment. He has experience in using Traffic Noise Model (TNM), CadnaA, EASE, Visual Basic, LabView, and CAD software.

Education

- B.S. in Mechanical Engineering, University of Southern California, Los Angeles, CA

Project Experience

LA Metro Regional Connector, Los Angeles CA

Planned, took, and processed measurements as part of a team to determine the effectiveness of floating slab trackwork for a new subway in downtown Los Angeles that travels below the Walt Disney Concert Hall and the Colburn School of Music.

Rodeo Credit Enterprise CEQA Analysis for New Construction, Palmdale, CA

Wrote an accepted proposal and executed it for a noise study project to determine noise mitigation requirements on a new housing development. Led all aspects of the project and managed the budget during all phases of project completion. Completed five separate projects of this type for this company.

Blackhall Studios, Santa Clarita, CA

Led the vibration measurement effort for a new soundstage directly adjacent to an existing freight and commuter rail line. Tested equipment, processed data, and analyzed results to determine the vibration propagation through the soil to the proposed soundstage locations, and was part of the team that developed mitigation techniques for the office spaces directly next to the rail line.

ARRIVE San Diego Airport Terminal 1 Replacement, CA

Conducted interior noise and vibration measurements, analyzed measurement data to help determine project criteria, modeled the existing and future terminals in CadnaA, and was part of a team that did a complete HVAC analysis of the entire terminal, as part of a CEQA analysis where a new terminal for the airport is being designed.

USC Ellison Vibration Survey, Los Angeles, CA

Conducted vibration measurements as part of a survey to determine the effectiveness of vibration isolation platforms that are used to insulate cell growth in a cancer research facility. Determined the effectiveness and presented this information to the client. Researched and recommended a permanent monitoring system so the client could view data in real time.

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NICOLE KOLAK

Assistant

A recent addition to Wilson Ihrig, Nicole has almost five years of working with clients to provide recommendations and guidelines to achieve acoustical project requirements including room acoustics, sound isolation, as well as MEP noise and vibration control. She has helped develop acoustical solutions for auditoriums, executive boardrooms, educational and healthcare facilities.

Education

- B.S. in Physics, San Francisco State University, 2019

Project Experience

Berkeley Unified School District Housing, Berkeley, CA
Deployed meters for environmental survey and analyzed the data post survey. Calculated the window ratings on the façade of the building and incorporated the results into a basis of design report for the client. Reviewed drawing sets to assess the acoustical concerns of the building.

Woodland Park Affordable Housing, East Palo Alto, CA
Developed a Basis of Design with acoustical recommendations to be used throughout the design process. Reviewed drawings sets to assess the acoustical concerns of the building.

1633 Valencia Affordable Housing, San Francisco, CA
Deployed meters for environmental survey and analyzed the data post survey. Calculated the window ratings on the façade of the building and incorporated the results into a basis of design report for the client. Reviewed drawings sets to assess the acoustical concerns of the building.

Chinatown Public Health Center, San Francisco, CA
Deployed meters for environmental survey and analyzed the data post survey. Calculated the window ratings on the façade of the building and incorporated the results into a basis of design

The Village at 80 Mixed-Use, San Francisco, CA
Reviewed drawings sets to assess the acoustical concerns of the building. Produced LEED calculations and recommendations for client.

Mountain View Lot 12 Affordable Housing, CA
Deployed meters for environmental survey and analyzed the data post survey. Calculated the window ratings on the façade of the building and incorporated the results into a report for the client. Reviewed drawing sets to assess the acoustical concerns of the building.

Kaiser Roseville, CA
Deployed meters for environmental survey and analyzed the data post survey. Calculated the window ratings on the façade of the building and incorporated the results into a basis of design report for the client.