Final
Environmental Impact Report

SCH# 2025030498

Volume 5

Chapter 7 – Response to Comments

AIRPORT COMMERCE CENTER INDUSTRIAL PROJECT
by ACC Bakersfield JV, LLC
(*PP24405)*

GPA No. 5, Map 81-35
ZCC No. 46, Map 81-35
PD No. 36, Map 81-35
NSV, Map 81-35

Kern County
Planning and Natural Resources Department
Bakersfield, California

August 2026

This Page Intentionally Left Blank

KERN COUNTY
Planning & Natural Resources

Craig M. Murphy, Director
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
Phone: (661) 862-8600
TTY Relay 1-800-735-2929
Email: planning@kerncounty.com
Web Address: https://kernplanning.com

August 28, 2026

FILE: GPA, ZCC, PD Plan, NSV
Map 81-35
S.D. 3 - Flores

To: Commenting Agencies and Interested Parties/Persons (See Attached Mailing List)

RE: Response to Comments for the Draft Environmental Impact Report – Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC (PP24405)

Dear Agency or Interested Party:

This is to advise that the Kern County Planning and Natural Resources Department has prepared a document entitled Volume 5 – Chapter 7 – Response to Comments for the above referenced proposed project. Section 15088 of the California Environmental Quality Act (CEQA) Guidelines requires the Lead Agency to evaluate comments on environmental issues received from persons who reviewed the Draft Environmental Impact Report (EIR) and prepared written responses addressing each comment. This document has been posted with the State Clearinghouse, Kern County Clerk, and provided to commenting agencies and interested parties/persons by mail at least 10 days prior to the scheduled Planning Commission Hearing.

As noted previously, this document is Chapter 7 of the EIR and is available for review at the Planning and Natural Resources Department, which is located at 2700 "M" Street, Suite 100, Bakersfield, CA 93301 or on the Department website at: **https://kernplanning.com/environmental-doc/airport-commerce-center-industrial-project/**.

A public hearing was originally scheduled with the Kern County Planning Commission to consider the proposed project on May 14, 2026 at 7:00 p.m., or soon thereafter, at the Chambers of the Board of Supervisors, First Floor, Kern County Administrative Center, 1115 Truxtun Avenue, Bakersfield, California 93301. However, the project has been continued to the September 10, 2026 Planning Commission hearing at the aforementioned time and location.

Thank you for your participation in the environmental process for this proposed project. Should you have any questions regarding this proposed project, please do not hesitate to contact me at (661) 862-8738 or **HuiskenN@kerncounty.com**.

Sincerely,

Nicole Menchaca

Nicole Menchaca
Division Chief – Advanced Planning Division
Kern County Planning and Natural Resources Department

Commenting Agencies and Interested Persons: California Air Resource Board; California Department of Fish and Wildlife, California Regional Water Quality Control Board; State Dept of Conservation Geologic Energy Management Division; California Department of Transportation- District 6 Office; Kern County Public Works Department Building & Development Survey; Kern County Public Works Department Building & Development Review; Kern County Fire Department; Kern County Superintendent of Schools Attn: School District Facility Services; San Joaquin Valley Air Pollution Control District; Golden State Environmental Justice Alliance; Center for Biological Diversity; Advocates for the Environment; Lozeau Drury LLP C/O Supporters Alliance for Environmental Responsibility; SoCal Gas Transmission Technical Services Department; Adams Broadwell Jospeh and Cardozo C/O Californians Allied for a Responsible Economy; Santa Rosa Rancheria Tachi Yokut Tribe.

Airport Commerce Center Industrial Project
SCH# 2025030498 (PP24405)

Response to Comments – Agencies and Interested Parties

California Air Resource Board
Attn: Matthew O'Donnell
1001 I Street
Sacramento, CA 95814

California Department of Fish and Wildlife
Attn: Julie A. Vance
1234 East Shaw Avenue
Fresno, CA 93710

California Regional Water
Quality Control Board
Attn: Virat Kang
1685 E Street
Fresno, CA 93706

State Dept of Conservation Geologic
Energy Management Division
Attn: Emilio Flores
11000 River Run Boulevard
Bakersfield, CA 93311

California Department of Transportation-
District 6 Office
Attn: David Padilla
1352 West Olive Avenue
Fresno, CA 93778-2616

Kern County Public Works Department
Building & Development Survey
Attn: Jeremy Brock

Kern County Public Works Department
Building & Development Review
Attn: Cesar Ayon

Kern County Fire Deptartment
Attn: Kaylee Schoenheide

Kern County Superintendent of Schools
Attn: School District Facility Services
Andrea Watson
1300 - 17th Street
Bakersfield, CA 93301

San Joaquin Valley Air
Pollution Control District
Attn Daniel Martinez
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244

Golden State Environmental
Justice Alliance
P.O. Box 79222
Corona, CA 92877

Center for Biological Diversity
Attn: Seth Alston
2100 Franklin Street, Suite 375
Oakland, CA 94612

Advocates for the Environment
Attn: Dean Wallraff
10211 Sunland Blvd
Shadow Hills, CA 91040

Lozeau Drury LLP C/O Supporters Alliance
for Environmental Responsibility
1939 Harrison Street, Suite 150
Oakland, CA 94612

SoCal Gas Transmission Technical Services
Department
Attn: Nerses Papazyan
9400 Oakdale Avenue
Chatsworth, CA 91311

Adams Broadwell Jospeh and Cardozo
C/O Californians Allied for a Responsible
Economy
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080-7037

Santa Rosa Rancheria Tachi Yokut Tribe
Attn: Lily Baga
P.O. Box 8
Lemoore, CA 93245

Mitchell M. Tsai Law Firm
139 South Hudson Avenue, Suite 200
Pasadena, CA 91101

Notice of Completion & Environmental Document Transmittal

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

SCH # 2025030498

Project Title: Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC.

Lead Agency: Kern County Planning and Natural Resources Department — Contact Person: Nicole Menchaca

Mailing Address: 2700 "M" Street, Suite 100 — Phone: (661) 862-8738

City: Bakersfield — Zip: 93301 — County: Kern

Project Location: County: Kern — City/Nearest Community: Oildale, Bakersfield, Shafter

Cross Streets: Merle Haggard Drive and Airport — Zip Code: 93308

Lat. / Long. : 35° 26' 38.76" N, 119° 2'' 39.91" W — Total Acres: 110

Assessor's Parcel No.: Multi — Section: 35 — Township: 28S — Range: 27E — Base: MDB&M

Within 2 Miles: State Hwy #: SR 99 and SR 65 — Waterways: N/A

Airports: Meadows Field — Railways: Union Pacific — Schools: North High School, Wingland Elementary, & Highland Elementary

Document Type:

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Other Ch 7 – Response to Comments/FEIR

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other

Local Action Type:

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

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☒ Industrial: Sq.ft. 1,505,440 Acres 110 Employees 532
☐ Educational ____
☐ Recreational ____

☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☐ Other: ____

Project Issues Discussed in Document:

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

Present Land Use / Zoning / General Plan Designation:

Vacant Land / M-2 PD H (Medium Industrial, Precise Development Combining, Airport Approach Height Combining), M-1 PD H (Light Industrial, Precise Development Combining, Airport Approach Height Combining), FPP (Floodplain Primary District) / SI (Service Industrial), GC (General Commercial)

Project Description: The proposed Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC includes the development of four (4) industrial warehouse buildings totaling approximately 1,505,440 square-feet consisting of 625,446 square-feet for warehousing, 393,624 square-feet for cold storage, 335,826 square feet for industrial manufacturing or assembly for a food/beverage company, 150,544 square feet for office space, and two (2) associated quick-serve restaurants totaling approximately 9,410 square-feet on approximately 110 acres on privately owned parcels in the central portion of unincorporated Kern County. Implementation of the proposed project includes the following land use entitlements requests:

- General Plan Amendment No. 5, Map 81-35 of the Metropolitan Bakersfield General Plan Land Use Element from Map Code GC (General Commercial) to SI (Service Industrial) on an approximate 13.76-acre parcel of the 110-acre proposed project site.

- Zone Classification Change No. 46, Map 81-35 from M-1 PD H (Light Industrial – Precise Development Combining – Airport Approach Height Combining) to M-2 PD H (Medium Industrial – Precise Development Combining – Airport Approach Height Combining), or a more restrictive district, on an approximate 13.76-acre portion and from FPP (Floodplain Primary) to M-2 PD H (Medium Industrial – Precise Development Combining – Airport Approach Height Combining), or a more restrictive district, on an approximate 8.56-acre portion of the 110-acre proposed project site.
- Precise Development Plan No. 36, Map 81-35 for the development of four (4) industrial warehouse buildings totaling approximately 1,505,440 square-feet consisting of 625,446 square-feet for warehousing, 393,624 square-feet for cold storage, 335,826 square feet for industrial manufacturing or assembly for a food/beverage company, 150,544 square feet for office space, and two (2) associated quick-serve restaurants totaling approximately 9,410 square-feet on approximately 110 acres pursuant to Sections 19.38.020.D.1, 19.38.020.D.4, and 19.38.020.E.2 of the Kern County Zoning Ordinance.
- Nonsummary Vacation, Map 81-35 to vacate two (2) drainage easements on the proposed project site totaling approximately 10.24 acres.

Reviewing Agencies Checklist

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

S	Air Resources Board		Office of Emergency Services
	Boating & Waterways, Department of		Office of Historic Preservation
	California Highway Patrol		Office of Public School Construction
	CalFire		Parks & Recreation
S	Caltrans District # 6		Pesticide Regulation, Department of
	Caltrans Division of Aeronautics		Public Utilities Commission
	Caltrans Planning (Headquarters)	S	Regional WQCB # Central Valley
	Central Valley Flood Protection Board		Resources Agency
	Coachella Valley Mountains Conservancy		S.F. Bay Conservation & Development Commission
	Coastal Commission		San Gabriel & Lower L.A. Rivers and Mtns Conservancy
	Colorado River Board		San Joaquin River Conservancy
S	Conservation, Department of		Santa Monica Mountains Conservancy
	Corrections, Department of		State Lands Commission
	Delta Protection Commission		SWRCB: Clean Water Grants
	Education, Department of		SWRCB: Water Quality
	Energy Commission		SWRCB: Water Rights
S	Fish & Game Region # Fresno		Tahoe Regional Planning Agency
	Food & Agriculture, Department of		Toxic Substances Control, Department of
	General Services, Department of		Water Resources, Department of
	Health Services, Department of		
	Housing & Community Development		Other _____
	Integrated Waste Management Board		Other _____
	Native American Heritage Commission		

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

Starting Date August 28, 2026 Ending Date September 10, 2026

Lead Agency (Complete if applicable):

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

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

Signature of Lead Agency Representative: Nicole Menchaca 08/28/2025

Nicole Menchaca, Supervising Planner

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

This Page Intentionally Left Blank

Final
Environmental Impact Report

SCH# 2025030498

Volume 5

Chapter 7 – Response to Comments

AIRPORT COMMERCE CENTER INDUSTRIAL PROJECT
by ACC Bakersfield JV, LLC
(*PP24405)*

GPA No. 5, Map 81-35
ZCC No. 46, Map 81-35
PD No. 36, Map 81-35
NSV, Map 81-35

Kern County
Planning and Natural Resources Department
Bakersfield, California

August 2026

This Page Intentionally Left Blank

Table of Contents

Page

7.1 Introduction 7-1
7.1.1 Purpose 7-1
7.1.2 Environmental Review Process 7-1
7.2 Revisions to the Draft EIR 7-3
7.3 Responses to Comments 7-54
7.3.1 State Agencies 7-55
Comment Letter 1: California Air Resources Board 7-56
Response to Comment Letter 1: California Air Resources Board 7-57
Comment Letter 2: California Department of Fish and Wildlife 7-71
Response to Comment Letter 2: California Department of Fish and Wildlife 7-72
Comment Letter 3: Central Valley Regional Water Quality Control Board 7-80
Response to Comment Letter 3: Central Valley Regional Water Quality Control Board 7-81
Comment Letter 4: California Geologic Energy Management Division 7-84
Response to Comment Letter 4: California Geologic Energy Management Division 7-85
Comment Letter 5: California Geologic Energy Management Division 7-89
Response to Comment Letter 5: California Geologic Energy Management Division 7-90
Comment Letter 6: California Department of Transportation 7-91
Response to Comment Letter 6: California Department of Transportation 7-92
7.3.2 Local Agencies 7-95
Comment Letter 7: Kern County Public Works Department – Survey 7-96
Response to Comment Letter 7: Kern County Public Works Department – Survey 7-97
Comment Letter 8: Kern County Public Works Department – Development Review 7-98
Response to Comment Letter 8: Kern County Public Works Department – Development Review 7-99
Comment Letter 9: Kern County Fire Department 7-103
Response to Comment Letter 9: Kern County Fire Department 7-104
Comment Letter 10: Kern County Superintendent of Schools 7-105
Response to Comment Letter 10: Kern County Superintendent of Schools 7-106
Comment Letter 11: San Joaquin Valley Air Pollution Control District 7-107
Response to Comment Letter 11: San Joaquin Valley Air Pollution Control District 7-108
7.3.3 Interested Parties 7-115
Comment Letter 12: Golden State Environmental Justice Alliance 7-116
Response to Comment Letter 12: Golden State Environmental Justice Alliance 7-117
Comment Letter 13: Golden State Environmental Justice Alliance 7-118
Response to Comment Letter 13: Golden State Environmental Justice Alliance 7-119
Comment Letter 14: Center for Biological Diversity 7-176
Response to Comment Letter 14: Center for Biological Diversity 7-177
Comment Letter 15: Advocates for the Environment 7-202
Response to Comment Letter 15: Advocates for the Environment 7-203
Comment Letter 16: Supporters Alliance for Environmental Responsibility 7-209

Response to Comment Letter 16: Supporters Alliance for Environmental Responsibility . 7-210
Comment Letter 17: Southern California Gas 7-211
Response to Comment Letter 17: Southern California Gas 7-212
Comment Letter 18: Southern California Gas 7-213
Response to Comment Letter 18: Southern California Gas 7-214
Comment Letter 19: Adams Broadwell Joseph & Cardozo 7-215
Response to Comment Letter 19: Adams Broadwell Joseph & Cardozo 7-216
Comment Letter 20: Santa Rosa Rancheria 7-217
Response to Comment Letter 20: Santa Rosa Rancheria 7-218
7.4 References 7-219

List of Appendices

Appendix A: Supplemental Air Quality Information

Appendix B: Supplemental Health Risk Assessment

Appendix C: PG&E Preliminary Engineering Study Report

Appendix D: Power-Availability Memorandum

Chapter 7
Response to Comments

7.1 Introduction

7.1.1 Purpose

As defined by Section 15050 of the California Environmental Quality Act (CEQA) Guidelines, the Kern County Planning and Natural Resources Department is serving as "Lead Agency" for the preparation of the Environmental Impact Report (EIR) for the Airport Commerce Center Industrial Project (project or proposed project). The Final EIR presents the environmental information and analyses that have been prepared for the project, including comments received addressing the adequacy of the Draft EIR, and responses to those comments. In addition to the responses to comments, clarifications, corrections, or minor revisions have been made to the Draft EIR. The Final EIR which includes the responses to comments, the Draft EIR, and the Mitigation, Monitoring, and Reporting Program, will be used by the Planning Commission and the Board of Supervisors in the decision-making process for the proposed project.

7.1.2 Environmental Review Process

A Notice of Preparation (NOP) (SCH No. 2025030498) was circulated for a 30-day public review period beginning on March 13, 2025, and ending on April 11, 2025. Twelve (12) individual written comment letters were received on the NOP during this review period, one comment letter was received after the public review period. During the April 2, 2025, scoping meeting, two Kern County Airport Staff members and one member of the public were present, none of whom provided additional public comment or testimony. All public comments received relevant to CEQA-related issues were considered by the County in preparing the Draft EIR.

The Draft EIR for the proposed project was circulated for a 45-day public review period beginning on February 27, 2026, through April 13, 2026. A total of twenty (20) comment letters were received on the Draft EIR, nine of which were received after the review period had ended.

Section 15088 of the *CEQA Guidelines* requires that the lead agency evaluate comments on environmental issues received from persons and agencies that reviewed the Draft EIR and prepare a written response addressing the comments received. The response to comments is contained in this document -Volume 5, Chapter 7 of the Draft EIR. Volumes 1, 2, 3, 4, and 5 together constitute the Final EIR.

This Page Intentionally Left Blank

7.2 Revisions to the Draft EIR

The revisions that follow were made to the text of the Draft EIR. Amended text is identified by page number. Additions to the Draft EIR text are shown with underlined text, and text removed from the Draft EIR is shown with ~~strikethrough~~. Revisions to a Draft EIR are required if clarifications or responses to comments cannot be made without alterations to the document. The revisions, as outlined below, fall within the scope of the original project analysis included in the Draft EIR and do not result in an increase to any identified impacts or produce any new impacts. No new significant environmental impact would result from the changes or from a new mitigation measure proposed to be implemented. Therefore, no significant revisions have been made which would require recirculation of the Draft EIR pursuant to *CEQA Guidelines* Section 15088.5 (Recirculation of an EIR Prior to Certification).

Chapter 1.0, *Executive Summary*, Table 1-7: *Summary of Impacts, Mitigation Measures, and Levels of Significance*, Pages 1-27 through 1-36 (Air Quality)

Table 1-7: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.2 Air Quality			
Impact 4.2-1: Would implementation of the proposed project conflict with or obstruct implementation of the applicable air quality plan?	Potentially significant	Implement **Mitigation Measures MM 4.1-3** (see **Section 4.1**, *Aesthetics*) and, **MM 4.2-1:** The project shall continuously comply with applicable rules and regulations set forth by the San Joaquin Valley Air Pollution Control District. **MM 4.2-2:** Prior to issuance of grading permits, the project proponent shall provide to the Kern County Planning and Natural Resources Department a site-specific Dust Control Plan approved by the San Joaquin Valley Air Pollution Control District (SJVAPCD). The Dust Control Plan shall include name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the plan; a description and location of operation(s); and a listing of all fugitive dust emission sources. The site-specific Dust Control Plan shall take into consideration grading and construction schedule, seasonal winds, site-specific wind patterns, and soil conditions to ensure adequate measures are implemented to manage fugitive dust. The following shall be included where applicable and feasible and is not to be considered all-inclusive; and any other measures to reduce fugitive dust emissions not listed shall be encouraged: a. Land Preparation, Excavation and/or Demolition. The following dust control measures shall be implemented: 1. Identify a comprehensive grading schedule for the entire project site. When feasible, grading activities shall be phased and minimized to those areas necessary for project access and installation of project features. 2. All onsite unpaved roads and offsite unpaved access roads shall be stabilized using water or chemical soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air	Construction impacts would be less than significant. Operational impacts would be significant and unavoidable.

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation. 3. All soil excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soil areas. Watering shall take place a minimum of twice daily on unpaved/untreated roads and on disturbed soil areas with active operations. 4. All clearing, grading, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (averaged over one hour), if disturbed material is easily windblown, or when dust plumes of 20 percent or greater opacity impact public roads, occupied structures, or neighboring property. 5. Stockpiles of dirt or other fine loose material shall be stabilized by watering or other appropriate method to prevent windblown fugitive dust. 6. Where acceptable to the Kern County Fire Department, weed control shall be accomplished by mowing instead of disking, thereby, leaving the ground undisturbed and with a mulch covering. b. Site Construction. After clearing, grading, earth moving and/or excavating is completed within any portion of the project sites, the following dust control practices shall be implemented: 1. Once initial leveling has ceased, all temporality open and inactive soil areas within the construction site shall be (1) seeded and watered until plant growth is evident, (2) treated with a dust palliative, or (3) watered twice daily until soil has sufficiently crusted to prevent fugitive dust emissions. 2. Dependent on specific site conditions (season and wind conditions), revegetation shall occur in those areas so planned as soon as practical after installation of the solar panels. A native seed mix of grass and flowers shall also be added to the spread topsoil to enhance regrowth.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		3. All active disturbed soil areas shall be sufficiently watered at least twice daily or have dust palliatives applied to prevent excessive dust. c. Vehicular Activities. During all phases of construction, the following vehicular control measures shall be implemented: 1. On-site vehicle speed shall be limited to 15 miles per hour on unpaved roads. 2. All areas with vehicle traffic shall be paved, treated with dust palliatives or watered a minimum of twice daily. 3. Streets adjacent to the project sites shall be kept clean, and project-related accumulated silt shall be removed. 4. Access to the project sites shall be by means of an apron into the project sites from adjoining surfaced roadways. The aprons shall be surfaced or treated with dust palliatives. If operating on soils that cling to the wheels of vehicles, a grizzly, wheel washer, or other such device shall be used on the road exiting the project sites, immediately prior to the pavement, in order to remove most of the soil material from vehicle tires. 5. Track-out debris onto public paved roads shall not extend 50 feet or more from an active operation and track-out shall be removed or isolated such as behind a locked gate at the conclusion of each workday, except on agricultural fields where speeds are limited to 15 mph. 6. All hauling materials should be moist while being loaded into dump trucks. 7. Drop heights when loaders dump soil into trucks shall not exceed 5 feet above the truck. 8. Soil loads should be kept below 6 inches or the freeboard of the truck. 9. All haul trucks hauling fine material (soil, sand, other loose material) off-site on public roads shall be either sufficiently watered or securely covered to prevent excessive dust. 10. Gate seals should be tight on dump trucks. **MM 4.2-3:** The project proponent and/or its contractors shall continuously implement the following measures during	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		construction and operation of the project to control emissions from the on-site equipment: a. All equipment shall be maintained in accordance with the manufacturer's specifications. b. All equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five (5) minutes. c. Construction equipment shall not operate longer than eight (8) cumulative hours per day without prior written authorization provided by the Kern County Planning and Natural Resources Department. d. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOx emissions. e. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines. f. All on-site off-road equipment and on-road vehicles shall meet the recent California Air Resources Board engine emission standards or alternatively fueled equipment, such as compressed natural gas, liquified natural gas, or electric, as appropriate. g. Tier 4 engines shall be used on all equipment when available. h. Electric equipment shall be used whenever possible in lieu of diesel or gasoline powered equipment. An area to charge electric powered construction vehicles and equipment during construction shall be designated on-site if temporary power is available. i. Any future tenant operating a charbroiler shall comply with all applicable SJVAPCD rules and regulations, including obtaining and maintaining all required SJVAPCD permits and implementing any required emission control measures before operating a charbroiler. j. During operation of the proposed project, Signs and drive-aisle pavement markings shall be installed and maintained to clearly identify the approved on-site circulation pattern and minimize unnecessary on-site vehicle travel. Signs shall also be posted at appropriate and visible locations stating that off-site parking is	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		strictly prohibited. All signs and pavement markings shall be kept legible and in good condition throughout project construction and operation. **MM 4.2-4:** To reduce demand for gas-powered landscape maintenance equipment, all required landscaping along major and arterial roadways will be designed with native drought-resistant species (plants, trees, and bushes). **MM 4.2-5:** Prior to the issuance of grading permits, the Owner/Operator shall enter into a Developer Mitigation Agreement (DMA) (synonymous with a Voluntary Emissions Reduction Agreement) with the San Joaquin Valley Air Pollution Control District. The DMA is to fully mitigate construction and operations criteria air emissions of project implementation for project vehicle and other mobile source emissions. The Owner/Operator shall pay fees to fully mitigate project emissions of NOx (oxides of nitrogen), ROG (reactive organic gases), PM_{10} (particulate matter of 10 microns or less in diameter), and $PM_{2.5}$ (particulate matter of 2.5 microns or less in diameter) (collectively referred to as "designated criteria emissions") to avoid any net increase in these pollutants. The air quality mitigation fee shall be paid prior to the approval of any construction or grading approval or payment plan as designated by the San Joaquin Valley Air Pollution Control District. **MM 4.2-6:** Prior to issuance of building permits, the project applicant/developer shall demonstrate to the satisfaction of the Kern County Planning that the project applicant shall require the use of super compliant, low-VOC paints (less than 10 g/L) during the architectural coating construction phase of project construction, and during project maintenance. **MM 4.2-7:** Prior to the issuance of occupancy permits, the Kern County Planning Department will require that the tenant lease agreements include contractual language that requires all Transport Refrigeration Units (TRUs) entering the project site be plug-in capable. Electrical hookups shall be provided as part of the tenant improvements for any tenant that requires cold storage. The electrical hookups shall be provided at all loading bays for truckers	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		to plug in any onboard auxiliary equipment and power refrigeration units while their truck is stopped. Idling or use of auxiliary truck engine power to power climate control equipment shall be prohibited if the truck is capable of plugging in at the loading bay. In addition: a. All equipment shall be maintained in accordance with the manufacturer's specifications. b. All equipment, including TRUs, heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not is use for more than 5 minutes. To reduce idling emissions from trucks and TRUs, the project applicant/developer shall have signage placed at truck access gates, loading docks, and truck parking areas that clearly notes idling is strictly prohibited on the subject property. In coordination with Kern County, the project applicant/developer shall also place similar signs in the adjacent streets in the project area. At minimum, each sign placed outside the interior premises of the subject property shall note the idling prohibition on the adjacent streets ~~and include telephone numbers of the building facilities manager and the California Air Resources Board to report violations~~ in the project area. All signage shall be made of weather-proof materials. All site and architectural plans submitted to Kern County shall note the locations of these signs. Prior to issuance of occupancy permits, Kern County shall verify compliance with these requirements herein.	
Impact 4.2-2: Would implementation of the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region in non-attainment under an applicable federal or state ambient air quality standard?	Potentially significant	Implement **Mitigation Measures MM 4.2-3** through **MM 4.2-7**.	Construction impacts would be less than significant. Operational impacts would be significant and unavoidable.

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.2-3: Would implementation of the project expose sensitive receptors to substantial pollutant concentrations?	Potentially significant	Implement **Mitigation Measures MM 4.16-1** and **MM 4.16-2** (see **Section 4.16,** *Transportation and Traffic*), **Mitigation Measures MM 4.2-1** through **MM 4.2-7**, and **MM 4.2-8:** To minimize personnel and public exposure to potential Valley Fever–containing dust on and off site, the following control measures shall be implemented during Project construction: a. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved offsite to other work locations. b. Wherever possible, grading and trenching work shall be phased so that earth-moving equipment is working well ahead or downwind of workers on the ground. c. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area. d. In the event that a water truck runs out of water before dust is sufficiently dampened, ground workers exposed to dust shall leave the area until a truck can resume water spraying. e. To the greatest extent feasible, heavy-duty earth-moving vehicles shall be closed-cab and equipped with a HEPA-filtered air system. f. Workers shall receive training in procedures to minimize activities that may result in the release of airborne Coccidioides immitis (CI) spores and recognize the symptoms of Valley Fever and shall be instructed to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Evidence of training shall be provided to the Kern County Planning and Natural Resources Department within 5 days of the training session. g. A Valley Fever informational handout shall be provided to all onsite construction personnel and surrounding residences within 1000 feet of the Project site. The handout shall, at a minimum, provide information regarding symptoms, health effects, preventative measures, and treatment of Valley Fever. No less than 30 days prior to any work commencing, this handout shall be mailed to all existing residences within 1000 feet of the Project boundaries. Additional information and	Less than significant.

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		handouts can be obtained by contacting the Kern County Public Health Services Department. h. Onsite personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health-approved respirators shall be provided to onsite personnel, upon request. When exposure to dust is unavoidable, affected workers shall be provided appropriate NIOSH-approved respiratory protection. If respiratory protection is deemed necessary, employers must develop and implement a respiratory protection program in accordance with the California Occupational Safety and Health Administration's Respiratory Protection standard (8 CCR 5144). **MM 4.2-9:** Prior to the issuance of grading permits, a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of $3,200 for Valley Fever public awareness programs. **MM 4.2-10:** At the time of Project implementation, a COVID-19 Health and Safety Plan shall be prepared in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. A copy of the COVID-19 Health and Safety Plan shall be submitted to the Kern County Planning Department to be kept on file. **MM 4.2-11:** Prior to commencement of any on-site construction activities (i.e., fence construction, mobilization of construction equipment, initial grading), the Project applicant shall provide written notice to the public through mailing a notice to all parcels within 1,000 feet of the Project site, no sooner than 15 days prior to construction activities. The notices shall include the construction schedule, a telephone number and email address where complaints and questions can be registered. Additionally, a minimum of one sign, legible at a distance of 50 feet, shall also be posted at the construction sites or adjacent to the nearest public access to the main construction entrances throughout construction activities which include the construction schedule (updated as needed) and a telephone number where complaints can be registered.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Documentation that the public notice has been sent and the sign has been posted shall be provided to the Kern County Planning and Natural Resources Department. **MM 4.2-12:** Prior to the issuance of any grading or building permit, the Project applicant shall establish a "construction coordinator" and submit written documentation which includes their phone number, email address and mailing address. The construction coordinator shall be responsible for the following: a. Responding to any local complaints about construction activities. The construction coordinator shall determine the cause of the construction complaint and shall be required to implement reasonable measures such that the complaint is resolved. b. Ensuring all appropriate construction notices have been made available to the public and that all appropriate construction signs have been installed. c. Maintaining an ongoing up-to-date log of all construction-related complaints (i.e., blowing dust, inability to access parcels, etc.) during Project construction activities. The log shall include the nature of the complaint and the measures that were undertaken to address the concerns. Upon request, the construction coordinator shall provide the log to the Planning and Natural Resources Department no later than three business days from request.	
Impact 4.2-4: Would implementation of the project result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impact	Potentially significant	Implement **Mitigation Measure MM 4.1-3 (s**ee **Section 4.1**, *Aesthetics*), **MM 4.16-1** and **MM 4.16-2** (see **Section 4.16,** *Transportation and Traffic*), and **MM 4.2-1** through **MM 4.2-12.**	Construction impacts would be less than significant. Operational impacts would be significant and unavoidable.

Chapter 1.0, *Executive Summary*, Table 1-7: *Summary of Impacts, Mitigation Measures, and Levels of Significance*, Pages 1-36 through 1-49 (Biological Resources)

Table 1-7: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.3 Biological Resources			
Impact 4.3-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Potentially significant	Implement **Mitigation Measures MM 4.8-1** (see **Section 4.8,** *Hazards and Hazardous Materials)* and, **MM 4.3-1:** Prior to the issuance of grading permits, the project operator shall retain a Lead Biologist(s) who meets the qualifications of an Authorized Biologist as defined by California Department of Fish and Wildlife (CDFW) Service to oversee compliance with protection measures for all listed and other special-status species that may be affected by the construction and operation of the project. The resume and contact information for the Lead Biologist(s) shall be provided in writing to the Planning and Natural Resources Department. The following measures pertain to the Lead Biologist(s): a. The Lead Biologist(s), or their designee, shall be on the project site during all construction activities which include, but are not limited to, installation of perimeter fencing, clearing of vegetation, grading activities, and facility construction. b. The Lead Biologist(s) or their designee shall have the right to halt all activities that are in violation of the special-status species protection measures, as well as any regulatory permits from the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife, if applicable. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. **MM 4.3-2:** Prior to the issuance of grading permits, the Lead Biologist shall develop a Worker Environmental Awareness Training Program containing life history and identification information of special-status wildlife and plant species with potential to occur on site. The Worker Environmental Awareness Training Program shall review responsibilities for all on-site personnel including trash control, checking under and around	Less than significant.

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		vehicles and heavy equipment before starting, scanning for wildlife resources, contacting the Lead Biologist in the unanticipated instance of encountering special status wildlife species, and prohibition of pets and firearms. All on-site personnel shall be required to attend a worker environmental training. A sticker shall be placed on hard hats, indicating that the worker has completed the Worker Environmental Awareness Training. Copies of all prepared materials including, but not limited to, PowerPoint presentations, videos, information handouts and signed acknowledgement from each worker who has attended the required training shall be provided to the Planning and Natural Resources Department. **MM 4.3-3:** No more than thirty (30) days prior to the start of ground disturbance activities or issuance of any grading permits, a qualified biologist knowledgeable on the identification of rare plant species shall conduct a pre-construction plant survey of areas of proposed disturbance within the project site and 100-foot buffer (where legally accessible) to determine if any special-status plant species are present. If special-status plants are identified on-site, their locations shall be mapped and the project proponent shall confer with CDFW or USFWS as required by applicable law to facilitate salvage or seed collection. <u>If avoidance of the identified special-status plant population is feasible, a no-disturbance buffer of at least 50 feet shall be established around the population and maintained throughout construction. The project proponent shall consult with USFWS and CDFW, as appropriate, on the need for take authorization if impacts to listed plant species, including Bakersfield cactus, are unavoidable, and no listed plants shall be removed or destroyed without prior authorization from USFWS and/or CDFW, as appropriate. If listed plants are identified and will be impacted, the project shall compensate for loss of occupied habitat at a minimum ratio of 1:1 and the final ratio would be determined by CDFW and/or USFWS and will be based on the level of impacts from the project to occupied habitat.</u> **MM 4.3-4:** During construction of the project site, the project proponent and/or contractor(s) shall implement the following general avoidance and protective measures:	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		a. Immediately prior to conducting vegetation clearing or similar activities, the Lead Biologist or their designee shall perform a pre-construction visual survey of the area to ensure that no special-status species are present. Daily reports of these inspections shall be retained by the Lead Biologist and provided to the Kern County Planning and Natural Resources Department, U.S. Fish and Wildlife Service, or California Department Fish and Wildlife upon request. b. Within the vicinity of any construction activities, sensitive biological resources (i.e., special-status species, jurisdictional drainages, nesting birds, etc.) shall be delineated with stakes and/or flagging. c. All construction activities shall be confined within the project construction area, which may include temporary access roads, haul roads, and staging areas specifically designated and marked for these purposes. At no time shall equipment or personnel be allowed to adversely affect areas outside the project site. d. Any spoils shall be stockpiled in disturbed areas that lack native vegetation to the maximum extent practicable. Spoils that have been stockpiled and inactive for more than 24 hours shall be inspected by a qualified biologist for signs of special-status wildlife before moving or disturbing. e. To prevent inadvertent entrapment of San Joaquin kit foxes, American badgers, or other animals during construction, all excavated steep-walled holes or trenches more than two (2) feet deep shall be covered with plywood or similar materials at the close of each working day. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks, no less than 12 inches wide and secured at the top, shall be placed a minimum of every 100 feet within the open trench. Covered and non-covered holes or trenches shall be thoroughly inspected for trapped animals by a qualified biologist at the beginning and end of each working day. Immediately before such holes or trenches are filled, they shall again be thoroughly inspected by trained Staff approved by the	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Lead Biologist. If any trapped animals are observed, escape ramps or structures shall be installed immediately to allow for their escape. If a listed species is trapped, the Lead Biologist shall immediately confer with the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife. f. All construction pipes, culverts, or similar structures with a diameter of four (4) inches or greater that are stored at the site for more than 24 hours and without endcaps shall be thoroughly inspected by a qualified biologist prior to being moved or capped. If a listed wildlife species is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated in conformance with appropriate wildlife agency guidelines. g. No construction vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of listed wildlife species. If present, the animal shall be left to move on its own. h. A speed limit of 15 miles per hour shall be enforced within the limits of the project site. If night work occurs on the project site, the speed limit will be 10 miles per hour. i. Fueling of construction equipment shall take place within existing roads or disturbed areas. No refueling within or adjacent to drainages (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. j. Trash and food items shall be contained in closed containers to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs. k. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife. l. No pets shall be allowed in project areas, except for trained canine animals related to security and operation of the facility.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		m. Intentional killing or collection of any listed plant or wildlife species shall be prohibited. n. Herbicides that may be used as vegetation control measures in project areas shall be applied in accordance with submeasures below. All uses of such herbicidal compounds shall observe label and other restrictions mandated by the U.S Protection Agency, California Department of Food and Agriculture, and state/federal legislation as well as additional project related restrictions deemed necessary by the U.S. Fish and Wildlife Service or California Department of Fish and Wildlife. 1. The construction contractor or project personnel shall use herbicides that are approved by the California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS) for use in California and are appropriate for application adjacent to natural vegetation areas (i.e., nonagricultural use). Personnel applying herbicides shall have all appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use. 2. Herbicides shall be mixed and applied in conformance with the manufacturer's directions. 3. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife. 4. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water. 5. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		6. A written record of all herbicide applications on the site, including dates and amounts, shall be furnished annually to the Kern County Planning and Natural Resources Department. **MM 4.3-5**: No more than (30) days prior to the issuance of any grading permits or the start of ground disturbance, a qualified biologist knowledgeable in the identification of all special-status wildlife species shall conduct a pre-construction survey of areas proposed for disturbance within the project site and 500-foot buffer (where legally accessible) to determine if any special-status species are present. If, as a result of this pre-construction survey it is determined that special-status wildlife species are present, the project proponent shall confer with the U.S. Fish and Wildlife Service or California Department of Fish and Wildlife, as required by applicable law, for proper avoidance measures or the need for take authorization through the acquisition of an incidental take permit, pursuant to Fish and Game Code section 2081 subdivision (d). **MM 4.3-6:** Preconstruction surveys shall be conducted by a qualified biologist to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to commencement of ground-disturbing activities. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site being disturbed. The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife (CDFW) Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. As each burrow is investigated, surveying biologists shall also look for signs of American badger and San Joaquin kit fox. Copies of the survey results shall be submitted to CDFW and the Kern County Planning and Natural Resources Department.	

<table>
<tr><th>Impact</th><th>Level of Significance before Mitigation</th><th>Mitigation Measures</th><th>Level of Significance after Mitigation</th></tr>
<tr><td></td><td></td><td>If burrowing owls are detected onsite, the avoidance buffers outlined below should be established. These buffers shall be implemented prior to and during any ground-disturbing activities. Specifically, CDFW's Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist, approved by CDFW, verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Visible markers shall be placed near the identified burrow(s) to ensure that machinery does not collapse the burrow(s). <u>If any burrows are detected onsite in the impact area an Incidental Take Permit (ITP) may be required and CDFW should be consulted prior to initiating project activities that would impact the species. If active burrows are identified and will be impacted, the project shall compensate for loss of occupied habitat (i.e., areas within 500-feet of active burrows) at a minimum ratio of 1:1 and the final ratio would be determined by CDFW and will be based on the level of impacts from the project to occupied habitat.</u>
<table>
<tr><th rowspan="2">Location</th><th rowspan="2">Time of Year</th><th colspan="3">Level of Disturbance</th></tr>
<tr><th>Low</th><th>Med</th><th>High</th></tr>
<tr><td>Nesting sites</td><td>April 1 – Aug 15</td><td>200 m*</td><td>500 m</td><td>500 m</td></tr>
<tr><td>Nesting sites</td><td>Aug 16 – Oct 15</td><td>200 m*</td><td>200 m</td><td>500 m</td></tr>
<tr><td>Nesting sites</td><td>Oct 16 – Mar 31</td><td>50 m</td><td>100 m</td><td>500 m</td></tr>
</table>
*meters (m)

If burrow avoidance is infeasible during the non-breeding season or during the breeding season (February 1 through August 31) where resident owls have not yet begun egg laying or incubation, or where the juveniles are foraging independently and capable of independent survival, a qualified biologist shall implement a passive relocation program in accordance with Appendix E1 (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 CDFW Staff Report on Burrowing Owl Mitigation. <u>Passive relocation may only occur after consultation with CDFW regarding the need for an ITP prior to implementing any relocation.</u></td><td></td></tr>
</table>

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		If passive relocation is required and CDFW authorization has been issued to conduct the relocation, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan in, accordance with the 2012 CDFW Staff Report on Burrowing Owl Mitigation, for review by CDFW prior to passive relocation activities. If applicable, the Mitigation Land Management Plan shall include a requirement for the permanent conservation of offsite Burrowing Owl Passive Relocation Compensatory Mitigation. At a minimum, the following recommendations shall be implemented: a. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions including decompacting soil and revegetating. b. Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows and burrowing owl impacted are replaced based on a site-specific analysis and shall include permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals. c. If compensatory mitigation is required, permanently protect mitigation land through a conservation easement, deed restriction, or similar mechanism deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a CDFW-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits. Land identified to mitigate for passive relocation of burrowing owl may be combined with other offsite mitigation requirements of the proposed project if the compensatory habitat is deemed suitable to support the species.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		MM 4.3-7: If nighttime lighting for construction activities and operations is required and is within 50 feet of the outside edge of areas containing habitat for special-status wildlife, as determined by the qualified biologist, lighting shall be directed away from those areas that contain habitat for special-status wildlife. **MM 4.3-8:** Prior to and during construction activities: a. If any San Joaquin kit fox dens are found during pre-construction surveys, the status of the dens shall be evaluated no more than 14 days prior to project ground disturbance. Provided that no evidence of kit fox occupation is observed, potential dens shall be marked and a 50-foot avoidance buffer delineated using stakes and flagging or other similar material to prevent inadvertent damage to the potential den. If a potential den cannot be avoided, it may be hand-excavated following United States Fish and Wildlife Service standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance by the lead biologist. If kit fox activity is observed at a den, the den status shall change to "known" per United States Fish and Wildlife Service guidelines (1999), and the buffer distance shall be increased to 100 feet. Absolutely no excavation of San Joaquin kit fox known or pupping dens shall occur without prior authorization from the United States Fish and Wildlife Service and California Department of Fish and Wildlife. <u>The project proponent shall consult with USFWS and CDFW on the need for an ITP if impacts to occupied dens are unavoidable and no dens shall be excavated without prior authorization from the USFWS and CDFW. If active dens are identified and will be impacted, the project shall compensate for loss of occupied habitat (i.e., areas within 500-feet of active dens or as determined by the resource agencies) at a minimum ratio of 1:1 and the final ratio would be determined by CDFW and will be based on the level of impacts from the project to occupied habitat.</u> b. To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site during construction, the perimeter security fence shall leave a 5-inch opening between	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		the fence mesh and the ground or the fence shall be raised 5 inches above the ground. The bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence. c. All pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the United States Fish and Wildlife Service has been consulted. If necessary, under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity until the fox has escaped. d. To prevent inadvertent entrapment of San Joaquin kit foxes, badgers, or other animals during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If listed species are trapped, the United States Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted. e. All vertical tubes used in project construction, such as chain link fencing poles shall be temporarily or permanently capped at the time they are installed to avoid the entrapment and death of special-status birds. **MM 4.3-9:** If construction activities are conducted during the typical nesting bird season (February 15 through September 15), pre-construction surveys shall be conducted by a qualified biologist prior to any site preparation and/or construction activity to identify potential nesting bird activity. The survey area shall include a 500-foot buffer surrounding the property. Swainson's hawk protocol-	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		level surveys shall be consistent with the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC 2000); If no active nests are found within the survey area, no further mitigation is required. <u>If construction activities are delayed and are conducted during the subsequent nesting bird season, then an additional Swainson's hawk protocol survey will be required.</u> If nesting activity is identified during the pre-construction survey process, the following measures will be implemented: a. If active nest sites of bird species protected under the Migratory Bird Treaty Act and/or California Fish and Game Code are observed within the project site, then the project will be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young; b. If active nest sites of raptors and/or bird species of special concern are observed within the vicinity of the project site, then the appropriate buffer around the nest site (typically 250 feet for passerines and 500 feet for raptors) will be established. <u>For any Swainson's hawk nest site, a no-work buffer of ½ mile will be established around the nest site.</u> Construction activities in the buffer zone will be prohibited until the young have fledged the nest and achieved independence; and, c. Active nests shall be documented by a qualified biologist, and a letter report shall be submitted to the Kern County Planning and Natural Resources Department documenting project compliance with the Migratory Bird Treaty Act and California Fish and Game Code. <u>d. If the ½ mile buffer around any active Swainson's hawk nest cannot be avoided, then consultation with CDFW would be required to determine the need for an ITP or other avoidance or mitigation planning; and,</u> <u>e. Permanent impacts to foraging habitat near an active Swainson's hawk nest shall be mitigated such that the habitat acreage impacted is replaced based on a site-specific analysis and shall include permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for Swainson's hawk foraging and	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		dispersal (i.e., during nesting and non-nesting seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals. The habitat mitigation ratios and requirements are as follows: • If the closest nest is within 1 mile, the ratio shall be 1:1, • If the closest nest is more than 1 mile from the project site, but within 5 miles of the site, the ratio shall be ¾:1, • If the closest nest is more than 5 miles, but within 10 miles of the site, the ratio shall be ½:1, and • No compensatory mitigation shall be required if there are no nests within 10 miles of the project site. **MM 4.3-10:** Pre-construction protocol-level surveys by a qualified biologist for nesting birds shall be required if construction activities are scheduled to occur during the breeding season for raptors and other migratory birds (February 1– August 31), to reduce potential impacts to nesting birds and raptors. The survey shall be conducted within 30 days of ground disturbance activities. a. If any nesting birds/raptors are observed, a qualified biologist shall determine buffer distances and/or the timing of project activities so that the proposed project does not cause nest abandonment or destruction of eggs or young. This measure shall be implemented so that the proposed project remains in compliance with the Migratory Bird Treaty Act and applicable State regulations. **MM 4.3-11:** Prior to any vegetation removal during site preparation, the areas required for construction shall be surveyed for actively nesting birds. If any wildlife is encountered during the course of construction, the wildlife shall be allowed to leave the construction area unharmed. Should any active bird nests be identified, the vegetation shall not be removed in areas that contain actively nesting birds. A biological monitor shall survey the areas of vegetation slated for removal, and a report shall be submitted to the Kern County Planning and Natural Resources Department for review prior to site preparation.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		MM 4.3-12: A qualified biologist shall conduct a survey for Crotch's bumble bee and their requisite habitat using the California Department of Fish and Wildlife -approved protocol during the blooming period immediately prior to project construction to detect bumble bees and potential nesting sites. The survey shall be conducted within a survey area that includes a 50-foot buffer around the Project footprint and results submitted to California Department of Fish and Wildlife at least seven (7) days prior to commencing any project activities. If Crotch's bumble bee is identified during surveys or at any time during Project construction, the project proponent shall confer with California Department of Fish and Wildlife to determine if take can be avoided. If avoidance of Crotch's bumble bee nest(s) is not feasible, take authorization prior to ground disturbing activities is warranted. Take authorization would occur through issuance of an Incidental Take Permit by California Department of Fish and Wildlife, pursuant to Fish and Game Code section 2081(b). The take permit shall, at a minimum, compensate for loss of occupied habitat at a minimum ratio of 1:1 and the final ratio would be determined by CDFW and will be based on the level of impacts from the project to occupied habitat. Alternatively, in the absence of surveys, the project proponent may assume presence and apply for and acquire an Incidental Take Permit for Crotch's bumble bee prior to initiating project activities.	
Impact 4.3-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS?	No Impact	No mitigation is required.	No Impact
Impact 4.3-3: Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact	No mitigation is required.	No Impact

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.3-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Potentially Significant	Implement **Mitigation Measure MM 4.3-9** through **MM 4.3-11.**	Less than significant.
Impact 4.3-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Potentially significant	Implement **Mitigation Measure MM 4.8-1** (see **Section 4.8**, *Hazards and Hazardous Materials*) and **Mitigation Measures MM 4.3-1** through **MM 4.3-12**.	Less than significant.
Impact 4.3-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional, or state habitat conservation plan?	No Impact	No mitigation is required.	No Impact
Cumulative Impact	Potentially significant	Implement **Mitigation Measure MM 4.8-1** (see **Section 4.8**, *Hazards and Hazardous Materials*) and **Mitigation Measures MM 4.3-1** through **MM 4.3-12**.	Less than significant

Chapter 1.0, *Executive Summary*, Table 1-7: *Summary of Impacts, Mitigation Measures, and Levels of Significance*, Pages 1-53 through 1-55 (Energy)

Table 1-7: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.5 Energy			
Impact 4.5-1: Would the Project result in potentially significant environmental impact due to	Potentially significant	Implement **Mitigation Measure MM 4.2-3** (see **Section 4.2**, *Air Quality*), **Mitigation Measures MM 4.7-1** and **MM 4.7-2** (see **Section 4.7**, *Greenhouse Gas Emissions*), and	Less than significant.

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?		**MM 4.5-1:** Prior to the issuance of building permits, the Project Proponent shall provide a report and summary of all energy efficient building design standards incorporated into the project design and operations to reduce the level of energy consumption of the Project. The following measures shall be included in the Project design and implemented. Explanations for feasibility and implementation shall be included in the report: a. Within one year of the first day of Project operations, the Project shall install and maintain roof-mounted solar photovoltaic ~~mounted on proposed structure~~'s ~~roofs to provide a portion of the future electrical demand and offset emissions from fossil fuel fired power plants.~~ systems on proposed structures to the maximum extent feasible based on available rooftop area and design constraints. The rooftop solar photovoltaic systems shall be designed to maximize on-site renewable electricity generation. Within one year of the first day of Project operations, solar photovoltaics mounted on proposed structure's roofs to provide a portion of the future electrical demand and offset emissions from fossil fuel fired power plants. b. Incorporate green building measures that contribute to reducing energy use by at least 10 percent and up to 25 percent less than Title 24 requirements. c. Provide solar water heating for non-industrial water heating. d. ~~If needed, in addition to roof mounted solar, provide ground mounted solar photovoltaics arrays to provide a portion of the estimated electrical demand for the proposed Project.~~ If rooftop solar photovoltaic systems do not meet the Project's entire future electrical demand, the Project shall install ground-mounted solar photovoltaic arrays to meet the remaining electrical demand on-site to the maximum extent feasible. e. Commercial buildings shall be designed to meet LEED® certification standards.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		f. Roofs on all buildings shall be of a light color with a solar reflective index greater than 78 to reduce heat generation. g. Portions of parking lots (drive aisles) may be paved with concrete versus asphalt, based on structural determinations, to reduce heat absorption and the heat island effect ~~initial~~. h. Within two years of the first day of project operations, up to 20% of employee parking stalls shall be covered. If feasible for electrical demand, the parking stall roofs shall contain solar photovoltaics i. LED lighting fixtures shall be used on all indoor and exterior site lighting; j. LED lighting fixtures shall be used on all public streets and site lighting; k. Electric forklifts and other material handling vehicles to reduce usage of fossil fuels shall be implemented, based on feasibility of operations. l. Consult with Kern County Public Works and Golden Empire Transit (GET) on feasible design circulation features for transit related public street improvements adjacent to the project for implementation of MM 4.16~~7~~-3 Transportation Demand Management Program m. Provide bicycle friendly features, such as onsite bike lanes, bike racks, electrical bike plugins, and bike lockers, to reduce vehicle miles traveled and to encourage non-vehicular transportation; n. Where feasible design operations to incorporate the usage of high efficiency electric motors for industrial uses. o. Install battery storage associated with the rooftop and ground-mounted solar photovoltaic systems that shall be installed on-site, where feasible and appropriate. **MM 4.5-2:** Prior to the issuance of building permits, the Project Proponent shall provide evidence ~~that the Project is designed to include the green building measures specified as mandatory in the application checklist contained in the current~~ to the Kern County	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Planning and Natural Resources Department demonstrating compliance with the California Green Building Standards Code. ~~In addition to the number of electric vehicle capable spaces provided with electric vehicle supply equipment required by the current California Green Building Standards, the Project shall provide electrified EV chargers for 22% of the electric vehicle capable spaces with electric vehicle supply equipment.~~ The Project shall provide electrified Level 2 EV chargers for 10 percent of the Project's total parking stalls, which is approximately 50 percent of the Project's proposed EV-capable parking spaces. The Project shall also provide 5 medium- and heavy-duty truck chargers. During initial construction, the Project Proponent shall also install infrastructure to facilitate the future installation of additional medium- and heavy-duty chargers, henceforth named "make-ready infrastructure". Make-ready infrastructure construction shall include conduit from the electrical rooms to the truck court, reserved space and pads for future transformers and switchgear, and ductbanks sized to accommodate future medium- and heavy-duty electric vehicle charging loads. Furthermore, the Project Proponent shall design and construct electrical rooms that are 25 percent larger than necessary for the expected Project electrical capacity needs, to accommodate future expansion of electric vehicle charging capability. Additionally, the owner of the project site shall cooperate with any tenant's application to Pacific Gas and Electric Company under Electric Rule 29, the Flexible Service Connections tariff, or any applicable successor tariff or program for medium- and heavy-duty electric vehicle charging service.	
Impact 4.5-2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impact	Potentially significant	Implement **Mitigation Measure MM 4.2-3** (see **Section 4.2**, *Air Quality*), **Mitigation Measures MM 4.7-1** and **MM 4.7-2** (see **Section 4.7**, *Greenhouse Gas Emissions*), and **Mitigation Measures MM 4.5-1** and **MM 4.5-2.**	Less than significant.

Chapter 1.0, *Executive Summary*, Table 1-7: *Summary of Impacts, Mitigation Measures, and Levels of Significance*, Pages 1-62 through 1-63 (Greenhouse Gas Emissions)

Table 1-7: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.7 Greenhouse Gas Emissions			
Impact 4.7-1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Potentially significant	Implement **Mitigation Measures MM 4.2-2** through **MM 4.2-5** and **MM 4.2-7** (see **Section 4.2**, *Air Quality*), **MM 4.5-1** and **MM 4.5-2** (see **Section 4.5**, *Energy)*, **MM 4.16-1** and **MM 4.16-3** (see **Section 4.16**, *Transportation and Traffic),* and **MM 4.7-1:** Includes the following: a. Prior to issuance of occupancy permits, the project developer shall require and disclose to all tenants/business entities that only electric-powered off-road equipment (e.g. forklifts, material handling equipment, etc.) shall be utilized for all indoor and outdoor activities on the project site for daily warehouse and business operations and a copy of disclosure documents shall be submitted to the Planning and Natural Resources Department to be kept on file. b. Prior to issuance of grading permits, the project construction's General Contractor shall target a construction waste diversion rate of 80 percent. A monthly construction report shall be provided to the County documenting total waste generated, types of waste streams, and total waste recycled. c. During operation and to the extent feasible for safe warehouse operations, automatic light switches shall be incorporated into the project. d. During operation, any equipment containing greater than five pounds of refrigerant, procured or installed, shall be tagged so that project applicant and tenant can identify and verify all installed equipment. **MM 4.7-2:** Prior to the issuance of grading and building permits for the project, documentation shall be provided to the Kern County Planning and Natural Resources Department demonstrating the proposed project will implement one of the following measures:	Significant and unavoidable

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		a. Install solar panels, solar hot water, or other clean energy power generation sources on the proposed project site to provide 100% of the proposed project's energy needs; or b. Participate in Pacific Gas and Electric Company (PG&E) Solar Choice program for nonresidential (i.e., 100 percent carbon-free electricity) for electricity accounts associated with the project to procure 100 percent of the proposed project's electricity needs from renewable energy	
Impact 4.7-2: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas?	Potentially significant	Implement **Mitigation Measures MM 4.16-1** and **MM 4.16-3** (see **Section 4.16**, *Transportation and Traffic*).	Significant and unavoidable
Cumulative Impact	Potentially significant	Implement **Mitigation Measures MM 4.7-1** and **MM 4.7-2**, **MM 4.2-2** through **MM 4.2-5** and **MM 4.2-7** (see **Section 4.2**, *Air Quality*), **MM 4.5-1** and **MM 4.5-2** (see **Section 4.5**, *Energy)*, and **MM 4.16-1** and **MM 4.16-3** (see **Section 4.16**, *Transportation and Traffic).*	Significant and unavoidable

Chapter 1.0, *Executive Summary*, Table 1-7: *Summary of Impacts, Mitigation Measures, and Levels of Significance*, Pages 1-80 through 1-86 (Transportation and Traffic)

Table 1-7: Summary of Impacts, Mitigation Measures, and Levels of Significance

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.16 Transportation and Traffic			
Impact 4.16-1: Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Potentially significant	**MM 4.16-1:** Prior to final occupancy, the project proponent shall complete the following: a. Record an irrevocable offer of dedication to the County of Kern of all subject frontage along: 1. Airport Drive, 55 feet in width, and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards	Less than significant.

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		2. Merle Haggard Drive, 55 feet in width, and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards 3. Petrol Road, 45 feet in width, including the off-site portion of Petrol Road from the westerly project boundary line to the easterly right-of-way of Landings Way for orderly development and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards 4. Landings Way, 45 feet in width, including the off-site portion of Landings Way from the northerly project boundary line to the southerly right-of-way of Petrol Road for orderly development and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards b. Under street improvement plans submitted for review and approval by the Kern County Public Works Department: 1. Construct Airport Drive project frontage to "Type A" Subdivision Standard, half width Arterial Street, and right turn lane (Plate R-40), per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to: curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, and the necessary tie-ins. 2. Construct Merle Haggard Drive project frontage to "Type A" Subdivision Standard, half width Arterial Street, and right turn lane (Plate R-40), per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to: curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, and the necessary tie-ins. 3. Construct Petrol Road project frontage to "Type A" Subdivision Standard, half width Collector Street, and right turn lane (Plate R-40), per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to: curb,	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		gutter, sidewalk, wheelchair ramps, asphalt concrete, and the necessary tie-ins. 4. Construct Petrol Road from the westerly project boundary line to the easterly right-of-way of Landings Way to Type "A" Subdivision Standard, half width Collector Street, for orderly development, per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, right turn channelization, and the necessary tie-ins. 5. Construct Landings Way project frontage to Type "A" Subdivision Standard, half width Collector Street, and right turn lane (Plate R-40), per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to: curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, and the necessary tie-ins. 6. Construct Landings Way from the northerly project boundary line to the southerly right-of-way of Petrol Road to Type "A" Subdivision Standards, half width Collector Street, for orderly development, per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, right turn channelization, and the necessary tie-ins. 7. Modify existing traffic signal at the intersection of Merle Haggard Drive and Landings Way, per the Kern County Development Standards and the Land Division Ordinance. 8. Include a striping plan and streetlight plan 9. Provide a 20-foot by 20-foot right of way corner cutoff at all intersections 10. All employee drive approaches shall conform to Plate R-55, per the Kern County Development Standards and the Land Division Ordinance. 11. All truck drive approaches shall conform to Plate R-58, widths to be determined in consultation with Kern County Public Works Department and per the Kern County Development Standards and the Land Division Ordinance.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		12. All easements shall be kept open, clear, and free from buildings and structures of any kind pursuant to Chapters 18.50 and 18.55 of the Kern County Land Division Ordinance. All obstructions, including utility poles and lines, trees, pole signs, fences, or similar obstructions, shall be removed from the ultimate road right-of-way. Compliance with this requirement is the responsibility of the applicant and may result in significant expenditures. c. Prior to final occupancy, the project proponent shall prepare and submit a Truck Routing Plan to the Kern County Public Works Department—Traffic Division for review and approval. The Truck Routing Plan shall identify the designated routes for project-related truck traffic between the project site and the regional roadway and highway system. Project-related trucks shall use the routes identified in the approved Truck Routing Plan. Prior to final occupancy, the project proponent shall install signs at all truck entrances and exits, and at any additional locations required by the Kern County Public Works Department—Traffic Division, directing truck drivers to the designated truck routes identified in the approved Truck Routing Plan. The project proponent/operator shall maintain the truck-route signs and provide the approved Truck Routing Plan to Project tenants, visitors, and users. **MM 4.16-2:** Prior to the issuance of any building permit within Metropolitan Bakersfield, the project proponent shall pay the required Transportation Traffic Impact fees. **MM 4.16-3:** Prior to the issuance of construction or building permits, the proposed project shall prepare a Transportation Demand Management program to reduce Vehicle Miles Travelled associated with employee trips. The program shall include Transportation Demand Management measures that would individually reduce the proposed project's Vehicle Miles Traveled and trips, with the goal of obtaining a Vehicle Miles Traveled reduction to lessen the proposed project's Vehicle Miles Traveled impact. The following Transportation Demand Management measures would be implemented by the proposed project as part of the Transportation Demand Management program:	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		a. Alternative-Mode Subsidies and Incentives: provide subsidization of transit fares, carpool, or electric vanpool for employees of the project site. Provide monetary incentives for alternate modes of transportation. b. Travel Behavior Change Program: Provide a web site that allows employees to research other modes of transportation for commuting to the site. c. Promotions and Marketing: Provide marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials. d. Commute Assistance Center: Provide a computer kiosk that allows employees to research other modes of transportation for commuting. e. Preferential Carpool/Vanpool Parking Spaces: Provide reserved carpool/vanpool spaces closer to the building entrance. f. Passenger Loading Zones: Provide passenger loading zones for easy access to carpools or vanpools. g. Bike Share: Implement bike share to allow people to have on-demand access to a bicycle, as needed. h. Bike Parking and Facilities: Include secure bike parking and showers to provide additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel. Provide on-site bicycle repair tools and space to use them supports ongoing use of bicycles for transportation	
Impact 4.16-2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Potentially Significant	Implement **Mitigation Measure MM 4.16-1** and **MM 4.16-3**.	Significant and unavoidable for VMT
Impact 4.16-3: Would the project substantially increase hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or	Potentially significant	Implement **Mitigation Measures MM 4.16-1** and **MM 4.16-4:** Prior to the issuance of construction or building permits, the project proponent/operator shall:	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
incompatible uses (e.g., farm equipment)?		a. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department – Traffic Division and the California Department of Transportation offices for District 6, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must address, at a minimum, the following issues: 1. Timing of deliveries of heavy equipment and building materials; 2. Directing construction traffic with a flag person; 3. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic; 4. Ensuring access for emergency vehicles to the project sites; 5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections; 6. Maintaining access to adjacent property, 7. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hours; and, 8. Consult with the County to develop coordinated plans that would address construction-related vehicle routing and detours adjacent to the construction area for the duration of construction overlapping with neighboring projects. Key coordination meetings would be held jointly between applicants and contractors of other projects for which the County determines impacts may overlap. b. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize county maintained roads, which may require	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department, the Kern County Public Works Department-Traffic Division, and Caltrans. c. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County. d. Submit documentation that identifies the roads to be used during construction. The project proponent/operator shall be responsible for repairing any damage to county and non-county-maintained roads that demonstrably result from construction activities. The project proponent/operator shall submit a pre-construction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Public Work Department-Traffic Division and the Kern County Planning and Natural Resources Department. e. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in electronic format on USB. The County, in consultation with the project proponent/operator's engineer, shall determine project responsibility for the damage and the extent of remediation required, if any.	
Impact 4.16-4: Would the project result in inadequate emergency access?	Potentially significant	Implement **Mitigation Measures MM 4.16-1** and **MM 4.16-4**.	Less than significant.
Cumulative Impact	Potentially significant	Implement **Mitigation Measures MM 4.16-1** through **MM 4.16-4**.	Significant and unavoidable for VMT

Chapter 3.0, *Project Description*, Table 3-7: *Cumulative Projects List*, Pages 3-30 through 3-33

In response to Response to Comment 13-FFF. Table 3-7 is revised in two respects, as described below.

a) The "Approx. Acreages" entries for the following projects are revised:

Project No. 3 — 6400 Price Way: ~~N/A~~ 2.35

Project No. 8 — Commerce Construction Co by John R Burroughs: ~~Commerce Construction Co by John R Burroughs~~ 28

Project No. 9 — PD Mod, Carrier Parkway Avenue and James Road: ~~PD Mod~~ 4

Project No. 40 — South Union at Berkshire Road: ~~Unknown~~ 10.53

Source: Kern County Planning and Natural Resources Department, updated Table 3-7 (August 2026)

b) A summary row is added at the end of the table:

Note: Total approximate acreage of listed cumulative projects: approximately 6,595 acres. Project Nos. 30 and 31 are Circulation Element amendments removing a planned collector roadway, for which no project acreage applies, and are not included in this total.

Table 3-1: Cumulative Projects List

	Name	Project Location	Project	Zone Map	Section/ Township/ Range	Approx. Acreages	Status
1.	IPG Industrial	Southwest Corner of Boughton Drive and Airport Drive in Bakersfield, CA	Industrial Park/Distribution Warehousing	102	Section 2, Township 29S, Range 27E	49	Mitigation Compliance
2.	Malibu Vineyards	34344 Imperial Avenue, Bakersfield, CA	Industrial Park/Distribution Warehousing	80 & 81	Section 24, Township 28S, Range 26E	739	EIR Circulation
3.	N/A	6400 Price Way, Bakersfield, CA	Warehouse and outdoor industrial storage yard	102	Section 22, Township 29S, Range 27E	~~N/A~~ 2.35	Applied
4.	PD 34, Map 102-10	7117 Dole Court, Bakersfield, CA	Trucking facility with truck service, repair, and truck wash	102-10	Section 10, Township 29S, Range 27E	10.5	Applied
5.	ZCC, Map 102	5950 State Road, Bakersfield, CA	Industrial retail operations	102	Section 11, Township 29S, Range 27E	0.6	Applied
6.	N/A	0 Downing Avenue, Bakersfield, CA	Warehouse and Office	102	N/A	3.51	In Review
7.	PD 86, ZV 24	3017 Fruitvale Avenue, Bakersfield, CA	Office warehouse for industrial services	102	Section 21, Township 29S, Range 27E	2.35	Applied

8.	Commerce Construction Co by John R Burroughs	SE corner of Imperial Ave and Hwy 65	Four warehouse buildings for passenger vehicles and trailers	81	Section 33,	~~Commerce Construction Co by John R Burroughs~~ 28	SE corner of Imperial Ave and Hwy 65
9.	PD Mod	Intersection of Carrier Parkway Avenue and James Road, Bakersfield, CA	Concrete tilt-up warehouse	81-35		~~PD Mod~~ 4	Intersection of Carrier Parkway Avenue and James Road, Bakersfield, CA
	City of Shafter						
10.	Tract 7244 – Phase 1	Marcona Preserve Specific Plan Area	Development Agreement, Improvement Agreement, CFD Annexation, Final Map for development of 188 SFR units	80	Section 36/T.28S/R.27 E	60.3	In review
11.	Tract 7388 – Phase 2	Gossamer Grove Specific Plan Area	Final Map for 13 SFR units	81	Section 31/T.28S/R.27 E	2.2	In Review
12.	Tract 7422	Gossamer Grove Specific Plan Area	Tentative Map for 1,251 SFR units	81	Section 31/T.28S/R.27 E	352.0	In Review
13.	Tract 7447	Gossamer Grove Specific Plan Area`	Tentative Map for 147 SFR lots	81	Section 31/T.28S/R.27 E	32.2	In Review
14.	Wonderful Industrial Park Expansion	NE Corner of 7th Standard Road/Santa Fe Way	Expansion of Development of industrial and logistics center	80	Multiple Sections; T.28S/R.26E	1,800	In Review
	City of Bakersfield						
15.	Rosedale Ranch Trade and Transportation Park	SE corner of 7th Standard Road/ Santa Fe Way; North of olive drive	Drive development of logistics center	101	Multiple sections; T.29S/R.26E	1,600	In Review
16.	GPA/ZCC 21-0136	612 Fairview Road	LR to HMR; R-1 to R-2	124_19	Section 19/T.30S/R.28 E	17.32	Applied
17.	GPA/ZCC 21-0322	7100 South H Street	LR/LMR to GC; R-1/R-1 PUD to C-2/PCD	124_30	Section 124_30/T.30S/ R.28E	25.83	Approved

18.	GPA/ZCC 21-0302	9700 & 9850 Camino Media	OC to HMR; C-O to R-2	123	Section 6/T.30S/R.27E	11.22	Approved
19.	GPA/ZC 21-0326	3300 Rio Mirada Drive	HC to HR; M-1 to R-4	102-14	Section 14/T.29S/R.27 E	4.33	Approved
20.	GPA/ZC 22-0125	SW Corner of Berkshire Road and Ashe Road	336-unit apartment complex	123	Section 28/T.30S/R.27 E	19.96	Approved
21.	GPA/ZC 20-0109	4021 Mt Vernon Ave; SE Corner of Mt Vernon Frontage Road and Church Ave	OC to HR; C-O to R-3	103	Section 15/T.29S/28E	0.68	Applied
22.	GPA/ZC 20-0339	(1/4) mile south of Renfro on Santa Fe Way	LR to LI; R-1 to M-1	101-14	Section 14/T.29S/R.26 E	3.5	Approved
23.	GPA/ZC 20-0397	2323 Chester Lane; SE corner of Chester Lan and A Street	GC to HR; R-2/R-3 to R-4	102_36	Section 36/T.29S/R.27 E	0.64	Approved
24.	GPA/ZC 21-0008	1108 H Street; SE Corner of California Ave and H Street	OC to GC; C-O to C-1	103	Section 31/T.29S/R.28 E	0.15	Approved
25.	GPA/ZC 20-0172	NW corner of Fairfax and College Ave	LR to HMR/GC; R-1 to R-2/C-2	103	Section 24/T.29S/28E	15.45	Applied
26.	GPA/ZC 23-0015; CUP 23-0023	SE Corner of 7th Standard and Rudd Ave	LR/LMR/HMR/MUC/GC to LI; R-1/R-1-PUD/R-2-PUD/C-1/C-2-P.C.D/DI to M-1; CUP for freight terminal	101	Section 3/T.29S/R26E	920	Approved
27.	GPA/ZC 21-0179	south of Hosking Ave and West of South H Street	LR to GC; R-1 to C-2-PCD	123_36	Section 36/T.30S/27E	21.4	Approved
28.	GPA/ZC 22-0027; CUP 22-0310	SW Corner of 7th Standard and Rudd Ave	LMR/HMR to LI; R-1-PUD/R-2-PUD to M-1; CUP for freight terminal	101	Section 3/T.29S/R26E	458.54	Approved
29.	GPA/ZC 22-0421	2700 White Lane	GC to HR; C-2 to R-4	123	Section 13/T.30S/27E	2.49	REFERRED BACK
30.	GPA (Circ) 21-0089	Etchart Road between Shane Street and Jewetta	removed planned collector	101	Section1/T.29S/R.26E	n/a	Approved

31.	GPA (Circ) 21-0265	SW of Knudsen Drive/Hageman Rd intersection, between Knudsen Drive and 7th Standard St	removed planned collector	102	Section15/T.29 S/R.26E	n/a	Approved
32.	GPA/ZC 22-0104	North of Fairview Road between Monitor Street and S. Union Ave	LR to GC; R-1 to C-2-PCD	124_19	Section 19/T.30S/R.28 E	19.35	Approved
33.	Majestic Gateway Industrial Project; GPA/ZC 21-0184	NW Corner of Hosking Ave and South Hstreet	GC to LI (90.5 ac); C-2/PCD to M-1 (56.75 ac portion) & C-2/PCD to PCD (33.75 ac portion)	123_25	Section 25/T.30S/R.27 E	90.5	Approved
34.	GPA/ZC 22-0337; PDR 23-0331; ZC 23-0508	NE corner of South Allen Road and Pensinger Road	LR to HMR; R-1 to R-3/PUD; Circ delete Pacheco Road between S. Allen and Buena Vista	122_23	Section 23/T.30S/R.26 E	80	Approved
35.	GPA/ZC 23-0012	9407 South H Street; NW Corner of Taft Hwy and South H	LR/GC to HMR; R-1 to R-3	123	Section 11/T.30S/R.27 E	5.65	Approved
36.	GPA/ZC/pdR 22-0122	SE Corner of Hageman Rd and Landco Dr	SR to GC; A to C-2/PCD; Truck Rental and Self-Storage	123_36	Section 36/T.30S/27E	11.23	Approved
37.	GPA/ZC 21-0284	North of Taft Hwy between Gosford Rd and Ashe Rd (Kaiser Permanente Sports Village)	HI to SI; M-3 to M-2	102_14	Section 14/T.29S/R.27 E	79.84	Approved
38.	GPA/ZC 21-0383	westside of Renfro Road at Brimhall Road	GC to OS-P (25 ac portion) & OS-P to GC (28 ac portion); C-2/PCD to RE (25 ac portion) and RE to C-2 (28 ac portion) and C-2/PCD to C-2 (12 ac portion)	123	Section 33/T.30S/R.27 E	65	Approved

39.	N/A	Taft Highway west of Highway 99	Conditional Use Permit: Truck stop	142	Section 1/ T.31S/R.27E	16	In Review
40.	N/A	South Union at Berkshire Road	General Plan Amendment and Zone Change	124	Section 29/ T.30S/28E	~~Unknown~~ 10.53	In Review
41.	N/A	Hosking Avenue at Wible Road	General Plan Amendment and Zone Change:	123	Section 35/ T.30S/27E	4	In Review
42.	N/A	2901 Calloway Dr	Site Plan Review for 971 sf drive-thru coffee shop	102-19	Section 19/T.29S/R.27 E	0.39	In Review
43.	N/A	9301-9315 Thistlewood Ct	N/A	102-29	Section 29/ T.29S/R.7E	1.07	In Review
44.	N/A	3925 Rosedale Hwy	Site Plan Review for 4,990 sf retail building	102-26	Section 26/ T.29S/R.27.E	.39	In Review
45.	N/A	7511 Rosedale Hwy	Site Plan review for warehouse and office	102	Section 28/ T.29S/R.27E	5.22	In Review
46.	N/A	3220 Rio Mirada Dr	Site Plan Review for 971 drive-thru coffee shop	102-19	Section 19/ T.29S/R.27E	.39	In Review
47.	N/A	4420 Coffee Road	Site Plan review for an 1,811 sf addition (coffee shop with drive-thru)	102-16	Section 16/ T.29S/R.27E	1.15	In Review
48.	N/A	4601 Coffee Road	Site Plan Review for the addition of a new pad for a 1,906 sf drive-thru restaurant in a retail center	102	Section 17/ T.29S/R.27E	.89	In Review
49.	N/A	4733 Centennial Plaza Way	Site Plan Review for a 8,492 sf office building	102	Section 17/ T.29S/R.27E	.74	In Review
50.	N/A	5512 Knudsen Dr	Site Plan Review for a 39,648 sf medical outpatient facility	102-15	Section 15/ T.29S/R.27E	10.11	In Review
51.	N/A	2420 Wedding Lane	Conditional Use Permit for expansion of existing legal non-conforming mobile home park	102-28	Section 28/ T.29S/R.27E	.20	In Review
52.	N/A	9600 Retail Dr	Conditional Use Permit to allow	102	Section 20/ T.29S/R.27E	.80	In Review

			operation of a cocktail bar				
53.	N/A	4301 Verdugo Lane	Conditional Use Permit to allow 200-unit complex in C-1 Zone	102	Section 18/ T.29S/R.27E	3.88	In Review

Source: Kern County Planning and Natural Resources Department, updated Table 3-7 (August 2026).
Key:
Hwy = Highway
I-5 = Interstate 5
SR = State Route
GPA = General Plan Amendment
ZC = Zone Change
sf = square feet
Note: Total approximate acreage of listed cumulative projects: approximately 6,595 acres. Project Nos. 30 and 31 are Circulation Element amendments removing a planned collector roadway, for which no project acreage applies, and are not included in this total.

Section 4.2, Air Quality, Page 4.2-41

In response to Comment Letter 1 from California Air Resources Board (CARB) and Comment Letter 11 from San Joaquin Valley Air Pollution Control District (SJVAPCD), **Mitigation Measure, MM 4.2-3** is revised as follows. None of the significance conclusions in the Draft EIR have changed.

> **MM 4.2-3**: The project proponent and/or its contractors shall continuously implement the following measures during construction and operation of the project to control emissions from the on-site equipment:
>
> a. All equipment shall be maintained in accordance with the manufacturer's specifications.
>
> b. All equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five (5) minutes.
>
> c. Construction equipment shall not operate longer than eight (8) cumulative hours per day without prior written authorization provided by the Kern County Planning and Natural Resources Department.
>
> d. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOx emissions.
>
> e. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines.
>
> f. All on-site off-road equipment and on-road vehicles shall meet the recent California Air Resources Board engine emission standards or alternatively fueled equipment, such as compressed natural gas, liquified natural gas, or electric, as appropriate.
>
> g. Tier 4 engines shall be used on all equipment when available.
>
> h. Electric equipment shall be used whenever possible in lieu of diesel or gasoline powered equipment. An area to charge electric powered construction vehicles and equipment during construction shall be designated on-site if temporary power is available.

i. Any future tenant operating a charbroiler shall comply with all applicable SJVAPCD rules and regulations, including obtaining and maintaining all required SJVAPCD permits and implementing any required emission control measures before operating a charbroiler.

j. During operation of the proposed project, Signs and drive-aisle pavement markings shall be installed and maintained to clearly identify the approved on-site circulation pattern and minimize unnecessary on-site vehicle travel. Signs shall also be posted at appropriate and visible locations stating that off-site parking is strictly prohibited. All signs and pavement markings shall be kept legible and in good condition throughout project construction and operation.

Section 4.2, Air Quality, Page 4.2-42

In response to Comment Letter 1 from CARB, **Mitigation Measure MM 4.2-7** is revised as follows. None of the significance conclusions in the Draft EIR have changed.

MM 4.2-7: Prior to the issuance of occupancy permits, the Kern County Planning Department will require that the tenant lease agreements include contractual language that requires all Transport Refrigeration Units (TRUs) entering the project site be plug-in capable. Electrical hookups shall be provided as part of the tenant improvements for any tenant that requires cold storage. The electrical hookups shall be provided at all loading bays for truckers to plug in any onboard auxiliary equipment and power refrigeration units while their truck is stopped.

Idling or use of auxiliary truck engine power to power climate control equipment shall be prohibited if the truck is capable of plugging in at the loading bay. In addition:

a. All equipment shall be maintained in accordance with the manufacturer's specifications.

b. All equipment, including TRUs, heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not ~~is~~ in use for more than 5 minutes.

To reduce idling emissions from trucks and TRUs, the project applicant/developer shall have signage placed at truck access gates, loading docks, and truck parking areas that clearly notes idling is strictly prohibited on the subject property. In coordination with Kern County, the project applicant/developer shall also place similar signs in the adjacent streets in the project area. At minimum, each sign placed outside the interior premises of the subject property shall note the idling prohibition on the adjacent streets ~~and include telephone numbers of the building facilities manager and the California Air Resources Board to report violations~~ in the project area. All signage shall be made of weather-proof materials. All site and architectural plans submitted to Kern County shall note the locations of these signs. Prior to issuance of occupancy permits, Kern County shall verify compliance with these requirements herein.

Section 4.3, *Biological Resources*, Page 4.3-19 (Special-Status Plants)

In response to Response to Comment 14-R, the following sentence is revised to conform the impact discussion to the potential-to-occur determination in the Biological Resources Assessment and to the environmental setting discussion on Draft EIR page 4.3-4:

As a result, there is a moderate high potential for Bakersfield cactus to occur on the Project site.

Section 4.3, *Biological Resources*, Page 4.3-24

In response to Response to Comment 13-JJJ, **Mitigation Measure MM 4.3-3** is revised as follows. None of the significance conclusions in the Draft EIR have changed.

> **MM 4.3-3:** No more than thirty (30) days prior to the start of ground disturbance activities or issuance of any grading permits, a qualified biologist knowledgeable on the identification of rare plant species shall conduct a pre-construction plant survey of areas of proposed disturbance within the project site and 100-foot buffer (where legally accessible) to determine if any special-status plant species are present. If special-status plants are identified on-site, their locations shall be mapped and the project proponent shall confer with CDFW or USFWS as required by applicable law to facilitate salvage or seed collection. If avoidance of the identified special-status plant population is feasible, a no-disturbance buffer of at least 50 feet shall be established around the population and maintained throughout construction. The project proponent shall consult with USFWS and CDFW, as appropriate, on the need for take authorization if impacts to listed plant species, including Bakersfield cactus, are unavoidable, and no listed plants shall be removed or destroyed without prior authorization from USFWS and/or CDFW, as appropriate. If listed plants are identified and will be impacted, the project shall compensate for loss of occupied habitat at a minimum ratio of 1:1 and the final ratio would be determined by CDFW and/or USFWS and will be based on the level of impacts from the project to occupied habitat.

Section 4.3, *Biological Resources*, Pages 4.3-26 through 4.3-28

In response to Comment Letter 2 from California Department of Fish and Wildlife (CDFW), **Mitigation Measure MM 4.3-6** is revised as follows. None of the significance conclusions in the Draft EIR have changed.

> **MM 4.3-6:** Preconstruction surveys shall be conducted by a qualified biologist to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to commencement of ground-disturbing activities. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site being disturbed.
>
> The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife (CDFW) Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. As each burrow is investigated, surveying biologists shall also look for signs of American badger and San Joaquin kit fox. Copies of the survey results shall be submitted to CDFW and the Kern County Planning and Natural Resources Department.
>
> If burrowing owls are detected onsite, the avoidance buffers outlined below should be established. These buffers shall be implemented prior to and during any ground disturbing activities. Specifically, CDFW's Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist, approved by CDFW, verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Visible markers shall be placed near the identified burrow(s) to ensure that machinery does not collapse the burrow(s). If any burrows are detected onsite in the impact area an

Incidental Take Permit (ITP) may be required and CDFW should be consulted prior to initiating project activities that would impact the species. If active burrows are identified and will be impacted, the project shall compensate for loss of occupied habitat (i.e areas within 500-feet of active burrows) at a minimum ratio of 1:1 and the final ratio would be determined by CDFW and will be based on the level of impacts from the project to occupied habitat.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1 – Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16 – Oct 15	200 m*	200 m	500 m
Nesting sites	Oct 16 – Mar 31	50 m	100 m	500 m

*meters (m)

If burrow avoidance is infeasible during the non-breeding season or during the breeding season (February 1 through August 31) where resident owls have not yet begun egg laying or incubation, or where the juveniles are foraging independently and capable of independent survival, a qualified biologist shall implement a passive relocation program in accordance with Appendix E1 (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 CDFW Staff Report on Burrowing Owl Mitigation. Passive relocation may only occur after consultation with CDFW regarding the need for an ITP prior to implementing any relocation.

If passive relocation is required and CDFW authorization has been issued to conduct the relocation, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan in accordance with the 2012 CDFW Staff Report on Burrowing Owl Mitigation, for review by CDFW prior to passive relocation activities. If applicable, the Mitigation Land Management Plan shall include a requirement for the permanent conservation of offsite Burrowing Owl Passive Relocation Compensatory Mitigation. At a minimum, the following recommendations shall be implemented:

a. Temporarily disturbed habitat shall be restored, if feasible, to pre-project conditions including decompacting soil and revegetating.

b. Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows and burrowing owl impacted are replaced based on a site-specific analysis and shall include permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals.

c. If compensatory mitigation is required, permanently protect mitigation land through a conservation easement, deed restriction, or similar mechanism deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a CDFW-approved burrowing owl conservation bank, the project operator may purchase available burrowing owl conservation bank credits. Land identified to mitigate for passive relocation of burrowing owl may be combined with other offsite mitigation requirements of the proposed project if the compensatory habitat is deemed suitable to support the species.

Section 4.3, *Biological Resources*, Pages 4.3-28 through 4.3-29

In response to Comment Letter 2 from California Department of Fish and Wildlife (CDFW), **Mitigation Measure MM 4.3-8** is revised as follows. None of the significance conclusions in the Draft EIR have changed.

MM 4.3-8: Prior to and during construction activities:

a. If any San Joaquin kit fox dens are found during pre-construction surveys, the status of the dens shall be evaluated no more than 14 days prior to project ground disturbance. Provided that no evidence of kit fox occupation is observed, potential dens shall be marked and a 50-foot avoidance buffer delineated using stakes and flagging or other similar material to prevent inadvertent damage to the potential den. If a potential den cannot be avoided, it may be hand-excavated following United States Fish and Wildlife Service standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance by the lead biologist. If kit fox activity is observed at a den, the den status shall change to "known" per United States Fish and Wildlife Service guidelines (1999), and the buffer distance shall be increased to 100 feet. Absolutely no excavation of San Joaquin kit fox known or pupping dens shall occur without prior authorization from the United States Fish and Wildlife Service and California Department of Fish and Wildlife. <u>The project proponent shall consult with USFWS and CDFW on the need for an ITP if impacts to occupied dens are unavoidable and no dens shall be excavated without prior authorization from the USFWS and CDFW. If active dens are identified and will be impacted, the project shall compensate for loss of occupied habitat (i.e., areas within 500-feet of active dens or as determined by the resource agencies) at a minimum ratio of 1:1 and the final ratio would be determined by CDFW and will be based on the level of impacts from the project to occupied habitat.</u>

b. To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site during construction, the perimeter security fence shall leave a 5-inch opening between the fence mesh and the ground or the fence shall be raised 5 inches above the ground. The bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence.

c. All pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the United States Fish and Wildlife Service has been consulted. If necessary, under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity until the fox has escaped.

d. To prevent inadvertent entrapment of San Joaquin kit foxes, badgers, or other animals during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If listed species are trapped, the United States Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted.

e. All vertical tubes used in project construction, such as chain link fencing poles shall be temporarily or permanently capped at the time they are installed to avoid the entrapment and death of special-status birds.

Section 4.3, *Biological Resources*, Page 4.3-29

In response to Comment Letter 2 from California Department of Fish and Wildlife (CDFW), **Mitigation Measure MM 4.3-9** is revised as follows. None of the significance conclusions in the Draft EIR have changed.

MM 4.3-9: If construction activities are conducted during the typical nesting bird season (February 15 through September 15), pre-construction surveys shall be conducted by a qualified biologist prior to any site preparation and/or construction activity to identify potential nesting bird activity. The survey area shall include a 500-foot buffer surrounding the property. Swainson's hawk protocol-level surveys shall be consistent with the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC 2000); If no active nests are found within the survey area, no further mitigation is required. If construction activities are delayed and are conducted during the subsequent nesting bird season, then an additional Swainson's hawk protocol survey will be required. If nesting activity is identified during the pre-construction survey process, the following measures will be implemented:

a. If active nest sites of bird species protected under the Migratory Bird Treaty Act and/or California Fish and Game Code are observed within the project site, then the project will be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young;

b. If active nest sites of raptors and/or bird species of special concern are observed within the vicinity of the project site, then the appropriate buffer around the nest site (typically 250 feet for passerines and 500 feet for raptors) will be established. For any Swainson's hawk nest site, a no-work buffer of ½ mile will be established around the nest site. Construction activities in the buffer zone will be prohibited until the young have fledged the nest and achieved independence;

c. Active nests shall be documented by a qualified biologist, and a letter report shall be submitted to the Kern County Planning and Natural Resources Department documenting project compliance with the Migratory Bird Treaty Act and California Fish and Game Code;

d. If the ½ mile buffer around any active Swainson's hawk nest cannot be avoided, then consultation with CDFW would be required to determine the need for an ITP or other avoidance or mitigation planning; and,

e. Permanent impacts to foraging habitat near an active Swainson's hawk nest shall be mitigated such that the habitat acreage impacted is replaced based on a site-specific analysis and shall include permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for Swainson's hawk foraging and dispersal (i.e., during nesting and non-nesting seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals. The habitat mitigation ratios and requirements are as follows:

- If the closest nest is within 1 mile, the ratio shall be 1:1,

- If the closest nest is more than 1 mile from the project site, but within 5 miles of the site, the ratio shall be ¾:1,
- If the closest nest is more than 5 miles, but within 10 miles of the site, the ratio shall be ½:1, and
- No compensatory mitigation shall be required if there are no nests within 10 miles of the project site.

Section 4.3, *Biological Resources*, Page 4.3-30

In response to Comment Letter 2 from California Department of Fish and Wildlife (CDFW), **Mitigation Measure MM 4.3-12** is revised as follows. None of the significance conclusions in the Draft EIR have changed.

> **MM 4.3-12:** A qualified biologist shall conduct a survey for Crotch's bumble bee and their requisite habitat using the California Department of Fish and Wildlife -approved protocol during the blooming period immediately prior to project construction to detect bumble bees and potential nesting sites. The survey shall be conducted within a survey area that includes a 50-foot buffer around the Project footprint and results submitted to California Department of Fish and Wildlife at least seven (7) days prior to commencing any project activities. If Crotch's bumble bee is identified during surveys or at any time during Project construction, the project proponent shall confer with California Department of Fish and Wildlife to determine if take can be avoided. If avoidance of Crotch's bumble bee nest(s) is not feasible, take authorization prior to ground disturbing activities is warranted. Take authorization would occur through issuance of an Incidental Take Permit by California Department of Fish and Wildlife, pursuant to Fish and Game Code section 2081(b). The take permit shall, at a minimum, compensate for loss of occupied habitat at a minimum ratio of 1:1 and the final ratio would be determined by CDFW and will be based on the level of impacts from the project to occupied habitat. Alternatively, in the absence of surveys, the project proponent may assume presence and apply for and acquire an Incidental Take Permit for Crotch's bumble bee prior to initiating project activities.

Section 4.5, *Energy*, Pages 4.5-16 through 4.5-17

In response to Response to Comment 11-C, **Mitigation Measure MM 4.5-1** is revised as follows. None of the significance conclusions in the Draft EIR have changed.

> **MM 4.5-1**: Prior to the issuance of building permits, the Project Proponent shall provide a report and summary of all energy efficient building design standards incorporated into the project design and operations to reduce the level of energy consumption of the Project. The following measures shall be included in the Project design and implemented as applicable. Explanations for feasibility and implementation shall be included in the report:
>
> a. Within one year of the first day of Project operations, the Project shall install and maintain roof-mounted solar photovoltaic ~~mounted on proposed structure's roofs to provide a portion of the future electrical demand and offset emissions from fossil fuel fired power plants.~~ systems on proposed structures to the maximum extent feasible based on available rooftop area and design constraints. The rooftop solar photovoltaic systems shall be designed to maximize on-site renewable electricity generation. Within one year of the first day of Project operations, solar photovoltaics mounted on

proposed structure's roofs to provide a portion of the future electrical demand and offset emissions from fossil fuel fired power plants.

b. Incorporate green building measures that contribute to reducing energy use by at least 10 percent and up to 25 percent less than Title 24 requirements.

c. Provide solar water heating for non-industrial water heating.

d. ~~If needed, in addition to roof mounted solar, provide ground mounted solar photovoltaics arrays to provide a portion of the estimated electrical demand for the proposed Project.~~ If rooftop solar photovoltaic systems do not meet the Project's entire future electrical demand, the Project shall install ground-mounted solar photovoltaic arrays to meet the remaining electrical demand on-site to the maximum extent feasible.

e. Commercial buildings shall be designed to meet LEED® certification standards.

f. Roofs on all buildings shall be of a light color with a solar reflective index greater than 78 to reduce heat generation.

g. Portions of parking lots (drive aisles) may be paved with concrete versus asphalt, based on structural determinations, to reduce heat absorption and the heat island effect ~~initial~~.

h. Within two years of the first day of project operations, up to 20% of employee parking stalls shall be covered. If feasible for electrical demand, the parking stall roofs shall contain solar photovoltaics.

i. LED lighting fixtures shall be used on all indoor and exterior site lighting.

j. LED lighting fixtures shall be used on all public streets and site lighting.

k. Electric forklifts and other material handling vehicles to reduce usage of fossil fuels shall be implemented, based on feasibility of operations.

l. Consult with Kern County Public Works and Golden Empire Transit (GET) on feasible design circulation features for transit related public street improvements adjacent to the project for implementation of MM 4.16~~7~~-3 Transportation Demand Management Program.

m. Provide bicycle friendly features, such as onsite bike lanes, bike racks, electrical bike plugins, and bike lockers, to reduce vehicle miles traveled and to encourage non-vehicular transportation.

n. Where feasible design operations to incorporate the usage of high efficiency electric motors for industrial uses.

o. Install battery storage associated with the rooftop and ground-mounted solar photovoltaic systems that shall be installed on-site, where feasible and appropriate.

Section 4.5, *Energy*, Page 4.5-17

In response to Comment Letter 1 from CARB, **Mitigation Measure MM 4.5-2** is revised as follows. None of the significance conclusions in the Draft EIR have changed.

MM 4.5-2: Prior to the issuance of building permits, the Project Proponent shall provide evidence ~~that the Project is designed to include the green building measures specified as mandatory in the~~

~~application checklist contained in the current~~ to the Kern County Planning and Natural Resources Department demonstrating compliance with the California Green Building Standards Code. ~~In addition to the number of electric vehicle capable spaces provided with electric vehicle supply equipment required by the current California Green Building Standards, the Project shall provide electrified EV chargers for 22% of the electric vehicle capable spaces with electric vehicle supply equipment.~~ The Project shall provide electrified Level 2 EV chargers for 10 percent of the Project's total parking stalls, which is approximately 50 percent of the Project's proposed EV-capable parking spaces. The Project shall also provide 5 medium- and heavy-duty truck chargers.

During initial construction, the Project Proponent shall also install infrastructure to facilitate the future installation of additional medium- and heavy-duty chargers, henceforth named "make-ready infrastructure". Make-ready infrastructure construction shall include conduit from the electrical rooms to the truck court, reserved space and pads for future transformers and switchgear, and ductbanks sized to accommodate future medium- and heavy-duty electric vehicle charging loads. Furthermore, the Project Proponent shall design and construct electrical rooms that are 25 percent larger than necessary for the expected Project electrical capacity needs, to accommodate future expansion of electric vehicle charging capability.

Additionally, the owner of the project site shall cooperate with any tenant's application to Pacific Gas and Electric Company under Electric Rule 29, the Flexible Service Connections tariff, or any applicable successor tariff or program for medium- and heavy-duty electric vehicle charging service.

Section 4.7, *Greenhouse Gas Emissions*, Page 4.7-35

In response to Comment Letter 1 from CARB and Comment Letter 11 from SJVAPCD, **Mitigation Measure MM 4.7-1** is revised as follows. None of the significance conclusions in the Draft EIR have changed.

MM 4.7-1: Includes the following:

a. Prior to issuance of occupancy permits, the project developer shall require and disclose to all tenants/business entities that only electric-powered off-road equipment (e.g. forklifts, material handling equipment, etc.) shall be utilized for all indoor and outdoor activities on the project site for daily warehouse and business operations and a copy of disclosure documents shall be submitted to the Planning and Natural Resources Department to be kept on file.

b. Prior to issuance of grading permits, the project construction's General Contractor shall target a construction waste diversion rate of 80 percent. A monthly construction report shall be provided to the County documenting total waste generated, types of waste streams, and total waste recycled.

c. During operation and to the extent feasible for safe warehouse operations, automatic light switches shall be incorporated into the project.

d. During operation, any equipment containing greater than five pounds of refrigerant, procured or installed, shall be tagged so that project applicant and tenant can identify and verify all installed equipment.

Section 4.16, *Transportation and Traffic*, Pages 4.16-25 through 4.16-26

In response to Comment Letter 1 from CARB and Comment Letter 11 from SJVAPCD, **Mitigation Measure MM 4.16-1** is revised as follows. None of the significance conclusions in the Draft EIR have changed.

MM 4.16-1: Prior to final occupancy, the project proponent shall complete the following:

a. Record an irrevocable offer of dedication to the County of Kern of all subject frontage along:

1. Airport Drive, 55 feet in width, and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards

2. Merle Haggard Drive, 55 feet in width, and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards

3. Petrol Road, 45 feet in width, including the off-site portion of Petrol Road from the westerly project boundary line to the easterly right-of-way of Landings Way for orderly development and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards

4. Landings Way, 45 feet in width, including the off-site portion of Landings Way from the northerly project boundary line to the southerly right-of-way of Petrol Road for orderly development and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards

b. Under street improvement plans submitted for review and approval by the Kern County Public Works Department:

1. Construct Airport Drive project frontage to "Type A" Subdivision Standard, half width Arterial Street, and right turn lane (Plate R-40), per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to: curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, and the necessary tie-ins.

2. Construct Merle Haggard Drive project frontage to "Type A" Subdivision Standard, half width Arterial Street, and right turn lane (Plate R-40), per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to: curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, and the necessary tie-ins.

3. Construct Petrol Road project frontage to "Type A" Subdivision Standard, half width Collector Street, and right turn lane (Plate R-40), per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to: curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, and the necessary tie-ins.

4. Construct Petrol Road from the westerly project boundary line to the easterly right-of-way of Landings Way to Type "A" Subdivision Standard, half width Collector Street, for orderly development, per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, right turn channelization, and the necessary tie-ins.

5. Construct Landings Way project frontage to Type "A" Subdivision Standard, half width Collector Street, and right turn lane (Plate R-40), per the Kern County Development Standards

and the Land Division Ordinance. These improvements shall be, but not limited to: curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, and the necessary tie-ins.

6. Construct Landings Way from the northerly project boundary line to the southerly right-of-way of Petrol Road to Type "A" Subdivision Standards, half width Collector Street, for orderly development, per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, right turn channelization, and the necessary tie-ins.

7. Modify existing traffic signal at the intersection of Merle Haggard Drive and Landings Way, per the Kern County Development Standards and the Land Division Ordinance.

8. Include a striping plan and streetlight plan

9. Provide a 20-foot by 20-foot right of way corner cutoff at all intersections

10. All employee drive approaches shall conform to Plate R-55, per the Kern County Development Standards and the Land Division Ordinance.

11. All truck drive approaches shall conform to Plate R-58, widths to be determined in consultation with Kern County Public Works Department and per the Kern County Development Standards and the Land Division Ordinance.

12. All easements shall be kept open, clear, and free from buildings and structures of any kind pursuant to Chapters 18.50 and 18.55 of the Kern County Land Division Ordinance. All obstructions, including utility poles and lines, trees, pole signs, fences, or similar obstructions, shall be removed from the ultimate road right-of-way. Compliance with this requirement is the responsibility of the applicant and may result in significant expenditures.

c. Prior to final occupancy, the project proponent shall prepare and submit a Truck Routing Plan to the Kern County Public Works Department—Traffic Division for review and approval. The Truck Routing Plan shall identify the designated routes for project-related truck traffic between the project site and the regional roadway and highway system. Project-related trucks shall use the routes identified in the approved Truck Routing Plan. Prior to final occupancy, the project proponent shall install signs at all truck entrances and exits, and at any additional locations required by the Kern County Public Works Department—Traffic Division, directing truck drivers to the designated truck routes identified in the approved Truck Routing Plan. The project proponent/operator shall maintain the truck-route signs and provide the approved Truck Routing Plan to Project tenants, visitors, and users.

Chapter 6.0, Alternatives, Pages 6-34 (Alternative 3, Air Quality)

In response to Response to Comment 14-Z, the following sentence is revised to correct the characterization of Alternative 3's localized construction-related impact relative to the proposed Project.

While the proposed Mitigation Measures MM 4.2-6 through MM 4.2-12, in addition to previously discussed MM 4.2-1 through MM 4.2-5, would reduce impacts from pollutant concentrations during construction, it is conservatively assumed, given that much of the area is currently undeveloped that impacts would be significant and unavoidable, ~~similar to~~ unlike the Project.

7.3 Responses to Comments

A list of agencies and interested parties who have commented on the Draft EIR is provided below. No individuals commented on the Draft EIR. A copy of each numbered comment letter and a lettered response to each comment are provided following this list.

State Agencies

Comment Letter 1: California Air Resources Board (CARB) (April 9, 2026)

Comment Letter 2: California Department of Fish and Wildlife (CDFW) (April 20, 2026)

Comment Letter 3: Central Valley Regional Water Quality Control Board (May 20, 2026)

Comment Letter 4: California Geologic Energy Management Division (CalGEM) (March 3, 2026)

Comment Letter 5: California Geologic Energy Management Division (CalGEM) (May 13, 2026)

Comment Letter 6: California Department of Transportation (Caltrans) (March 23, 2026)

Local Agencies

Comment Letter 7: Kern County Public Works Department – Survey (April 12, 2026)

Comment Letter 8: Kern County Public Works Department – Development Review (April 23, 2026)

Comment Letter 9: Kern County Fire Department (KCFD) (April 7, 2026)

Comment Letter 10: Kern County Superintendent of Schools (KCSOS) (May 1, 2026)

Comment Letter 11: San Joaquin Valley Air Pollution Control District (SJVAPCD) (April 10, 2026)

Interested Parties

Comment Letter 12: Golden State Environmental Justice Alliance (GSEJA) (April 9, 2026)

Comment Letter 13: Golden State Environmental Justice Alliance (GSEJA) (April 12, 2026)

Comment Letter 14: Center for Biological Diversity (CBD) (April 10, 2026)

Comment Letter 15: Advocates for the Environment (March 23, 2026)

Comment Letter 16: Supporters Alliance for Environmental Responsibility (SAFER) (March 11, 2026)

Comment Letter 17: Southern California Gas (SoCalGas) (April 6, 2026)

Comment Letter 18: Southern California Gas (SoCalGas) (May 18, 2026)

Comment Letter 19: Adams Broadwell Joseph & Cardozo (April 9, 2026)

Comment Letter 20: Santa Rosa Rancheria (April 27, 2026)

7.3.1 State Agencies

Comment Letter 1: California Air Resources Board (CARB) (April 9, 2026)

April 8, 2026

Nicole Menchaca
Division Chief
Kern County Planning and Natural Resources Department
Public Services Building, 2700 M Street, Suite 100
Bakersfield, CA 93301
Huiskenn@kerncounty.com

Sent via email

Dear Nicole Menchaca:

Thank you for providing the California Air Resources Board (CARB) with the opportunity to comment on the Draft Environmental Impact Report (DEIR) for the Airport Commerce Center Industrial Project (Project), State Clearinghouse No. 2025030498. The Project is located at the southern end of the San Joaquin Valley in the Oildale area of unincorporated Kern County (County), which serves as the lead agency for California Environmental Quality Act (CEQA) purposes.

The Project proposes the construction and operation of four industrial warehouses totaling approximately 1,505,440 square feet, including 626,446 square feet for warehousing, 393,624 square feet of cold storage, 335,826 square feet of food/beverage manufacturing, and two associated quick-serve restaurants totaling 9,410 square feet on a 110-acre site. Once fully developed in 2028, the Project is expected to generate up to approximately 6,885 daily vehicle trips, including 824 daily vehicle heavy-duty truck trips, 265 of which are associated with transport refrigeration units (TRU).[1] 1-A

CARB staff are concerned that the Project will expose nearby residential communities to elevated levels of air pollution beyond the existing baseline emissions at the Project site. Residences are located to the east and southeast of the Project site, with the closest residence located within 400 feet of the Project's eastern boundary. In addition to residences, North High School and Wingland Elementary School are located approximately one mile from the Project.[2] These residences and schools are located near existing toxic diesel particulate matter (diesel PM) emission sources, which include aircraft traffic from the 1-B

[1] County of Kern. Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. Draft Environmental Impact Report. February 2026. Page 4.2-51. Accessible at: *https://ceqanet.lci.ca.gov/2025030498/2/Attachment/MHGdLo*

[2] County of Kern. Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. Draft Environmental Impact Report. February 2026. Page 4.2-50. Accessible at: *https://ceqanet.lci.ca.gov/2025030498/2/Attachment/MHGdLo*

Meadows Field Airport, existing industrial facilities, and vehicular traffic along State Routes 65 and 99. 1-B cont'd

The State of California has placed additional emphasis on protecting local communities, from the harmful effects of air pollution through the passage of Assembly Bill 617 (AB 617) (Garcia, Chapter 136, Statutes of 2017).[3] AB 617 is a significant piece of air quality legislation that highlights the need for further emissions reductions in communities with high exposure burdens. Diesel PM emissions generated during the construction and operation of the Project would negatively impact neighboring communities.

Through its authority under Health and Safety Code section 39711, the California Environmental Protection Agency (CalEPA) is charged with the duty to identify disadvantaged communities. CalEPA bases its identification of these communities on geographic, socioeconomic, public health, and environmental hazard criteria. In this capacity, CalEPA currently defines a disadvantaged community as a community that scores within the top 25% of the census tracts as analyzed by the California Communities Environmental Health Screening Tool Version 4.0 (CalEnviroScreen). The census tract containing the Project (6029000101) has a cumulative CalEnviroScreen 4.0 score in the 88th percentile, which includes a Pollution Burden score in the 94th, and is therefore considered a disadvantaged community.[4] This means that the Project area is more impacted by environmental and socioeconomic challenges than 88% of the rest of California. Specifically, this community has a higher exposure to pollution and environmental hazards than 94% of the communities is the rest of the state. Accordingly, the County must ensure the Project does not adversely impact neighboring disadvantaged communities. 1-C

Industrial facilities, like the warehouse facilities described in the Project, can result in high volumes of heavy-duty diesel truck traffic and operation of on-site equipment (e.g., forklifts and) that emit toxic diesel emissions and contribute to regional air pollution and global climate change. California is advancing its zero-emission goals through the Clean Truck Partnership, a collaborative agreement between CARB and leading manufacturers to increase the availability of zero-emission trucks and vans.[5] This partnership ensures a steady supply of clean technology to the market, aligning with the state's long-term air quality and climate objectives. CARB staff urges the County to plan for the use of zero-emission technologies within the Project area as described in this letter. 1-D

---

[3] Assembly Bill 617, Garcia, C., Chapter 136, Statutes of 2017, modified the California Health and Safety Code, amending § 40920.6, § 42400, and § 42402, and adding § 39607.1, § 40920.8, § 42411, § 42705.5, and § 44391.2.

[4] California Office of Environmental Health Hazard Assessment (OEHHA). California Communities Environmental Health Screening Tool. CalEnviroScreen 4.0. Accessible at: *https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40*

[5] CARB. Clean Truck Partnership. Accessible at: *https://ww2.arb.ca.gov/clean-truck-partnership-home*

To protect the health of the community and nearby sensitive receptors (e.g., residents and school students),[6] CARB urges the County to:

- Participate in CARB's California Clean Construction Program
- Provide substantial evidence supporting the 30-minute idling duration for transportation refrigeration units (TRU) and 15-minute idling duration for heavy-duty truck idling used to evaluate the Project's cancer risk impacts in the DEIR
- Include a project design feature or mitigation measure restricting heavy-duty truck traffic to the specific routes modeled in the health risk assessment (HRA) to prevent trucks from travelling through residential neighborhoods
- Include additional enforceable mitigation measures or project design features requiring the use of Tier 4 Final construction equipment, the mandatory use of electric hookups for all TRU-equipped trucks, and the transition to zero-emission heavy-duty trucks and on-site service equipment.

1-D cont'd

CARB Urges the County to Participate in CARB's California Clean Construction Program

The DEIR concludes in Section 4.2 (Air Quality) that the Project's construction activities would result in a less-than-significant impact.[7] As shown in Tables 4.2-5 (Proposed Project Construction Emissions) of the DEIR, air pollutants modeled for Project construction would be below the San Joaquin Valley Air Pollution Control District's (SJVAPCD) significance thresholds.[8] Although air pollutants emitted during the construction of the Project would not exceed SJVAPCD's significance thresholds, it should be the County's goal to reduce the Project's air quality impacts as much as possible to protect public health.

The construction of the Project would temporarily expose nearby residences to harmful air pollution and would contribute to the existing significant air pollution burden in the community. To reduce these impacts, CARB urges the County to include a project design measure in the Final Environmental Impact Report (FEIR) requiring the County to participate in CARB's California Clean Construction (CCC) program for the Project.

The CCC program is a voluntary initiative administered by CARB to accelerate the deployment of zero-emission and advanced clean off-road construction equipment across

1-E

[6] California Health and Safety Code Section 42705.5, subdivision (a)(5) "Sensitive receptors": *leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=42705.5.&lawCode=HSC*
[7] County of Kern. Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. Draft Environmental Impact Report. February 2026. Page 4.2-59. Accessible at: *https://ceqanet.lci.ca.gov/2025030498/2/Attachment/MHGdLo*
[8] County of Kern. Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. Draft Environmental Impact Report. February 2026. Page 4.2-48 and 4.2-49. Accessible at: *https://ceqanet.lci.ca.gov/2025030498/2/Attachment/MHGdLo*

California. The program was developed as part of CARB's broader strategy to meet State Implementation Plan commitments and improve air quality in communities disproportionately burdened by diesel pollution, such as the communities in Oildale. The program serves as a voluntary framework that recognizes and encourages fleets to go beyond existing regulations, such as CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation. The program prioritizes the use of battery-electric, hydrogen fuel cells, and other zero-emission construction equipment where those technologies are commercially available, and where not, encourages the use of the cleanest available diesel equipment.

CARB maintains a Zero-Emission Equipment List identifying eligible equipment models, and it provides guidance to awarding bodies on how to integrate clean construction criteria into bid specifications and contract documents.[9] To participate in the CCC program and earn project recognition, if the following equipment types are used in the Project, the County would be required to use the following zero-emission off-road equipment:

- Aerial lift (scissor and personnel)
- Compact/mini excavator (up to 15,000 pounds operating weight)
- Compact/mini track and wheel loaders (up to 15,000 pounds operating weight)
- Dumper/buggy
- Forklift (up to 5,000 pounds lift capacity)
- Light cart/tower/stand
- Power generation systems, Battery Energy Storage Systems, and hybrid gensets
    - On project diesel generators are only allowed if incorporated into hybrid genset systems (as defined in the program section titled Definitions)
- Tampers/mini-compacters/mini-rollers
- Walk-behind concrete saw

The construction of the Project will likely use many of the off-road equipment listed in the Zero-Emission Equipment List. As presented in Appendix B: Air Quality, Greenhouse Gas Emissions, and Energy Analysis Report Table 8 (Project Construction Assumptions),[10] the County assumed in their construction emission modeling that the Project construction would require the use of trenchers, tractors/loaders/backhoes, rollers, forklifts, and

1-E cont'd

[9] California Clean Construction Program. Accessible at: *California Clean Construction Zero-Emission Equipment List | California Air Resources Board*.
[10] County of Kern. Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. Draft Environmental Impact Report. February 2026. Appendix B. Table 8. Page 69. Accessible at: *https://ceqanet.lci.ca.gov/2025030498/2/Attachment/ceNcMY*

generator sets, all of which can be provided as zero-emission in the Zero-Emission Equipment List.

In addition to participating in the CCC program, CARB urges the County to include the following recommended emission reduction strategies as project design features in the DEIR.

- Ensure the cleanest possible construction practices and equipment are used. This includes eliminating the idling of diesel-powered equipment and providing the necessary infrastructure (e.g., electrical hookups) to support zero and near-zero equipment and tools.
- In construction contracts, include language requiring all off-road diesel-powered equipment used during construction to be equipped with Tier 4 final engines with a diesel particulate filter or cleaner engines, except for specialized construction equipment for which such engines are not available. Information on finding Tier 4 final equipment with diesel particulate filter is available on CARB's website.[11]
- In construction contracts, include language requiring that all off-road equipment with a power rating below 19 kilowatts (e.g., plate compactors, pressure washers) used during project construction be battery-powered.
- In construction contracts, include language that requires all heavy-duty trucks entering the construction site during the grading and building construction phases be model year 2014 or later.
- In construction contracts, include language that requires all heavy-duty trucks entering the construction site during the grading and building construction phases be ZEV where feasible. If ZEVs are not feasible, trucks must be model year 2017 or later. All heavy-duty haul trucks should also meet CARB's lowest optional low-oxides of nitrogen (NOx) standard.[12]
- Include contractual language in tenant lease agreements requiring all service equipment (e.g., yard hostlers, yard equipment, forklifts, and pallet jacks) used within the project site to be zero-emission as this equipment is widely available and can be purchased using incentive funding from CARB's Clean Off-Road Equipment Voucher Incentive Project (CORE).[17]

1-E cont'd

[11] Optional Tier 4 Final + Diesel Particulate Filter Equipment. Accessible at *Optional Tier 4 Final + Diesel Particulate Filter Equipment* | California Air Resources Board.

[12] In 2013, CARB adopted optional low-NOx emission standards for on-road heavy-duty engines. CARB encourages engine manufacturers to introduce new technologies to reduce NOx emissions below the current mandatory on-road heavy-duty diesel engine emission standards for model-year 2010 and later. CARB's optional low-NOx emission standard is available at: *https://ww2.arb.ca.gov/our-work/programs/optional-reduced-nox-standards*

The County Used Inappropriate Assumptions When Modeling the Project's Health Risk Impacts

According to the DEIR in Section 4.2 (Air Quality), the HRA prepared for the Project concluded that unmitigated cancer risks for the Maximally Exposed Individual would be 8.88 chances per million.[13] Since the Project's operational cancer risk was found to be below the SJVAPCD's significance threshold of 20 chances per million, the DEIR concluded that the Project would have a less than significant impact health risk impact. CARB is concerned that the County may have underestimated the Project's potential health risk impacts by relying on modeling assumptions not supported by substantial evidence. 1-F

The County may have underestimated operational cancer risk impacts by not using conservative TRU idling durations. Based on CARB's review of the HRA in Appendix B, the County assumed TRUs would idle for only 30 minutes per visit.[14] CARB has obtained survey data indicating trucks with TRUs can operate for as long as two hours while unloading and two hours while loading frozen goods from trucks and trailers, totaling four hours of onsite operation in cases where both loading and unloading take place within the same visit.[15] To conservatively evaluate the Project's cancer risk impacts to residents near the Project site, the County should revise the HRA assuming each TRU visiting the Project site would idle for four hours per visit or provide evidence to substantiate a 30-minute idling time. 1-G

Additionally, The HRA did not evaluate cancer risk impacts from trucks with TRUs traveling along local roadways. According to the Project's description, trucks serving the Project would travel along Merle Haggard Drive to access the Project site. There are residences located adjacent to this roadway that will be exposed to diesel PM emissions from trucks and TRUs traveling to and from the Project site, creating the potential to cause significant cancer risk impact. To fully understand the Project's impact on public health, the revised HRA should evaluate potential cancer risks along local roadways serving the Project site.

The County used an idling duration for on-site heavy-duty trucks not supported by substantial evidence. In Appendix B of the DEIR, the county assumed heavy-duty trucks serving the Project would idle onsite for 15 minutes. CARB's Airborne Toxic Control Measure (ATCM) restricts idling to five minutes. However, the ATCM has an exemption for trucks equipped with a diesel engine meeting the optional nitrogen oxides (NOx) idling 1-H

---

[13] County of Kern. Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. Draft Environmental Impact Report. February 2026. Page 4.2-52. Accessible at: *https://ceqanet.lci.ca.gov/2025030498/2/Attachment/MHGdLo*

[14] County of Kern. Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. Draft Environmental Impact Report. February 2026. Appendix B. Page 11. Accessible at: *https://ceqanet.lci.ca.gov/2025030498/2/Attachment/ceNcMY*

[15] CARB. Proposed Amendments to the Air Borne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate. Appendix I. Page 39. Accessible at *https://ww3.arb.ca.gov/board/rulemaking/tru2021/appi.pdf*.

emissions standard when operating outside of 100 feet of a restricted area (e.g., residences, schools).[16] Because trucks starting with model year 2008+ are clean-idle certified, many of the trucks operating within the Project site could idle longer than five minutes. According to Table 4.4.2-5 of the EMFAC2021 Volume III Technical Document, heavy-duty trucks can idle for as long as approximately five hours in any one location, well above the 15 minute idling duration assumed in the HRA.[17] To fully evaluate the Project's potential unmitigated health risk impacts, the County must revise the Project's HRA to assume a heavy-duty truck idling duration supported by substantial evidence.

1-H cont'd

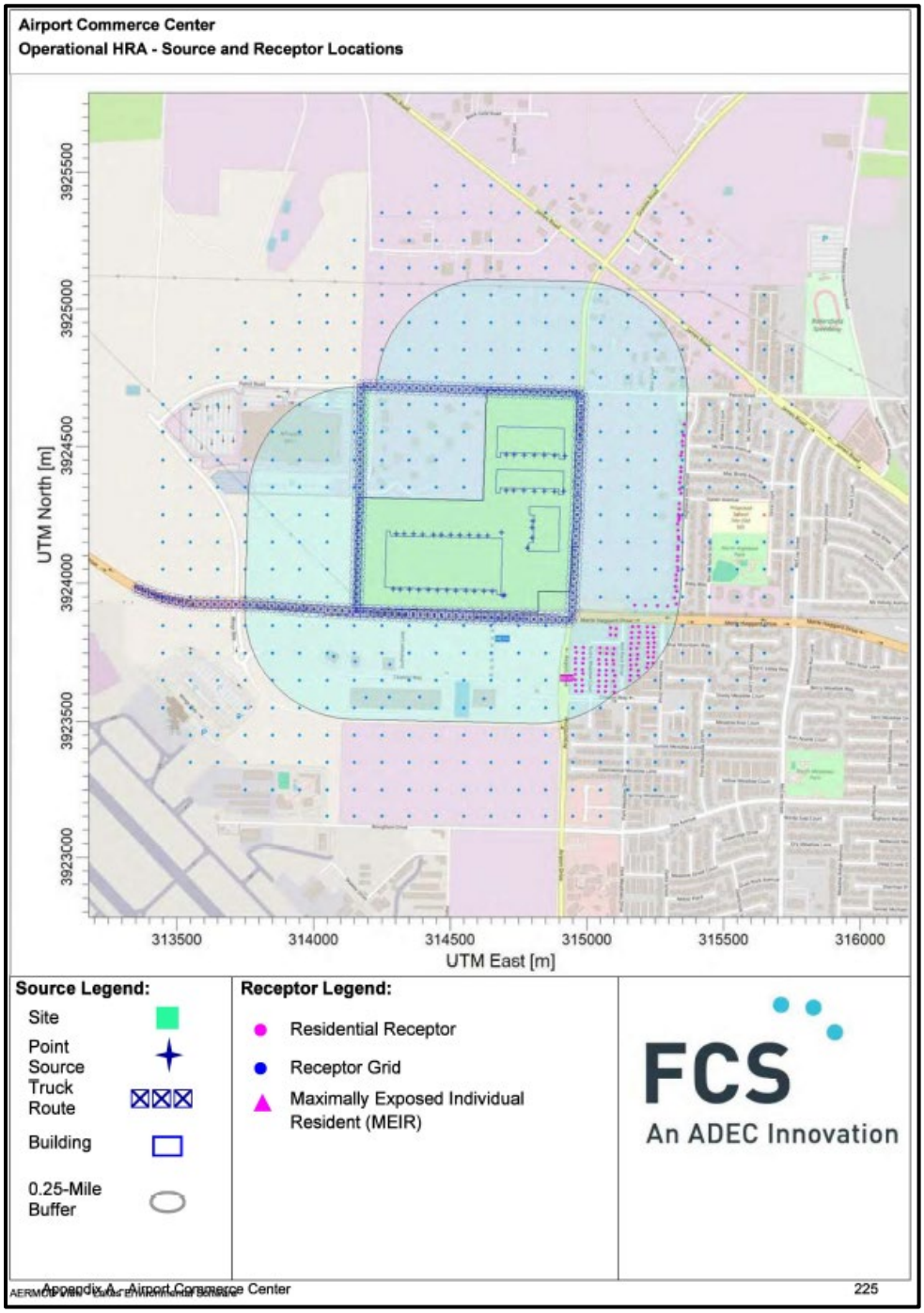
The County Should Include a Project Design Feature Restricting Truck Routing to Modeled Paths

The Project's operational HRA only included one truck route for vehicles leaving the Project site, identified as traveling westbound on Merle Haggard Drive (*Figure 1*).[18] Because the HRA only evaluated the health risk impacts associated with this specific path, any Project-related heavy-duty truck traffic utilizing a different route through nearby residential neighborhoods remains unanalyzed. CARB is concerned that trucks could travel southbound on Airport Drive or through local streets such as McCray Street, exposing residential neighborhoods to elevated levels of diesel PM not evaluated in the Project's operational HRA. Additionally, while Section 3.7 (Project Characteristics) of the DEIR states that "remaining truck traffic would be routed from Airport Drive to James Road to SR-65," this route was omitted from the operational HRA.[19] To ensure the Project's actual health impacts do not exceed those reported in the HRA, the County should include a project design feature that restricts heavy-duty truck traffic to routes evaluated in the Project's operational HRA.

1-I

[16] CARB. Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Accessible at *https://ww2.arb.ca.gov/sites/default/files/2022-06/13_CCR_2485_OAL_06222022-2_ADA_06272022_0.pdf*
[17] CARB. EMFAC2021 Volume III Technical Document. Page 161. Table 4.4.2-5. Accessible at *https://ww2.arb.ca.gov/sites/default/files/2021-03/emfac2021_volume_3_technical_document.pdf*
[18] County of Kern. Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. Draft Environmental Impact Report. February 2026. Appendix B. Page 225. Accessible at: *https://ceqanet.lci.ca.gov/2025030498/2/Attachment/ceNcMY*
[19] County of Kern. Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. Draft Environmental Impact Report. February 2026. Page 3-16. Accessible at: *https://ceqanet.lci.ca.gov/2025030498/2/Attachment/MHGdLo*

Operational HRA – Source and Receptor Locations Map with Modeled Truck Routes



1-I cont'd

Figure 1: County of Kern. Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. Draft Environmental Impact Report. February 2026. Appendix B. Page 225. Accessible at: *https://ceqanet.lci.ca.gov/2025030498/2/Attachment/ceNcMY*

The County Must Include Meaningful Mitigation Measures to Reduce the Project's Impact on Air quality

The County concluded in Section 4.2 (Air Quality) of the DEIR that the operation of the Project would result in a significant impact on air quality. According to Table 4.2-7 (Mitigated Proposed Project Long-Term Operational Emissions, Annual Criteria Pollutant Emissions (tons/year)) the operation of the fully built Project would emit approximately 30 tons per year of NOx, exceeding the SJVAPCD's significance threshold.[20] To mitigate the Project's operational air quality impact, the DEIR included Mitigation Measures 4.2-1 through 4.2-12 which CARB acknowledges.

However, MM 4.2-5 involves a Developer Mitigation Agreement, formally known by the SJVAPCD as a Voluntary Emission Reduction Agreement (VERA) which requires the payment of fees to offset criteria emissions. VERA programs are intended to offset regional criteria pollutants such as NOx and CO, they do not necessarily reduce the localized emissions of diesel PM from Project related equipment and heavy-duty trucks, which are the primary driver of cancer risk for nearby sensitive receptors. CARB is concerned about the reliance on fee-based offsite mitigation as it lacks assurance that the mitigation will effectively and directly reduce localized emissions and health risks to the Oildale community. Paying a fee does not guarantee in real-time, localized air quality improvements necessary to mitigate impacts where they occur. 1-J

To reduce the Project's significant impacts, CARB urges the County to include the following emission reduction measures, either as a mitigation measure or a project design measure in the FEIR:

- Include contractual language in tenant lease agreements requiring future tenants to exclusively use zero-emission light and medium-duty delivery trucks and vans.
- Implement, and plan accordingly for, the necessary infrastructure to support the zero and near-zero emission technology vehicles and equipment that will be operating on site. Necessary infrastructure may include the physical (e.g., needed footprint), energy, and fueling infrastructure for construction equipment, on-site vehicles and equipment, and medium-heavy and heavy-heavy duty trucks.
- Include contractual language in tenant lease agreements requiring a phased transition of heavy-duty trucks entering or on the project site, culminating in a

[20] County of Kern. Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. Draft Environmental Impact Report. February 2026. Table 4.2-7. Page 4.2-47. Accessible at: *https://ceqanet.lci.ca.gov/2025030498/2/Attachment/MHGdLo*

requirement for 100% zero-emission trucks beginning in 2030. Incentive funds can be obtained from the Carl Moyer Program and Voucher Incentive Project.[21, 22]

- Include contractual language in tenant lease agreements that restrict trucks and support equipment from idling longer than two minutes while on site.
- Include contractual language in tenant lease agreements, requiring the installation of vegetative walls or other effective barriers that separate loading docks and people living or working nearby.[23]

1-J cont'd

Conclusion

CARB is concerned about the potential cumulative air quality and public health impact should the County approve the Project. The Project is close to residences and schools that already suffer from exposure to existing air pollution sources and reside in census tracts that score within the top six percent for pollution burden, according to CalEnviroScreen. These sources include existing industrial facilities, vehicle traffic along State Routes 65 and 99, and local air traffic from Meadows Field Airport. To protect the health of the residents and students within these communities, the County must include legally enforceable design features and mitigation measures that promote the use of zero-emission trucks and onsite equipment and the infrastructure to support those technologies.

1-K

Given the breadth and scope of projects subject to CEQA review throughout California that have air quality and greenhouse gas impacts, coupled with CARB's limited staff resources to substantively respond to all issues associated with a project, CARB must prioritize its substantive comments here based on staff time, resources, and its assessment of impacts. CARB's deliberate decision to substantively comment on some issues does not constitute an admission or concession that it agrees with the lead agency's findings and conclusions on any issues for which CARB does not submit substantive comments.

1-L

[21] Zero-Emission Truck and Bus Voucher Incentive Project. Accessible at: *https://californiahvip.org/*
[22] Carl Moyer Program and Voucher Incentive Program. Accessible at: *https://ww2.arb.ca.gov/carl-moyer-program-apply*
[23] Effectiveness of Sound Wall-Vegetation Combination Barriers as Near-Roadway Pollution Mitigation Strategies (2017) is available at: *https://ww2.arb.ca.gov/sites/default/files/classic/research/apr/past/13-306.pdf*

CARB appreciates the opportunity to comment on the DEIR for the Project and can provide assistance with emission reduction strategies, as needed. Please include CARB on your list of selected State agencies that will receive the FEIR. If you have questions, please contact Alejandro (Alex) Sanchez, Air Pollution Specialist, via email at *alex.sanchez@arb.ca.gov*. 1-L cont.

Sincerely,



Matthew O'Donnell, Chief, Risk Reduction Branch

cc: State Clearinghouse
state.clearinghouse@lci.ca.gov

Patia Siong, Supervising Air Quality Specialist, San Joaquin Valley Air Pollution Control District
swang1@aqmd.gov

Alejandro (Alex) Sanchez, Air Pollution Specialist, Risk Reduction Branch

Stanley Armstrong, Air Pollution Specialist, Risk Reduction Branch

Response to Comment Letter 1: California Air Resources Board (CARB) (April 9, 2026)

Response 1-A

This comment is introductory in nature, and the commenter thanks the Lead Agency for the opportunity to comment on the proposed project. The comment also summarizes the proposed project scope operationally and locationally. The comment is noted for the record and revisions to the Draft EIR are not necessary.

Response 1-B

This comment states that CARB staff are concerned about air pollution exposure at nearby residences and schools. The comment notes that there are residences to the east and southeast, within 400 feet of the proposed project boundary, and notes the proximity of North High School and Wingland Elementary School approximately one mile from the project site.

The Draft EIR evaluated potential health risks to nearby residences and schools from exposure to air pollution associated with implementation of the proposed project. As described in the Draft EIR, a Health Risk Assessment (HRA) was conducted to analyze the potential health risks from project construction and operation at sensitive receptors within ¼ mile (1,320 feet) (as recommended by the SJVAPCD) of the proposed project site, including the sensitive receptors noted by the commenter. The HRA was conducted using methodologies recommended by the SJVAPCD and the California Office of Environmental Health Hazard Assessment (OEHHA). As shown in the Draft EIR, the results of the HRA demonstrate that the proposed project's construction and operational emissions would not result in any significant health impacts to nearby sensitive receptors, because estimated cancer and non-cancer health risks at all the surrounding sensitive receptors fall below the SJVAPCD significance thresholds of 20 in one million. The HRA identified a Maximally Exposed Individual Resident (MEIR) and Maximally Exposed Individual Worker (MEIW), which would be the nearby resident and the nearby worker with the greatest exposure and health risks to the project's construction and operational-related emissions; as shown in Table 4.2-10, the cancer risk from project construction at the MEIR was found to be 5.46 in one million and the cancer risk at the MEIW was found to be 0.73 in one million. Cancer risks at all other nearby receptors would be lower than those at the MEIR and the MEIW. As shown in Table 4.2-11, the cancer risk from the project's unmitigated operation-related emissions at the MEIR would be 8.88 in one million and the cancer risk at the MEIW would be 4.21 in one million. As shown in Table 4.2-12, the cancer risk from the project's mitigated operational-related emissions would be 5.23 and 2.09 in one million at the MEIR and at the MEIW, respectively. Furthermore, as noted in the footnote of Table 4.2-10, the calculated cancer risks drop below one in one million at the northeast corner of the project site, and drop below one in one million approximately 2,000 feet southwest of the project site. Therefore, due to the distance of the schools noted by the commenter (1 mile or 5,280 feet from the project site), any estimated cancer risks would be below one in one million at those schools. The County acknowledges the community context identified by the commenter and finds that the Draft EIR's existing analysis adequately evaluates the physical environmental effects of project-generated emissions on these receptors. Final EIR **Appendix A**: *Supplemental Air Quality Information*, an update to the Draft EIR HRA, and Final EIR **Appendix B**: *Supplemental Health Risk Assessment,* an additional HRA analysis, were conducted in response to other comments. These new analyses did not affect the conclusions made above. No revisions to the Draft EIR are necessary. Furthermore, the proposed project is not located in an AB 617 community.

Response 1-C

The comment expresses concern regarding the Draft EIR's analysis of the proposed project's air quality impacts on the surrounding community due to the project site location, which is in an area burdened by pollution, as identified by CalEnviroScreen. The County recognizes that CalEnviroScreen provides relevant information regarding the existing pollution burden in the vicinity, and this information informs the description of the environmental setting and baseline conditions in the Draft EIR pursuant to CEQA Guidelines Section 15125. However, neither the County, SJVAPCD, nor the CEQA Guidelines establish a CalEnviroScreen-based significance threshold; rather, they account for the potential environmental impacts of a project by using project-level significance thresholds. While CalEnviroScreen is a useful screening and mapping tool for characterizing a community's cumulative pollution burden, it does not establish a CEQA significance threshold for evaluating an individual project's incremental impact on the environment. In addition, as noted in the comment, CalEnviroScreen rankings include socioeconomic and other factors beyond environmental factors.

As discussed in the Draft EIR, a HRA for proposed project construction and operation was conducted to evaluate the proposed project's potential health risk impacts to nearby sensitive receptors in the surrounding community. The results of the proposed project's HRA indicate that the proposed project's construction and operational emissions would not result in any significant health impacts to nearby sensitive receptors, including residents and school children. The proposed project's potential to expose sensitive receptors to substantial pollutant concentrations would thus be less than significant, as demonstrated by the HRA of the Draft EIR. Please also see response to comment 1-B.

To the extent the comment is referencing the potential for project criteria pollutant emissions to impact health, the Draft EIR also discloses that potential cumulative impacts on air quality could occur from the construction and operation of the proposed project in combination with regional growth projections in the same air basin, and the Draft EIR conservatively concludes that the project's contribution to cumulative operational criteria pollutant impacts is significant and unavoidable. The Draft EIR adopts **Mitigation Measures MM 4.2-1** through **MM 4.2-7** to reduce these impacts, including the DMA/VERA in **MM 4.2-5**, which would offset project emissions to as near to net zero as possible.

The Draft EIR does not attempt to further quantify the precise relationship between the project's mass emissions and specific regional health outcomes because the established regulatory methodologies do not provide a reliable means of correlating project-level mass emissions to changes in ambient pollutant concentrations or to a specific number of additional affected individuals. The SJVAPCD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the Air Basin at the present time and it has not provided a methodology to assess the specific correlation between mass emissions generated and the effect on public health and welfare. Attempting to determine how potential exceedances of emissions thresholds affect the number of days the region is in nonattainment or how many additional individuals in the air basin would be affected by the harmful effects of air pollution would be a speculative exercise. Consistent with this regulatory framework, the County conservatively determines that the project's cumulative operational criteria pollutant impacts are significant and unavoidable. The correlation between criteria pollutants and health impacts, including those caused by ozone, are discussed in the Draft EIR, to the extent correlation is possible to determine.

The County finds that the Draft EIR's HRA and cumulative impact analysis adequately address the physical environmental concerns underlying the commenter's environmental justice observations. To the extent the

commenter is suggesting an analysis focused on environmental justice, that is not required under CEQA. As identified in the *Supplemental Air Quality Information* (Final EIR **Appendix A**) and *Supplemental Health Risk Assessment* (Final EIR **Appendix B**), the additional analysis did not affect the conclusions made in the Draft EIR. No revisions to the Draft EIR are necessary.

Response 1-D

This comment summarizes the four principal recommendations the commenter develops in detail later in the commenter's letter. The comment urges the County to participate in CARB's California Clean Construction Program (CCCP); provide substantial evidence supporting the 30-minute idling duration for transportation refrigeration units (TRU) and 15-minute idling duration for heavy-duty truck idling used to evaluate the project's cancer risk impacts in the Draft EIR; include a project design feature or mitigation measure restricting heavy-duty truck traffic to the specific routes modeled in the HRA to prevent trucks from travelling through residential neighborhoods; and include additional enforceable mitigation measures or project design features requiring the use of Tier 4 Final construction equipment, the mandatory use of electric hookups for all TRU-equipped trucks, and the transition to zero-emission heavy-duty trucks and on-site service equipment. Refer to responses 1-E through 1-K for the County's detailed responses to each recommendation.

Response 1-E

The comment acknowledges the less than significant impact conclusion in the Draft EIR related to the proposed project's construction activities. The commenter states that the County should voluntarily participate in CARB's CCCP, as well as include additional project design features related to construction emissions. The County acknowledges this comment.

As described in Section 4.2, Air Quality of the Draft EIR, the proposed project would be required to comply with all applicable federal, state, and local regulations governing construction emissions, including CARB and air district rules that limit emissions from off-road construction equipment. Furthermore, as discussed under Impact 4.2-1 and shown in Table 4.2-5, Proposed Project Construction Emissions, the proposed project's construction-related impacts were found to be less than significant and thus no mitigation is required. However, to demonstrate consistency with the applicable air quality plan, the proposed project incorporates feasible construction-related mitigation measures that would reduce criteria pollutant and diesel particulate matter emissions to the extent feasible, which would further reduce the already less than significant construction-related impacts.

The CCCP is a voluntary, non-regulatory program developed by CARB to recognize projects that utilize cleaner construction practices and equipment beyond applicable regulatory requirements. Participation in the program is not required under CEQA or by any applicable air district or state regulation. To the extent possible, the County will encourage participation in the CCCP. Many of the project elements and mitigation measures do overlap with the CCCP's voluntary measures. The project proponent may consider participation in the CCCP at their discretion during project implementation, to further support the use of cleaner construction practices consistent with CARB's goals.

As noted by the comment, the Draft EIR found that the project's construction emissions were less than significant and thus no further mitigation is required. However, with respect to the specific construction design features recommended by the commenter, the following are noted:

Ensure the cleanest possible construction practices and equipment, including eliminating idling of diesel powered equipment and provide electrical hookups for zero and near-zero emission

technologies. Mitigation Measure MM 4.2-3, as revised in the Final EIR, off-road construction equipment to be hybrid electric-diesel or zero-emission when available, requires all diesel-fueled off-road construction equipment to be equipped with CARB Tier 4-compliant engines or better when available, for diesel equipment to use diesel particulate filters if permitted, and to provide an area on the project site to charge electric powered construction vehicles and equipment if temporary power is available. While zero-emission construction equipment technology is evolving, it is not yet widely available across all equipment types, sizes, and duty cycles necessary to construct a project of this scale, and the availability of such equipment remains limited in the commercial market. In addition, the necessary supporting infrastructure, including adequate onsite electrical capacity and charging systems to support a fully zero-emission fleet during construction is not assured at this time. CEQA requires the adoption of feasible mitigation measures capable of being implemented successfully within a reasonable timeframe, taking into account technological and logistical constraints, but does not require the imposition of measures that are speculative or not readily achievable. Accordingly, **MM 4.2-3** appropriately requires the use of Tier 4 Final equipment when available—consistent with current regulatory standards and industry practice—and allows for limited exemptions where such equipment is demonstrably unavailable. The commenter does not provide substantial evidence demonstrating that a fully zero-emission construction fleet would be feasible for the proposed project at this time.

Require language in construction contracts for off-road diesel-powered equipment to be equipped with Tier 4 final engines where feasible. The recommendation to require Tier 4 Final engines with diesel particulate filters is already substantially incorporated through **MM 4.2-3** and related measures, which require off-road construction equipment to be hybrid electric-diesel or zero-emission when available, and require all diesel-fueled off-road construction equipment to be equipped with CARB Tier 4-compliant engines or better.

Require language in construction contracts for all off-road equipment with a power rating below 19 KW used during project construction to be battery-powered. MM 4.2-3 has been revised in the Final EIR to require electric equipment whenever possible in lieu of diesel- or gasoline-powered equipment and, if temporary power is available, to designate an on-site charging area for electric construction vehicles and equipment. The recommendation to require heavy-duty construction trucks to meet specified model-year standards is addressed by CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation and on-road truck regulations, which apply to the project's construction independently of CEQA.

Require language in construction contracts for all heavy-duty trucks entering the construction site during grading and building be model year 2014 or later. Require language in construction contracts for all heavy-duty trucks entering the construction site to be ZEV where feasible or, if not feasible, to be model year 2017 or later and meet CARB's lowest optional NOx standard. **MM 4.2-3** requires tier 4 engines to be used on all equipment when available. In addition, CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation and on-road truck regulations apply to the project's construction independently of CEQA and would result in reduced emissions. **MM 4.5-2** has also been revised in the Final EIR to require medium- and heavy-duty EV make-ready infrastructure, including conduit to the truck court and reserved space for future charging equipment, as well as the installation of five medium- and heavy-duty EV truck chargers on-site.

Require language in tenant lease agreements requiring all service equipment (e.g. yard hostlers, yard equipment, forklifts, and pallet jacks) used within the project site to be zero-emission. MM 4.5-1 states that forklifts and other material handling vehicles should be electric where feasible. Furthermore, **MM 4.7-1** has been revised in the Final EIR to require that prior to issuance of occupancy permits, the

project developer shall require and disclose to all tenants/business entities that only electric-powered off-road equipment (e.g., forklifts, material handling equipment, etc.) shall be utilized for all indoor and outdoor activities on the proposed project site for daily warehouse and business operations. Additionally, a copy of the disclosure documents shall be submitted to the Planning and Natural Resources Department to be kept on file. CARB's Zero-Emission Forklifts regulation also independently requires the phase-out of forklifts using large spark-ignition engines.

As explained above, the recommendations have already been integrated through implementation of mitigation measures. No further revisions to the Draft EIR are necessary.

Response 1-F

The commenter asserts that the County may have underestimated the proposed project's potential health risk impacts due to reliance on unsupported modeling assumptions. As described in the Draft EIR, the HRA was prepared in accordance with applicable regulatory guidance, including methodologies recommended by SJVACPD and the California OEHHA, and is based on conservative and health-protective assumptions. As further explained in Responses 1-G through 1-I, the County has reviewed the commenter's specific concerns regarding TRU idling, truck idling, and truck routing. Based on that review, the County concludes that the resulting cancer risk estimate is 8.8 in one million, below the SJVAPCD's established significance threshold of 20 in one million, and therefore the Draft EIR appropriately concludes that operational health risk impacts would be less than significant. Accordingly, the HRA remains supported by substantial evidence and the significance conclusion remains unchanged. As identified in the *Supplemental Air Quality Information* (Final EIR **Appendix A**) and *Supplemental Health Risk Assessment* (Final EIR **Appendix B**), the additional analysis did not affect the conclusions made in the Draft EIR. No revisions to the Draft EIR are necessary.

Response 1-G

The commenter asserts that the County may have underestimated operational cancer risk impacts by not using conservative TRU idling durations, and states that "Based on CARB's review of the HRA in Appendix B, the County assumed TRUs would idle for only 30 minutes per visit". This statement cites page 11 of Appendix B of the Draft EIR.

However, page 11 of Appendix B of the Draft EIR does not state that the HRA analysis assumed TRUs would idle for 30 minutes per visit. Rather, page 11 of Appendix B of the Draft EIR states, "According to applicant-provided information, the proposed facility is assumed to be used for cold storage (i.e., refrigerated uses) and would include trucks with Transport Refrigeration Units (TRUs). TRUs are refrigeration systems powered by diesel internal combustion engines designed to refrigerate or heat perishable products that are transported in various containers, including truck vans, and semi-truck trailers. Building 4 is anticipated to be used for 50 percent cold storage and 50 percent dry storage. The truck trips associated with the cold storage uses at Building 4 include 265 trucks per day which would be equipped with TRUs. Therefore, the emissions analysis and HRA accounted for TRU emissions regionally and locally. Recommendations to reduce TRU emissions include prohibiting on-site TRUs from idling for more than 30 minutes. In addition, prior to the issuance of occupancy permits, the Planning and Natural Resources Department would require that the tenant lease agreements include contractual language that requires all TRUs entering the proposed project site be plug-in capable."

Additionally, page 11 of Appendix B of the Draft EIR recommends limiting TRU emissions; it does not state that the assumptions in the HRA relied upon the emissions from a 30-minute TRU idling time. In fact,

the TRU idling assumptions are shown on page 202 of the technical data appended to Appendix B of the Draft EIR (titled On-site and ¼ Mile Vicinity Emissions During Operations). As shown, the on-site (i.e., idling) time for truck TRUs was assumed to be 0.9 hours (54 minutes) per visit. The on-site (i.e., idling) time for trailer TRUs was assumed to be 1.6 hours (96 minutes) per visit. The mitigated scenario on page 203 (titled On-site and ¼ Mile Vicinity Emissions During Operations – Mitigated) conservatively assumed that both truck and trailer TRU units would idle for 30 minutes and evaluated emissions as such. However, **Mitigation Measure MM 4.2-7** would require the proposed project to restrict idling of TRU's to no more than 5 minutes, thereby further reducing TRU emissions from what is shown in the Draft EIR and supporting the conservative nature of the assumptions in the HRA.

The commenter also states that the County should revise the HRA assuming each TRU visiting the proposed project site would idle for four (4) hours per visit, or provide evidence to substantiate a 30-minute idling time. As explained, the HRA did not utilize a 30-minute idling time. The HRA utilized a 54-minute and 96-minute idling time for truck and trailer TRUs. As explained on page 78 of Appendix B of the Draft EIR, the TRU operating hours and emission factors were obtained from the CARB Off-Road Emissions Inventory Web Query (v1.1.0) for Kern County, calendar year 2027. Medium-duty trucks were modeled using emission factors and daily usage for truck-mounted TRUs, while heavy-heavy-duty-trucks (tractor trailers) were modeled using trailer-mounted TRU data. Based on the TRU inventory activity data contained within CARBs inventory, the average daily operating hours were estimated as 0.9 hours and 1.6 hours per day for truck TRUs and trailer TRUs, respectively. In addition, **MM 4.2-7** would require the proposed project to restrict idling of TRU's to no more than 5 minutes and thus it is not reasonably foreseeable that TRUs would idle for four hours, The TRU modeling approach and input assumptions used in the HRA reflect reasonable, project-specific operational characteristics from CARB's publicly provided data. The HRA incorporates conservative and health-protective assumptions and concludes that cancer risk would remain below the SJVAPCD significance threshold.

The commenter also states that the HRA did not evaluate cancer risk impacts from trucks with TRUs traveling along local roadways. Final EIR **Appendix A**: *Supplemental Air Quality Information,* provides supplemental information to the emissions estimates and estimated health risks with the inclusion of TRU emissions from trucks traveling along local roadways. Additionally, **Appendix B** of the Final EIR also provides an update to the Draft EIR HRA, which were conducted in response to other comments. Regardless of these additional analyses, potential health risks are below SJVAPCD thresholds of significance, and impacts remain less than significant.

Therefore, the County finds that the analysis is supported by substantial evidence, and no further revisions to the HRA are warranted based on these comments.

Response 1-H

The commenter states that the County used a 15-minute idling duration for on-site heavy-duty trucks in its air quality analysis, which the comment claims is not supported by substantial evidence. The commenter cites the exemption in CARB's Airborne Toxic Control Measure (ATCM) for trucks equipped with a diesel engine meeting the optional nitrogen oxides (NOx) idling emissions standard when operating outside of 100 feet of a restricted area (i.e., schools, residences). The commenter further states that trucks operating within the proposed project site could idle longer than 15 minutes (due to the exemption) and could idle as long as approximately five (5) hours in any one location (the commenter cites the CARB EMFAC2021 Volume III Technical Document, page 161, Table 4.4.2-5).

The commenter's observation that the ATCM exemption from the five-minute idling limitation applies to trucks equipped with engines meeting the optional low-NOx idling emission standard, and that trucks with model year 2008 and newer engines are generally clean-idle certified. The Given mandatory fleet turnover requirements under CARB's Truck and Bus Rule and the proposed project's 2028 operational year, many of the heavy-duty truck fleet operating in California—and therefore serving the proposed project—would likely be model year 2008 or newer and thus eligible for the ATCM exemption when operating more than 100 feet from a restricted area (i.e., schools, residences). Accordingly, the County recognizes that many trucks visiting the proposed project site could lawfully idle beyond five minutes under the ATCM exemption.

Nevertheless, the fact that trucks may lawfully idle beyond five minutes does not establish that they would idle for the durations suggested by the commenter. The critical question for the HRA is not whether trucks are legally permitted to idle for extended durations, but whether such extended idling would in fact occur at this proposed project site under reasonably foreseeable operational conditions. The table presents "extended idling hours per weekday," which represents the total extended idling attributed to heavy-duty trucks over the course of an entire weekday—encompassing multiple stops, rest periods, and locations throughout the day. It does not represent the idling duration at any single facility during a single visit. The commenter does not provide evidence demonstrating that this full-day, aggregated level of idling would occur at the proposed project site in a single idling event. Accordingly, assuming that the entirety of a weekday's extended idling inventory would occur at the proposed project site in one visit would not be supported by substantial evidence. CEQA does not require evaluation of speculative or unlikely scenarios; rather, the analysis must focus on reasonably foreseeable conditions supported by substantial evidence. Presuming that trucks are best used by moving around and not idling in one place for hours at a time, it is not rational to believe that trucks would idle over two hours in one location, rather than unload goods as soon as able and proceed to the next location to continue business operations. In addition, **Mitigation Measure MM 4.2-7** requires the project applicant to place signage on the project site stating that idling is prohibited, providing justification that trucks will not idle for extreme periods of time.

Nonetheless, supplemental information is provided in Final EIR **Appendix A** to assume a 2.5-hour truck idling time in an unmitigated scenario. This is a very conservative value, assuming that trucks on one-way trips would idle for a substantial portion of their on-site dwell time, while recognizing that the 5 hour CARB duration represents a cumulative cap across multiple stops over an entire day rather than a single project site. Therefore, applying 2.5 hours of idling to each project-related trip represents a worst-case, project-specific assumption without unrealistically doubling idling time beyond what could occur at a single location.

As shown in Table 4.2-6 of the Draft EIR, unmitigated operational-related regional criteria air pollutant emissions exceeded SJVAPCD thresholds of significance. The additional 2.5 hours of idling emissions do not change the finding, and unmitigated emissions would be potentially significant. As shown in Table 4.2-7, mitigated operational-related regional criteria air pollutant emissions would continue to exceed SJVAPCD thresholds, even when accounting for reduced idling as required by **MM 4.2-7**, which requires all refrigerated trucks (TRUs) using the proposed project site to be plug-in capable, prohibits truck and TRU idling when electrical hookups are available, mandates shutdown of equipment not in use for more than five minutes, and requires anti-idling signage throughout the site and adjacent roadways. The supplemental information provided in Final EIR **Appendix A** does not change the significance findings or conclusions of the Draft EIR. No further revisions are required.

Response 1-I

The commenter states that the proposed project's operational HRA only included one truck route identified as Merle Haggard Drive, and that any project-related heavy-duty truck traffic utilizing a different route through nearby residential neighborhoods (such as southbound on Airport Drive or through local streets such as McCray Street) remains unanalyzed. The commenter also states that the operational HRA did not analyze the truck traffic from Airport Drive to James Road to SR-65. The commenter cites the figure titled Operational HRA- Source and Receptor Locations Map with Modeled Truck Routes. The commenter states that to ensure actual health impacts do not exceed those reported in the HRA, the County should include a project design feature that restricts heavy-duty truck traffic to routes evaluated in the project's operational HRA.

Page 3-16 of the Draft EIR (Section 3.7) states that "During project operation, heavy traffic to the site would be primarily routed down Merle Haggard Drive from SR-99, while the remaining truck traffic would be routed from Airport Drive to James Road to SR-65." In addition, page 3-16 describes the driveways that would be constructed and used for truck ingress and egress to the site along Petrol Road, Airport Drive, Merle Haggard Drive, and Landings Way. As shown in the figure in Appendix A of the Draft EIR titled Operational HRA- Source and Receptor Locations (which is also included in the comment letter), the operational HRA evaluated the truck travel consistent with what is described as the primary truck route on page 3-16 of the Draft EIR and the Transportation and Traffic Report, which reflects the anticipated and most likely operational conditions for the proposed project. TAs described on page 3-16 of the Draft EIR and as shown in the Operational HRA – Source and Receptor Locations, the modeled truck routes includes Merle Haggard Drive to SR-99, Airport Drive northbound from Merle Haggard to Petrol Road, Petrol Road to Landings Way, and southbound on Landings Way to Merle Haggard Drive. Therefore, the modeled truck route did include the assumption of truck traffic northbound on Airport Drive extending to Petrol Road.

The northbound segment of Airport Drive north of Petrol Road (whereby the truck traffic would continue travel to James Road to SR-65) was not modeled because no identified sensitive receptors are located along that segment of the route within the quarter-mile (1,320 feet) buffer surrounding the proposed project site. Therefore, extending the modeled roadway farther north would not identify a more exposed sensitive receptor than what was already identified in the HRA as being below the health risk threshold. Thus, there are no potential impacts to sensitive receptors along this route.

In addition, Final EIR **Appendix B**: *Supplemental Health Risk Assessment*, was prepared for the proposed project in response to comments analyzed potential impacts to sensitive receptors from truck traffic on additional truck routes, including trucks traveling along Merle Haggard from the west of the proposed project site and entering or exiting on Airport Drive between Petrol Road and Merle Haggard; trucks traveling around from Airport Drive (between Petrol Road and Merle Haggard) to Petrol Road to Landings Way, accessing various entrances; trucks traveling along Airport Drive to or from the south of the proposed project site and entering or existing on Airport Drive between Petrol Road and Merle Haggard; and trucks traveling along Airport Drive to or from north of the proposed project site along James Road. To avoid underestimating impacts, 90 percent of truck trips were assigned equally to routes that pass closer to sensitive receptors (Routes 1, 3, and 4 – assuming that 30% of truck traffic would occur on each of the three routes), while only 10 percent were assigned to Route 2, which is farthest from receptors. The results concluded that the MEIR was still Receptor ID 441 (located at the residential neighborhood to the southeast of the proposed project site), as identified in the Draft EIR. Assuming additional truck traffic could occur southbound on Airport Drive, the MEIR would experience health risks of 9.68 in one million, which is

higher than shown in the Draft EIR but still well below the SJVAPCD thresholds of 20 in one million. The results also concluded that the MEIW was still Receptor ID 140 (located just south of the proposed project site, on the south side of Merle Haggard Drive) and the same as identified in the Draft EIR. Based on the assumed redistribution of truck traffic (less truck traffic on Merle Haggard Drive, and more truck traffic on Airport Drive), the MEIW would experience decreased health risks from what was identified in the Draft EIR (1.56 in one million, vs. 2.81 in one million from the Draft EIR). Both of these health risk values are well below the SJVAPCD threshold of 20 in one million.

CEQA requires analysis of reasonably foreseeable conditions supported by substantial evidence; it does not require analysis of every potential or speculative routing scenario that could theoretically occur. As discussed, Section 3.7 of the Draft EIR describes the primary truck route, and the operational HRA evaluated the truck route consistent with how it is described in Section 3.7 of the Draft EIR. The supplemental HRA also analyzed multiple other potential truck routes and also found no significant impact. The commenter does not offer or provide substantial evidence describing why the truck traffic would use any other routes different from those already analyzed in the Draft EIR and supplemental HRA. Moreover, **Mitigation Measure MM 4.16-1** requires roadway improvements to reduce off-street truck queuing and requires traffic controls to reduce truck congestion. **MM 4.2-3** and **MM 4.16-1** have also been further revised to require on-site signs and drive-aisle pavement markings identifying the approved circulation pattern, prohibit off-site parking, minimize unnecessary on-site vehicle travel, and require preparation and implementation of a Truck Routing Plan identifying designated truck routes and providing signs directing project-related trucks to those routes. **MM 4.1-2** requires buildings located within 1,000 feet of Merle Haggard Drive and Airport Drive corridors to position entry gates to loading docks to provide at least 50 feet of available stacking depth inside the property line and to increase this depth by 70 feet for every 20 loading bays and beyond 50 loading bays and to install anti-idling signs at truck loading sites, the entrance to the development and at all heavy-duty truck exist driveways directing drivers to the proper truck route. This would reduce truck congestion, emissions, and exposure of nearby sensitive receptors to diesel exhaust and associated health risks. Please also see response to comment 1-B regarding the HRA.

Response 1-J

The commenter notes that **Mitigation Measure MM 4.2-5** requires implementation of a Voluntary Emission Reduction Agreement (VERA), also referred to as a Developer Mitigation Agreement (DMA), with the SJVAPCD, to mitigate significant operational criteria pollutant emissions impacts. The commenter states that fee-based mitigation does not guarantee localized air quality improvements or reductions in localized health risk.

The VERA/DMA is a SJVAPCD-recognized CEQA mitigation, as adopted in the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI), which explicitly identifies a VERA as an appropriate and effective CEQA mitigation mechanism where project emissions remain significant after application of feasible on-site controls. According to SJVAPCD, a VERA/DMA provides pound for pound mitigation of project emissions increases through implementation of emission reduction projects. The SJVAPCD states that execution of a VERA/DMA can reduce project-related air quality impacts to a less-than-significant level under CEQA (however, the Draft EIR concluded that operational-related regional criteria pollutant impacts would remain significant and unavoidable).

Upon completion, the SJVAPCD certifies that mitigation has been achieved, providing the Lead Agency with enforceable evidence that impacts have been mitigated. Accordingly, the reliance on a VERA/DMA

is consistent with SJVAPCD's CEQA framework and reflects the District's technical determination that such agreements are sufficient to mitigate significant regional criteria pollutant impacts.

The comment that " fee-based mitigation does not guarantee localized air quality improvements or reductions in localized health risk" conflates regional criteria pollutant impacts (which are evaluated in the Draft EIR under Impact 4.2-2) with localized toxic air contaminant (TAC) risk. Localized health risks are evaluated under Impact 4.2-3 in the Draft EIR. To evaluate the localized health risks an HRA was prepared for the proposed project. As explained in responses to comments 1-B and 1-I, the HRA concluded that the proposed project would result in a less than significant health risk impact during both construction and operation, and mitigation would not be required. Thus, no further mitigation is required under CEQA for toxic air contaminant emission, including from diesel PM.

To reduce the project's significant and unavoidable operational-related regional criteria pollutant emission impacts, the VERA/DMA mitigation was identified to offset regional emissions that contribute to basin-wide ozone and particulate matter formation. As such, the VERA/DMA program is appropriately applied to address exceedances of the regional air pollutant significance thresholds, and the significant operational-related impacts, while the HRA analysis health impacts of the project. Because the impact identified in the Draft EIR Section 4.2 with respect to criteria pollutants is regional, the use of a VERA/DMA is consistent with SJVAPCD guidance and CEQA practice and is sufficient and appropriate to reduce impacts to less than significant levels.

As described above, the HRA showed no significant impact to the nearest sensitive receptors and thus no mitigation is required. In addition, the VERA/DMA will reduce emissions to as close to net zero as feasible. However, With respect to the commenter's specific recommended measures, the County provides the following responses:

Require tenants to exclusively use zero-emission light and medium-duty delivery trucks and vans. The County has considered the request to require tenants to exclusively use zero-emission light- and medium-duty delivery trucks and vans. Although the County supports the transition to zero emissions, exclusive use of ZEVs by tenants on the proposed project site is not currently feasible.

The proposed project is a speculative industrial development, and future tenants and their operations are not yet known. Vehicles serving the site may be owned or controlled by independent carriers, vendors, suppliers, or users beyond the tenants themselves. The proposed project owner and tenants therefore would not be able to feasibly ensure that every trip made during project operations is made using a zero-emission vehicle. Vehicle availability and suitability also vary by payload, route, duty cycle, and charging needs.

Furthermore, the electrical service currently evaluated for the proposed project does not support the charging demand that could result from an exclusive zero-emission delivery-vehicle requirement. As described in Final EIR **Appendix C:** *PG&E Preliminary Engineering Study Report*, PG&E calculated a total project demand of approximately 7.195 MW, including 1.8 MW for combined passenger-vehicle and truck EV charging. The existing circuit has no capacity available to serve the proposed project without substantial utility-system improvements, which PG&E estimates would require approximately 24 to 36 months after initiation of its work. As further explained in Final EIR **Appendix D**: *Power-Availability Memorandum*, preliminary project estimates indicate that passenger-EV charging would use approximately 759 kW of the 1.8 MW EV allowance, leaving approximately 1,041 kW for truck charging. Five (5) truck chargers operating at an estimated demand of 180 kW each would require approximately 900 kW, thereby using most of the presently estimated truck-charging capacity. Although load management may allow for additional light- and medium-duty truck charging ports, additional truck-charging demand has not been

evaluated or reserved by PG&E and cannot presently be assumed to be serviceable. **MM 4.5-2** was revised to require five (5) EV truck chargers and make-ready infrastructure to facilitate additional charging when sufficient utility capacity becomes available. Despite this, the construction of five (5) EV truck chargers would not guarantee that sufficient service to an entirely ZEV light- and medium-duty fleet for the project. As such, the County finds that an entirely ZEV fleet of light- and medium-duty work vehicles would be infeasible at this time. The proposed project incorporates all feasible measures to support increased zero-emission vehicle use, and no additional mitigation is required.

Plan for the necessary infrastructure to support ZEVs. Under revised **MM 4.5-2**, the proposed project shall provide EV charging infrastructure in at least 10 percent of all passenger vehicle parking spaces, as well as provide "make-ready" infrastructure to facilitate the future installation of medium- and heavy-duty electric vehicle supply equipment, such as conduit from the electrical rooms to the truck court, reserved space and pads for future transformers and switchgear, and duct banks sized to accommodate future medium- and heavy-duty electric vehicle charging loads. Revised **MM 4.5-2** also now requires the project proponent to install five medium- and heavy-duty truck chargers. Thus, this mitigation now requires the proposed project to install all feasible infrastructure to facilitate the transition to ZEVs, including light-, medium-, and heavy-duty. As described in the technical memorandum provided in **Appendix D** of the Final EIR, additional truck EV chargers cannot be feasibility incorporated into the proposed project or mitigation measures at this time. As the memorandum explains, PG&E completed a load study which identified that 7.195 MW of load were available for the project, 1.8 MW of which is earmarked for passenger and truck EV charging. The projected light-duty vehicle charging will require approximately 759 KW of this available load, leaving 1,041 KW for medium- and heavy-duty charging. Based on current estimated demand of 180 KW per medium- and heavy-duty truck charger, the available electric capacity could serve approximately five (5) truck charging ports, which is what **MM 4.5-2** now requires the proposed project to construct. It is possible that future upgrades to the PG&E system could provide for additional capacity at the proposed project site and thus make-ready infrastructure is also being installed in order to allow for the installation of more truck chargers at a later date, should power become available. The technical memorandum also explains that even to service the current proposed project, PG&E is required to complete upgrades to the existing distribution system, taking 2 to 3 years. The technical memorandum relies on the April 2026 PG&E PES (see **Appendix C** of the Final EIR), which explains in further detail that there is no additional capacity on the circuit available to serve the proposed project site beyond what is required by code. The applicant's original 13 MW request included an enhanced amount of energy for EV truck charging; however, PG&E reduced the availability of power to the site due to unavailability of capacity because PG&E determined that the existing circuit lacks sufficient capacity to serve the proposed 1.8-megawatt truck-charging load and therefore excluded that load from the project's current electrical-service application, leaving it subject to a separate future application and a future energization date. Thus, additional energized truck-charging infrastructure is not presently feasible due to the lack of available electric capacity to serve the site, and the proposed project has therefore implemented all feasible mitigation under CEQA.

Additionally, **MM 4.7-1** requires electric-powered forklifts and other off-road equipment used for indoor warehouse and business operations; **MM 4.5-1** requires electric forklifts and material-handling vehicles where operationally feasible; and **MM 4.2-7** requires plug-in-capable TRUs and electrical hookups at loading bays serving cold-storage tenants. **MM 4.5-1** requires the installation of solar and battery storage, which will help provide renewable energy. Moreover, under **MM 4.5-2**, the project owner is required to enter into a DMA with SJVAPCD and pay fees sufficient to fully offset the project's construction and operational emissions of NOx, ROG, PM10, and PM2.5 through District-administered emission-reduction projects.

Require a phased transition of heavy-duty trucks entering the site to ZEVs starting in 2030. At present, requiring zero-emission heavy-duty trucks is economically and technologically infeasible; also, such vehicles are not available on a large enough scale to be relied upon. A report by the International Council on Clean Transportation ("ICCT") provides an overview of advancing technologies in this space (ICCT, 2017). The ICCT reports that although the technology is advancing and although at some point in the distant future non-diesel technology will likely be used in mass to power freight movement, "zero-emission vehicle technologies do present considerable challenges. They have a combination of near- and long-term barriers, issues, and questions that will have to be addressed before they can become widespread replacements for conventional trucks and tractor-trailers that are typically diesel fueled." ICCT Report, p. 31. Imposing extensive requirements on the project relating to emerging technologies, when the various types of technological advancements and their timeframes for common availability are not known with any certainty, is not a feasible mitigation measure. Other parties have more recently opined on the infeasibility of moving to zero-emission vehicles for these classes of vehicles. See Urban Crossroads Memo to Riverside County and Resources for the Future, Medium- and Heavy-Duty Vehicle Electrification Report (Urban Crossroads, 2024; Resources for the Future, 2023).

These reports describe feasibility issues with zero-emission heavy-duty vehicles including reliability, ability of those vehicles to operate the same as non-zero-emission vehicles, lack of charging infrastructure, cost, inability to connect to the grid or for the grid to have sufficient capacity. An EIR must describe feasible measures that could minimize the project's significant adverse impacts. CEQA Guidelines section 15126.4(a)(1). An EIR may decline to propose a mitigation measure that would not effectively address a significant impact. An EIR also need not identify and discuss mitigation measures that are infeasible. Nor must an EIR analyze in detail mitigation measures it concludes are infeasible. Nonetheless, the substantial evidence provided above supports the determination that these suggested measures would be infeasible. In any event, the existing mitigation measure requiring compliance with the VERA will require the project to reduce criteria pollutant emissions to as near to net zero as feasible and the HRA analysis demonstrated that there are no significant impacts related to health risk to the nearest sensitive receptors to the site and thus no mitigation related to diesel PM, the emissions most directly addressed by transitioning from ICE to ZEV trucks, is required by CEQA.

Restrict trucks and support equipment from idling longer than two minutes on-site. As described in the Draft EIR (p. 4.3-46), Title 13, CCR, Section 2485 limits idling of heavy-duty commercial vehicles to no more than five (5) consecutive minutes. This ATCM was adopted by CARB to reduce excess emissions from idling. The County can rely on CARB requirements to determine what level of idling is acceptable for air quality impact purposes and assume that CARB's determination to adopt a 5 minute idling limit was based on scientific evidence and reasoned decision making. The proposed project is required by law to comply with state anti-idling regulations, and the lead agency is entitled to presume such compliance without additional mitigation. **MM 4.1-2** also requires that anti-idling signs be installed at truck loading sites, the entrance to the development, and at all heavy-duty truck exit driveways directing drivers to the proper truck route such that drivers are aware of the anti-idling policies. In addition, **MM 4.2-3** requires that haul trucks not idle for more than 5 minutes during construction and **MM 4.2-7** requires that all refrigerated trucks (TRUs) using the proposed project site be plug-in capable, prohibits truck and TRU idling when electrical hookups are available, mandates shutdown of equipment not in use for more than five minutes, and requires anti-idling signage throughout the site and adjacent roadways.

The County has considered the commenter's recommendation of a more restrictive two-minute limit. The five-minute idling restriction under **MM 4.2-7** and Title 13, CCR, section 2485 represents the statewide

regulatory standard established by CARB. The operational HRA in the Draft EIR evaluated emissions from truck idling; the location of the truck idling emissions is shown in the figure in Appendix A of the Draft EIR titled "Operational HRA – Source and Receptor Locations". The truck idling locations (at loading docks) are depicted as point sources. As discussed in response to comment 1-I, the operational HRA concluded that health risks to nearby sensitive receptors would be below the health-based significant thresholds established by SJVAPCD. Because the HRA showed no health risk to the nearest sensitive receptors to the site, no further mitigation is required to reduce idling when the main pollutant of concern from such activity is diesel PM, which impacts cancer risk and for which the Draft EIR found no significant impact. Further, the County finds that the incremental NOx emission reduction achievable by reducing the permissible idling duration from five (5) minutes to two minutes would be marginal relative to the project's total operational NOx emissions, the great majority of which are generated by vehicle miles traveled on public roadways rather than by on-site idling. The Draft EIR's significant and unavoidable regional NOx impact is driven primarily by off-site mobile-source travel emissions, not by on-site idling; accordingly, the incremental reduction from a two-minute on-site idling limit would not substantially lessen the identified significant impact. The project's regional criteria pollutant emissions, including the contribution from on-site idling, are mitigated on a pound-for-pound basis through the VERA/DMA under **MM 4.2-5**, which addresses the full quantum of significant regional emissions through enforceable off-site emission reductions. Accordingly, the County finds that the existing five-minute restriction, combined with the VERA/DMA, adequately addresses the commenter's concern, and a further reduction to two minutes would not provide substantial additional mitigation of the identified significant impact beyond what the VERA already achieves.

Require installation of vegetative walls or barriers to separate loading docks and sensitive receptors. Project Characteristic PC AIR-4 requires landscaped berms and solid screen buffering trees along property lines adjacent to sensitive receptors. **MM 4.1-3** also requires a 30-foot-wide vegetation barrier reaching at least 15 feet at maturity and consisting of multiple rows of trees and shrubs, a berm, a decorative wall, or a combination along the Airport Drive and Merle Haggard Drive frontages. Furthermore, the nearest sensitive receptor is not located adjacent to the proposed project, and is located approximately 400 feet southeast, and over 1,000 feet from the nearest proposed industrial building. As described in response to comment 1-B, the Draft EIR's HRA found no significant health risk to the most impacted sensitive receptors.

Therefore, the County finds that the analysis is supported by substantial evidence based on the existing record, and no revisions to the Draft EIR are warranted.

Response 1-K

This comment states that CARB staff are concerned about potential cumulative air quality and public health impacts should the County approve the proposed project, and that the County should include legally enforceable design features and mitigation measures that promote the use of zero-emission trucks and on-site equipment and the infrastructure to support those technologies. As described in responses to comments 1-A through 1-J above, the proposed project would be required to implement mitigation measures through the Mitigation Monitoring and Reporting Program (MMRP) which would reduce emissions from the project as close to net zero as possible via offsetting emission reductions and require numerous actions relating to zero-emission or lower-emission equipment and charging infrastructure. These reductions will reduce potential air quality impacts in the region. Please also see responses to comments 1-A through 1-J above.

Response 1-L

This comment notes that CARB's deliberate decision to substantively comment on some issues does not constitute an admission or concession that it agrees with the lead agency's findings and conclusions on any issues for which CARB does not submit substantive comments. The comment also noted that CARB appreciates the opportunity to comment on the Draft EIR. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Comment Letter 2: California Department of Fish and Wildlife (CDFW) (April 20, 2026)

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND WILDLIFE

GAVIN NEWSOM, Governor
MEGHAN HERTEL, Director

1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
wildlife.ca.gov

April 20, 2026

Nicole Menchaca, Advanced Planning Division Chief
Kern County Planning and Natural Resources Department
2700 "M" Street, Suite 100
Bakersfield, California 93301
(661) 862 – 8738
huiskenn@kerncounty.com

Subject: Airport Commerce Center Industrial Project (Project)
Draft Environmental Impact Report (DEIR)
State Clearinghouse No.: 2025030498

Dear Nicole Menchaca:

The California Department of Fish and Wildlife (CDFW) received a DEIR from Kern County, as Lead Agency, for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

2-A

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, CDFW appreciates 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.

2-B

[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.

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

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 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.), related authorization as provided by the Fish and Game Code will be required.

CDFW Ecological Reserve: Fish and Game Code section 1583 states "Except in accordance with the regulations of the commission it is unlawful to enter upon any ecological reserves established under the provisions of the article, or to take therein any bird or the nest or eggs thereof, or any mammal, fish, mollusks, crustaceans, amphibia, reptiles or any other form of plant or animal life." In addition, California Code of Regulations, Title 14, Section 630 states "All ecological reserves are maintained for the primary purpose of developing a statewide program for protection of rare, threatened, or endangered native plants, wildlife, aquatic organisms, and specialized terrestrial or aquatic habitat types", and therefore, any other activity on these lands is restricted.

Fully Protected Species: CDFW has jurisdiction over fully protected species of birds, mammals, amphibians and reptiles, and fish, pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except as follows: 2-B cont.

- Take is for necessary scientific research,
- Efforts to recover a fully protected, endangered, or threatened species, live capture, and relocation of a bird species for the protection of livestock, or
- They are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan (Fish & G. Code, §§ 3511, 4700, 5050, & 5515).

Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

Unlisted Species: Species of plants and animals need not be officially listed as Endangered, Rare, or Threatened on any State or federal list pursuant to CESA and/or

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

the federal Endangered Species Act (ESA) to be considered Endangered, Rare, or Threatened under CEQA. If a species can be shown to meet the criteria specified in the CEQA Guidelines (Cal. Code Regs., tit. 14, Chapter 3, § 15380), it should be fully considered in the environmental analysis for the Project.

PROJECT DESCRIPTION SUMMARY

Proponent: ACC Bakersfield JV, LLC

Objective: This Project proposes to construct four single-story industrial warehouses totaling 1,505,440 square-feet consisting of 625,446 square-feet for warehousing, 393,624 square-feet for cold storage, 335,826 square-feet for industrial manufacturing or assembly for a food/beverage company, and 150,544 square-feet for office space. The Project will include two quick-serve restaurants, and related site improvements. Off-site improvements along Airport Drive, Merle Haggard Drive, Landings Way, and Petrol Road are also part of the Project. 2-C

Location: The Project is located on approximately 114.8-gross acres outside of the City of Bakersfield limits in the unincorporated Oildale area of Kern County. The property is located south of Petrol Road, north of Merle Haggard Drive, and between Landings Way and Airport Drive. Meadows Field Airport is located approximately 0.3-mile southwest of the Project and this Project is within its Sphere of Influence. The Assessor's Parcel Numbers (APNs) associated with the Project are: 483-040-29, -32, -33, -42, -43, -45, and -46.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist Kern 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 DEIR prepared for this Project. CDFW previously commented on the Notice of Preparation (NOP) for the Project in a letter dated April 23, 2025. 2-D

Proximity of Bakersfield Cactus Ecological Reserve

The DEIR acknowledges the Project's proximity to CDFW's Bakersfield Cactus Ecological Reserve (BCER) and includes mitigation measures to minimize Project impacts on the BCER. These mitigation measures include, but are not limited to, retention of a Lead Biologist to oversee compliance with applicable regulatory requirements and requiring nighttime lighting to be directed away from areas containing habitat for special-status wildlife. 2-E

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

As noted in the NOP comment letter, direct impacts including but not limited to noise, traffic, and lighting to the BCER are prohibited. CDFW recommends consultation with CDFW's Regional Ecological Reserve Management Unit staff well in advance of Project initiation to demonstrate accurate delineation of property boundaries to prevent inadvertent encroachment on CDFW-owned lands. To consult with CDFW on this issue, please contact Reagen O'Leary, Inland Lands Unit Supervisor, at the address on the letterhead above or via email at Reagen.OLeary@wildlife.ca.gov. 2-E cont.

Special-Status Species

Aerial imagery shows the majority of the Project site contains regularly disked annual grasslands and ruderal habitats. The Project site is bordered by an existing tank farm located to the northwest of the Project site; regularly disked annual grassland and ruderal vegetation to the south; an Amazon warehouse/logistics facility to the west; and regularly disked ruderal vegetation to the east.

The DEIR acknowledges that the Project site is within the geographic range of several special-status species and includes a Biological Resources Assessment (BRA) based on information compiled through a field reconnaissance performed on November 10, 2023 and a review of Project-appropriate reference materials and literature. The DEIR also includes specific mitigation measures to reduce biological resource impacts to less than significant including, retaining a Lead Biologist to oversee compliance with protection measures for all listed species and other special-status species that may be impacted by the construction and operation of the Project; development and implementation of a Worker Environmental Awareness Training Program; and implementation of various general and species-specific avoidance and protective measures. CDFW concurs with the mitigation measures provided to mitigate for potential significant impacts to Crotch's bumble bee (*Bombus crotchii*), California horned lark (*eremophila alpestris actia*), and nesting birds; however, CDFW has concerns about the ability of the proposed mitigation measures to reduce impacts to less than significant and avoid unauthorized take for the State and federally endangered and State fully-protected blunt-nosed leopard lizard (*Gambelia sila*); the State threatened and federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*); the State threatened Swainson's hawk (*Buteo swainsoni*); the State candidate western burrowing owl (*Athene cunicularia hypugaea*); and the State species of special concern and federally proposed threatened western spadefoot (*Spea hammondii*). 2-F

Comment 1: Blunt-Nosed Leopard Lizard

The BRA included in the DEIR concludes that the study area, comprised of the Project site and a 500-foot buffer, lacks habitat for blunt-nosed leopard lizard (BNLL) and notes that the species has no potential to occur within the Project site or the study area. No protocol surveys are included as part of the biological technical studies conducted for 2-G

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

this Project. As the Project site is within the known geographic range of BNLL, is in close proximity to CDFW's BCER, which provides suitable habitat for the species, there are several historical observations within five (5) miles of the Project site, and the BRA notes a large number of mammal burrows onsite, CDFW recommends adding the following mitigation measures within the DEIR: 2-G cont.

Recommended Mitigation Measure 1: BNLL Surveys

CDFW recommends that a qualified biologist conduct protocol surveys in accordance with the "Approved Survey Methodology for the Blunt-nosed Leopard Lizard" (CDFW 2019) prior to the initiation of any ground-disturbance activities that may occur as part of this Project. This survey protocol, designed to optimize BNLL detectability, reasonably assures CDFW that ground disturbance will not result in take of this fully protected species. 2-H

Recommended Mitigation Measure 2: BNLL Take Avoidance

CDFW recommends that consultation with CDFW occur to discuss how to implement ground-disturbing activities and avoid take if any BNLL detection, known burrows, or egg clutch sites are detected during surveys or during construction of the Project.

Comment 2: San Joaquin Kit Fox

In addition to the Project's proximity to CDFW's BCER, which was acquired and permanently conserved to mitigate for impacts to species such as San Joaquin Kit Fox (SJKF), the neighboring City of Bakersfield is home to a significant urban population of SJKF with multiple recorded occurrences in the California Natural Diversity Database (CNDDB) (CDFW 2026). In addition to native habitats, SJKF can den in rights-of-way, vacant lots, under buildings, and other urban habitats and populations can fluctuate over time. San Joaquin kit fox may be attracted to both construction materials (pipes, etc.) and construction footprints due to the type and level of activity (excavation, etc.) and the loose, friable soils that are created as a result of intensive ground disturbance. SJKF will readily use shipping containers, portable buildings, and stacks of materials (e.g., I-beams, wooden boards) with spaces within or underneath them for denning, in addition to pipes and culverts (Cypher et al. 2023). To deter SJKF from creating dens under construction materials, CDFW recommends elevating materials one foot or more off the ground using k-rails or similar structures. 2-I

The DEIR mentions that there is a moderate potential for SJKF to occur on the Project site due to the existence of suitable habitat for foraging and denning. Several California ground squirrel (*Otospermophilus beecheyi*) burrows were also observed during the site

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

survey in addition to observation of a California ground squirrel during the field reconnaissance survey.

Mitigation measures 4.3-1, 4.3-2, 4.3-4, 4.3-5, 4.3-7, and 4.3-8 are included to reduce potential impacts to SJKF to less than significant. These mitigation measures, include but are not limited to, preventing inadvertent entrapment during construction by covering excavated steep-walled holes or trenches, thoroughly inspecting all construction pipes, culverts, or similar structures with a four inch or greater diameter prior to being moved or capped, and containing trash and food items in closed containers. CDFW concurs with the approaches described in the mitigation measures but has concerns regarding language in mitigation measure 4.3-8 referring to hand-excavation of potential dens that cannot be avoided. As SJKF have a high potential to den and/or forage within the Project site, CDFW is concerned that excavation of potential dens, without adequate surveys and monitoring, could result in the unauthorized take of the species. As such, consultation with CDFW is recommended if potential or known SJKF dens are identified within the Project site and den avoidance is infeasible. In addition, as SJKF have a high potential to den and/or forage within the Project site and historical SJKF observations have been documented within the species on the Project site and vicinity, CDFW strongly recommends that the Project proponent pursue SJKF take authorization through the acquisition of an Incidental Take Permit (ITP), pursuant to Fish and Game Code section 2081 subdivision (b) to comply with CESA. 2-I cont.

In the absence of an ITP, CDFW recommends conducting the SJKF pre-construction surveys mentioned in mitigation measure 4.3-5 following the U.S. Fish and Wildlife Service (USFWS) "Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance" (USFWS 2011). These measures should be implemented no less than 14 days and no more than 30 days prior to the beginning of ground and/or vegetation disturbing activities.

Additionally, CDFW recommends including the following mitigation measures within the DEIR:

Recommended Mitigation Measure 3: SJKF Avoidance Buffer

CDFW recommends implementing no-disturbance buffers, as described in the USFWS' "Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance" (USFWS 2011) around potentially suitable or known SJKF den sites. 2-J

Recommended Mitigation Measure 4: SJKF Take Authorization

If the no-disturbance buffers outlined in the USFWS Protocol for SJKF is not feasible, CDFW recommends that consultation with CDFW occur to discuss how

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

to implement the Project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP, pursuant to Fish and Game Code section 2081 subdivision (b) is necessary to comply with CESA. 2-J cont.

Comment 3: Swainson's Hawk

The DEIR notes there is a moderate potential for SWHA to occur on the Project site because suitable foraging habitat for the species is present throughout the Project site and adjacent lands could support nesting by SWHA. Mitigation measures 4.3-1, 4.3-2, 4.3-4, 4.3-5, 4.3-7, 4.3-9, 4.3-10 and 4.3-11 are included to minimize Project impacts on the species. These mitigation measures include, but are not limited to, monitoring of all construction activities for potential biological impacts by a Lead Biologist, or their designee, confining all construction activities within the construction area, and conducting pre-construction surveys prior to any site preparation and/or construction activity to identify any potential nesting bird activity. CDFW concurs with these measures but recommends a minimum ½-mile no-disturbance buffer be delineated and maintained around each SWHA nest. The 500-foot buffer mentioned in mitigation measure 4.3-9 for raptors is likely inadequate to mitigate for potential significant impacts to SWHA and avoid unauthorized take of the species. 2-K

In addition to the aforementioned mitigation measures, CDFW recommends incorporating the following mitigation measures within the DEIR:

Recommended Mitigation Measure 5: SWHA Surveys Prior to Construction

Depending on the time between the initial survey efforts conducted in support of the DEIR and Project construction, CDFW recommends that additional surveys, following the survey methodology developed by the SWHA Technical Advisory Committee (SWHA TAC 2000), be repeated the survey season immediately prior to any ground disturbing activities that occur as part of this Project.

Recommended Mitigation Measure 6: SWHA Avoidance Buffer 2-L

If Project-specific ground disturbance activities will take place during the SWHA nesting season (i.e., March 1 through September 15), and active SWHA nests are present, CDFW recommends a minimum ½-mile no-disturbance buffer be delineated and maintained around each nest, regardless of whether it was detected by surveys or observed incidentally. These buffers would remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival, to prevent nest abandonment and other take of SWHA as a result of Project activities.

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

Recommended Mitigation Measure 7: SWHA Take Authorization

CDFW also recommends that in the event an active SWHA nest is detected, and a ½-mile no-disturbance buffer is not feasible, consultation with CDFW is warranted to discuss how to implement the Project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP, pursuant to Fish and Game Code section 2081 subdivision (b) is necessary to comply with CESA.

Recommended Mitigation Measure 8: SWHA Foraging Habitat Mitigation

Finally, CDFW recommends compensation for the loss of SWHA foraging habitat as described in CDFW's "Staff Report Regarding Mitigation for Impacts to Swainson's Hawks" (CDFG 1994) to reduce impacts to foraging habitat to less than significant. The Staff Report recommends that mitigation for habitat loss occur within a minimum distance of 10 miles from known nest sites. CDFW has the following recommendations based on the Staff Report: 2-L cont.

- For projects within 1 mile of an active nest tree, a minimum of 1 acre of habitat management (HM) land for each acre of development is advised.
- For projects within 5 miles of an active nest but greater than 1 mile, a minimum of ¾ acre of HM land for each acre of development is advised.
- For projects within 10 miles of an active nest tree but greater than 5 miles from an active nest tree, a minimum of ½ acre of HM land for each acre of development is advised

Comment 4: Western Burrowing Owl

The DEIR acknowledges that there is a high potential for western burrowing owl (BUOW) to utilize the Project site due to the presence of habitat, including many California ground squirrel burrows, and records of burrowing owls nearby. Mitigation measures 4.3-1, 4.3-2, 4.3-4, 4.3-5, and 4.3-6 are included in the DEIR to minimize potential impacts to BUOW and include required biological monitoring, covering of construction pipes, culverts, or similar structures, and completion of preconstruction surveys along with consultation with CDFW. Mitigation measure 4.3-6 specifically requires burrowing owl surveys, consistent with the methods outlined in the 2012 CDFW Staff Report on Burrowing Owl Mitigation, prior to ground disturbance activity and implementing appropriate construction buffers around any burrowing owl burrows found on or immediately adjacent to the Project site. CDFW concurs with the pre-construction surveys and avoidance buffers approach outlined; however, CDFW is concerned that implementation of a passive relocation, absent a CESA ITP, may result in the unauthorized take of BUOW. As such, if known BUOW dens are identified either during 2-M

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

surveys or during Project implementation, CDFW recommends the Project proponent consult with CDFW to discuss how to implement the Project and avoid take.

It is also important to note that according to the Staff Report (CDFG 2012), BUOW den exclusion is considered a potentially significant impact under CEQA. CDFW concurs with the portion of Mitigation Measure 4.3-6 that requires permanent conservation of BUOW habitat for impacts to occupied BUOW burrows and habitats and CDFW recommends this requirement be carried forward as part of the Project approval. 2-M cont.

CDFW also recommends incorporating the following mitigation measure within the DEIR:

> **Recommended Mitigation Measure 9: BUOW Take Authorization**
>
> If a BUOW or known BUOW den (active or inactive) is detected, and the no-disturbance buffers outlined in the 2012 Staff Report on Burrowing Mitigation are not feasible, consultation with CDFW is warranted to discuss how to implement the Project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP, pursuant to Fish and Game Code section 2081 subdivision (b) is necessary to comply with CESA. 2-N

Comment 5: Western Spadefoot

The Project is within the geographic range of western spadefoot (WESP) and suitable habitat may be present within the Project site. WESP occur primarily within grasslands and seasonal wetlands, but are known to utilize agricultural ditches, ponds, sumps, and pumps within agricultural settings, and may also utilize roadsides and low-lying areas with sufficient seasonal inundation.

CDFW recommends that a qualified biologist conduct a habitat assessment prior to the implementation of the Project to determine if the Project site or the immediate vicinity contains potential habitat for WESP. This habitat assessment should be timed to occur when it is seasonally appropriate to identify potential breeding or ponding habitat. If potential habitat is present, consultation with CDFW is recommended for guidance on focused survey methods and mitigation measures such avoidance, minimization, and mitigation. 2-O

Additionally, on September 24, 2025, the California Fish and Game Commission (Commission) received a petition to list the northern population of WESP as threatened species and the southern population of WESP as an endangered species under CESA. If the Commission takes action and WESP becomes listed as a Candidate for listing pursuant to CESA (possible in 2026), or ultimately becomes listed as threatened or endangered pursuant to CESA, take authorization through the acquisition of an ITP,

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

pursuant to Fish and Game Code section 2081, subdivision (b), is necessary to comply with CESA if full avoidance of WESP could not be achieved. 2-O cont.

Editorial Comments and/or Suggestions

Artificial Lighting: Due to the Project's proximity to undisturbed habitat at CDFW's BCER, installation of outdoor artificial night lighting would likely disrupt the circadian rhythms of wildlife species supported by the preserve. Many species use photoperiod cues for communication, determining when to begin foraging, thermoregulation behavior, and migration (Longcore and Rich 2004, Miller 2006, Nightingale et al. 2006, Perry et al. 2008, Stone et al. 2009). Phototaxis, a phenomenon which results in attraction and movement towards light, can disorient, entrap, and temporarily blind wildlife species that experience it (Longcore and Rich 2004). Project activities could result in disruption of wildlife behavior, inadvertent injury, or mortality. 2-P

CDFW acknowledges that mitigation measure 4.3-7 addresses lighting for nighttime construction activities and operations within 50 feet of the outside edge of areas containing habitat for special-status species and that lighting shall be directed away from those areas. To supplement this mitigation measure, CDFW recommends reviewing additional feasible mitigation measures for potential inclusion to decrease the impacts of artificial outdoor lighting on wildlife species. Potentially feasible mitigation measures include motion sensitive lighting; mounting light fixtures as low as possible to minimize light trespass; use of light fittings that direct and confine the spread of light downward; and use of long-wavelength light sources. 2-Q

Nesting birds: CDFW encourages that ground-disturbing activities occur during the bird non-nesting season; however, if ground-disturbing or vegetation-disturbing activities must occur during the nesting season (February 1st through September 15th), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Code sections as referenced above. 2-R

CDFW further recommends that a qualified biologist conduct a pre-construction survey for active nests no more than 10 days prior to the start of ground- or vegetation-disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the Project site to identify nests and determine their status. A sufficient area means any area potentially affected, either directly or indirectly, by the Project. In addition to direct impacts (i.e., nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. CDFW recommends that a qualified biologist establish a behavioral baseline of all identified nests. Once Project-specific activities begin, CDFW recommends having a qualified biologist continuously monitor nests to detect behavioral changes resulting from the activities. If behavioral changes occur, CDFW recommends 2-S

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

halting the work causing that change and consulting with CDFW for additional avoidance and minimization measures. 2-S cont.

If continuous monitoring of identified nests by a qualified biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival. Variance from these no-disturbance buffers is possible when there is a compelling biological or ecological reason to do so, such as when Project activities would be concealed from a nest site by topography. CDFW recommends that a qualified biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance. 2-T

CNDDB: Please note that the CNDDB is populated by records through voluntary submissions of species detections. As a result, species may be present in locations not depicted in the CNDDB, but where there is suitable habitat and features capable of supporting species. A lack of an occurrence record in the CNDDB does not mean a species is not present. In order to adequately assess any potential Project related impacts to biological resources, surveys conducted by a qualified biologist during the appropriate survey period(s) and using the appropriate protocol survey methodology are warranted in order to determine whether or not any special-status species are present at or near the Project site. 2-U

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-specific surveys to the CNDDB. The CNDDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be mailed electronically to the CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to the CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals. 2-V

FILING FEES

The Project, as proposed, would have an impact on biological resources, and an assessment of 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 fee is required in order for the underlying project 2-W

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089). 2-W cont.

CONCLUSION

CDFW appreciates the opportunity to comment on the DEIR to assist Kern County in identifying and mitigating Project impacts on biological resources. A Mitigation Monitoring and Reporting Program (Attachment 1) is included below to assist Kern County with incorporating the recommended mitigation measures provided above.

More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (https://www.wildlife.ca.gov/Conservation/Survey-Protocols). If you have any questions regarding this letter or further coordination, please contact Marile Colindres, Environmental Scientist, at the address provided on this letterhead, by telephone at (559) 974-3452, or by electronic mail at marile.colindres@wildlife.ca.gov. 2-X

Sincerely,

DocuSigned by:
Krista Tomlinson
12950B95267A4F5...

For Julie A. Vance
Regional Manager

ATTACHMENT 1: Mitigation Monitoring and Reporting Program

ec: State Clearinghouse
Governor's Office of Land Use and Climate Innovation
state.clearinghouse@lci.ca.gov

Reagen O'Leary
California Department of Fish and Wildlife
Central Region
Reagen.Oleary@wildlife.ca.gov

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

REFERENCES

California Department of Fish and Game. 2012. Staff report on burrowing owl mitigation. California Department of Fish and Game, Sacramento, California, USA.

California Department of Fish and Wildlife. 2019. Approved survey methodology for the blunt-nosed leopard lizard. California Department of Fish and Game. Sacramento, California, USA.

California Department of Fish and Wildlife. 2026. Biogeographic information and observation system (BIOS). https://wildlife.ca.gov/Data/BIOS. Accessed 6 April 2026.

Cypher B., E. Noel, E. Kelly, T. Westall, N. Deatherage, and A. Gabaldon. 2023. Response of San Joaquin kit foxes to road construction sites. California State University-Stanislaus – Endangered Species Recovery Program, Turlock, California, USA.

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

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

Nightingale, B., T. Longcore, and C. Simenstad. 2006. Artificial night lighting and fishes. Pages 257–276 in C. Rich and T. Longcore, editors. Ecological consequences of artificial light at night. Island Press, Washington, D.C., USA.

Perry, G., B. Buchanan, R. Fisher, M. Salmon, and S. Wise. 2008. Effects of night lighting on urban reptiles and amphibians. Chapter 16 in: Urban Herpetology: Ecology, Conservation and Management of Amphibians and Reptiles in Urban and Suburban Environments. J. C. Mitchell, R. E. Jung Brown and B. Bartholomew (ed.). Herpetological Conservation, 3:211-228.

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

Swainson's Hawk Technical Advisory Committee. 2000. Recommended timing and methodology for Swainson's hawk nesting surveys in California's Central Valley. Swainson's Hawk Technical Advisory Committee.

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

U.S. Fish and Wildlife Service. 2011. Standard recommendations for the protection of the San Joaquin kit fox prior to or during ground disturbance. Sacramento, California, USA.

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

Attachment 1

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

Attachment 1

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
RECOMMENDED MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

PROJECT: Airport Commerce Center Industrial Project (Project)
Draft Environmental Impact Report (DEIR)

SCH No.: 2025030498

RECOMMENDED MITIGATION MEASURE	STATUS/DATE/INITIALS
Before Disturbing Soil or Vegetation	
Blunt-nosed leopard lizard (BNLL)	
Recommended Mitigation Measure 1: BNLL Surveys	
Recommended Mitigation Measure 2: BNLL Take Avoidance	
San Joaquin Kit Fox (SJKF)	
Recommended Mitigation Measure 4: SJKF Take Authorization	
Swainson's Hawk (SWHA)	
Recommended Mitigation Measure 5: SWHA Surveys Prior to Construction	
Recommended Mitigation Measure 7: SWHA Take Authorization	
Recommended Mitigation Measure 8: SWHA Foraging Habitat Mitigation	
Western Burrowing Owl (BUOW)	
Recommended Mitigation Measure 9: BUOW Take Authorization	
During Construction	
San Joaquin Kit Fox (SJKF)	

Docusign Envelope ID: 43E717D1-0461-47FD-8391-89148069F895

Recommended Mitigation Measure 3: SJKF Avoidance Buffer	
Swainson's Hawk (SWHA)	
Recommended Mitigation Measure 6: SWHA Avoidance Buffer	

Response to Comment Letter 2: California Department of Fish and Wildlife (CDFW) (April 20, 2026)

Response 2-A

This comment introduces the letter and background of CDFW's involvement, and thanks Kern County for the opportunity to comment on the Draft EIR regarding its authority under the Fish and Game Code. This comment does not raise any specific issues or questions on the environmental analysis in the Draft EIR. The substantive biological resources issues raised by CDFW are addressed in Responses 2-E through 2-V, including the species-specific responses and the mitigation revisions reflected in the Final EIR Errata.

Response 2-B

This comments addresses CDFW's role in the CEQA process as Trustee Agency for fish and wildlife resources and as a Responsible Agency under CEQA that may need to exercise regulatory authority over the project as provided by the Fish and Game Code. The comment continues to provide a summary of some of the regulations that CDFW may need to exercise regulatory authority over the project: CDFW Ecological Reserves, Fully Protected Species, Nesting Birds, Unlisted Species. This comment does not raise any specific issues or questions on the environmental analysis in the Draft EIR. The Draft EIR and Final EIR Errata address CDFW's trustee and responsible-agency concerns through the biological resources analysis in Draft EIR Section 4.3, the Biological Resources Assessment (BRA) prepared for the project included as Draft EIR Appendix C, and revised **Mitigation Measures MM 4.3-1** through **MM 4.3-12**.

Response 2-C

This comment describes the proposed project and project location. The comment does not identify a significant new environmental impact, a substantial increase in the severity of a previously identified impact, or a deficiency requiring revision or recirculation of the Draft EIR. No revisions to the Draft EIR are required in response to this comment.

Response 2-D

This comments states that the following comments and recommendations are being provided by CDFW to assist Kern County in identifying and/or mitigating direct and indirect impacts on fish and wildlife. This comment does not raise any specific issues or questions on the environmental analysis in the Draft EIR. CDFW's specific recommendations are addressed in Responses 2-E through 2-V below.

Response 2-E

This comment states that the CDFW understands the Draft EIR acknowledges the proximity of the project to CDFW's Bakersfield Cactus Ecological Reserve (BCER) and includes mitigation measures to minimize impacts to the BCER. The comment further recommends that the proposed project consult with CDFW's Regional Ecological Reserve Management Unit staff in advance of the project initiation to accurately delineate project boundaries and ensure no inadvertent encroachment on the BCER/CDFW owned lands. The County acknowledges CDFW's recommendation and will coordinate with CDFW Regional Ecological Reserve Management Unit staff before project initiation as appropriate to confirm the project limits and avoid inadvertent encroachment onto the BCER or other CDFW-owned lands. However, the Draft EIR confirms that the BCER is located approximately 1,500 feet from the project boundary, making potential project encroachment on the BCER/CDFW owned lands unlikely, and **Mitigation Measure MM 4.3-7**

requires project lighting to be directed away from habitat areas and shielded downward to avoid indirect effects.

Response 2-F

This comment acknowledges that the proposed project site habitats include disked annual grasslands and ruderal habitats, and that a Biological Resources Assessment (BRA) was prepared to support the findings in the Draft EIR. CDFW concurs with the mitigation measures in the Draft EIR in regards to retaining a Lead Biologist to oversee compliance during construction and operation, Worker Environmental Awareness Training Program, and with the mitigation measures provided for Crotch's bumble bee, California horned lark, and nesting birds. However, CDFW has concerns about the ability of the Draft EIR's proposed mitigation measures to reduce impacts to less than significant and avoid take of listed species including blunt-nosed leopard lizard (BNLL), San Joaquin kit fox, Swainson's hawk, western burrowing owl, and western spadefoot. This comment does not raise any specific issues or questions on the environmental analysis in the Draft EIR and is a pre-amble to the specific comments on these wildlife species impacts. The County notes CDFW's concurrence with the Lead Biologist, Worker Environmental Awareness Training, Crotch's bumble bee, California horned lark, and nesting bird mitigation measures. CDFW's remaining species-specific recommendations are addressed in the responses that follow and, where accepted, incorporated into the Final EIR Errata.

Response 2-G

This comment reiterates the findings in the BRA that the project site and surrounding areas lacks habitat for BNLL. The comment continues to state that no protocol survey was conducted and states that a protocol survey is necessary as the project Site is within the known geographic range of the species, is in close proximity to habitat for the species within the BCER, that there are historic records of the species within CNDDB located within 5-miles of the project site, and the BRA notes mammal burrows on the project Site. The County's expert disagrees with the need for additional mitigation because the site lacks habitat for BNLL. Although ground squirrel and other small mammal burrows were observed within the study area and/or on portions of the project site, the BRA did not conclude that those burrows occur in suitable BNLL habitat or provide suitable BNLL refugia. The BRA determined that the project site is a regularly disturbed ruderal area dominated by non-native/invasive vegetation, lacks native alkali scrub or desert scrub habitat, lacks shrubs or other structural habitat features typically associated with BNLL cover, and is subject to disturbance from tilling/disking. Accordingly, while mammal burrows were considered, the BRA concluded that the project site lacks suitable habitat for BNLL. There is likely habitat on the BCER, but that is not within the study area or project site, and habitat nearby does not indicate the species would occur or be impacted. In fact, lack of habitat indicates that the species does not occur. Accordingly, the County's expert does not agree that protocol surveys or additional mitigation for this species are required on the facts presented here.

Response 2-H

This comment includes CDFW recommended mitigation measures related to BNLL. The Draft EIR is required to identify and mitigate only those impacts that may be significant under CEQA. As described above in Response to 2-G, because the project would not remove occupied habitat, interfere with breeding or sheltering behavior, or otherwise affect individuals of the species, there is no evidence of a potentially significant impact. Accordingly, the County's expert does not agree that mitigation is required as no impact would occur to the species. There is no habitat on the project site and there is therefore no need to conduct a protocol survey for BNLL or implement any mitigation. This conclusion should be read together with

Response 2-G and the BRA's habitat-based BNLL assessment. Because the BRA identifies no suitable BNLL habitat on the project site, CEQA does not require mitigation for a species impact that the record does not identify as potentially significant.

Response 2-I

This comment summarizes the life history of San Joaquin kit fox and acknowledges the BCER was acquired to conserve habitat for the species. The comment acknowledges the BRA's assessment that the species has the potential to occur on the project site and that the Draft EIR includes mitigation measures for potential impacts to San Joaquin kit fox. CDFW comments that the proposed excavation of San Joaquin kit fox dens proposed in the mitigation measures would require consultation with CDFW/USFW and potentially an Incidental Take Permit (ITP). CDFW further suggests that an ITP be obtained prior to the proposed project regardless of the potential for impacting active dens. The County's expert agrees with the CDFW assessment that hand-excavating active dens should be avoided without a take permit, and the existing BRA does not include this mitigation language. Accordingly, **Mitigation Measure MM 4.3-8** has been revised to, among other things, prohibit excavation of known or pupping San Joaquin kit fox dens without prior consultation with CDFW and USFWS, and to require an ITP if impacts to occupied dens are unavoidable. No changes to the analysis or significance conclusion in the EIR are required.

Response 2-J

The comments include two recommended mitigation measures be inserted into the Draft EIR: RMM 3 includes implementing no-disturbance buffers around San Joaquin kit fox per the USFWS recommendations, and RMM 4 includes obtaining an ITP if take cannot be avoided. These refinements consist of clarifications that better reflect agency guidance and permitting requirements, and have been incorporated into the Final EIR as shown in the Errata, revised **Mitigation Measure MM 4.3-8**. No changes to the analysis or significance conclusion in the EIR are required.

Response 2-K

This comment acknowledges the Swainson's hawk potential to nest near the project site as described in the Draft EIR and agrees with the recommended mitigation but requests that the no-work buffer in **Mitigation Measure MM 4.3-9** be updated to ½ mile instead of 500-feet to avoid impacting active Swainson's hawk nests. The ½ mile buffer requirement has been incorporated into the Final EIR, as shown in the Errata, revised **MM 4.3-9**, which strengthens the mitigation framework. This refinement does not result in any change to the analysis or the significance conclusion.

Response 2-L

This comment includes additional CDFW recommended mitigation measures for Swainson's hawk that include: RMM 5 stating additional protocol surveys be conducted if project start is delayed until the next nesting season, RMM 6 includes updated ½ mile active nest avoidance buffer during construction, RMM 7 ITP acquisition if active nests are not avoidable by ½ mile buffer, and RMM 8 that would set the foraging habitat compensatory mitigations required for project's near active nests per the CDFW guidance documents. CDFW's recommendations have been added to the Final EIR, as shown in the Errata, revised **Mitigation Measure MM 4.3-9**. No changes to the analysis or significance conclusion in the EIR are required.

Response 2-M

This comment includes CDFW acknowledgement and agreement with the western burrowing owl mitigation in the existing Draft EIR, except that the proposed passive relocation described in 4.3-6 be updated to only conduct the passive relocation after consulting with CDFW to discuss how to implement the project and avoid take of western burrowing owl. This measure has been updated in the Final EIR to reflect the need for such consultation prior to implementing a passive relocation, as shown in the Errata, revised **Mitigation Measure MM 4.3-6**. No changes to the analysis or significance conclusion in the EIR are required.

Response 2-N

This comment includes additional mitigation for western burrowing owl proposed by CDFW regarding the need for an ITP if active or inactive burrowing owl burrows are identified on the project site within the impact areas. CDFW's recommendation has been added to the Final EIR within existing **Mitigation Measure MM 4.3-6** to better reflect agency guidance and permitting requirements. No changes to the analysis or significance conclusion in the EIR is required.

Response 2-O

This comment suggests that the proposed project conduct a habitat assessment for western spadefoot prior to implementation of the proposed project, and states that western spadefoot has an active petition for listing as a Candidate to CESA. The County's expert disagrees with this comment as the existing BRA has determined that the project site and surrounding areas lack the necessary ponding or inundated areas necessary for this species to occur. The County acknowledges CDFW's reference to the pending CESA petition for western spadefoot, but the CEQA impact conclusion turns on habitat suitability and potential occurrence. The BRA's field reconnaissance, NWI/NHD review, and soils review found no ponding, ephemeral pools, or inundated breeding habitat and no suitable upland aestivation conditions for western spadefoot on the project site. **Mitigation Measure MM 4.3-5** also provides a pre-construction wildlife survey requirement and resource agency consultation safeguards in the event the required pre-construction survey detects the presence of special-status species on the project site, which would include western spadefoot if it is listed as a candidate, threatened, or endangered species.

Response 2-P

This comment suggests that artificial lighting from the proposed project could disrupt wildlife species at the BCER. The County acknowledges that artificial lighting can be an indirect biological impact mechanism, and the Draft EIR expressly identifies artificial lighting as one of the potential indirect impacts associated with project construction and long-term operations that could affect special-status plant and wildlife species. The Draft EIR therefore does not ignore potential lighting effects; rather, it evaluates them as part of the biological resources impact analysis and imposes mitigation to reduce potential effects.

The BRA also recognizes the biological context for CDFW's concern. The BRA states that the BCER supports local species and that open space north of the study area connects toward the oil fields and the BCER. At the same time, the BRA explains that the BCER and project vicinity are fragmented from larger, higher-quality habitat areas by surrounding development, oil and gas fields, Petrol Road, and other barriers; that the nearest larger block of connected habitat for special-status wildlife is approximately three miles northeast of the study area; and that the project site itself does not function as a wildlife migration corridor or regional habitat linkage.

The Draft EIR further includes lighting controls that directly address the potential indirect effect identified by the comment. **Mitigation Measure MM 4.3-7** requires that, if nighttime lighting for construction activities or operations is required within 50 feet of the outside edge of areas containing habitat for special-status wildlife, as determined by the qualified biologist, lighting must be directed away from those habitat areas. In addition, **MM 4.1-4** requires the project proponent to submit a lighting plan before building permits demonstrating continuous compliance with the County's Outdoor Lighting / Dark Skies Ordinance; the measure requires lighting to provide only the minimum illumination needed for safety and security, to be directed downward and shielded, to focus illumination on the desired areas only, and to avoid light trespass onto adjacent properties and roadways.

Accordingly, although the Draft EIR recognizes artificial lighting as a potential indirect biological impact, substantial evidence in the Draft EIR and BRA supports the conclusion that the project would not result in a significant lighting-related impact to wildlife using the BCER. That conclusion is supported by the project's distance and intervening barriers from the BCER, the BRA's finding that the project site does not serve as a regional wildlife movement corridor, **MM 4.3-7**'s requirement that nighttime lighting be directed away from special-status wildlife habitat, and **MM 4.1-4**'s lighting-plan, shielding, downward-orientation, and light-trespass controls. No additional mitigation is required.

Response 2-Q

This comment states that additional mitigation regarding artificial lighting and nighttime work should be considered beyond existing **Mitigation Measure MM 4.3-7**. The County acknowledges that artificial lighting can be an indirect biological impact mechanism, and the Draft EIR expressly identifies artificial lighting as one of the potential indirect impacts associated with project construction and long-term operations that could affect special-status plant and wildlife species. The Draft EIR therefore does not dismiss potential lighting effects; it evaluates them and incorporates mitigation and design requirements to reduce those effects.

The Draft EIR includes both general lighting controls and biological-resource-specific lighting controls. **MM 4.1-4** requires the project proponent, before issuance of building permits, to submit a lighting plan demonstrating continuous compliance with the applicable provisions of the County's Outdoor Lighting / Dark Skies Ordinance. **MM 4.1-4** further requires lighting to provide only the minimum illumination needed for safety and security, to be directed downward and shielded, to focus illumination on desired areas only, and to avoid light trespass onto adjacent properties and roadways.

The Draft EIR's construction lighting discussion similarly explains that, although construction would primarily occur during daytime hours and some additional hours may be needed to facilitate the schedule, construction lighting would use minimal illumination for safety, would be shielded and directed downward, and would be focused on the work area to prevent light spillage onto adjacent properties, Airport Drive, Merle Haggard Drive, Petrol Road, Landings Way, or any other adjacent use. The Draft EIR also explains that the lighting plan required by **MM 4.1-4** would ensure that nighttime lighting and construction work provide only the minimum illumination needed for safety and security objectives.

In addition, **MM 4.3-7** specifically addresses biological resources by requiring that, if nighttime lighting for construction activities or operations is required within 50 feet of the outside edge of areas containing habitat for special-status wildlife, as determined by the qualified biologist, lighting must be directed away from those habitat areas. The Draft EIR relies on **MM 4.3-7**, together with the Lead Biologist, worker training, general avoidance measures, preconstruction survey requirements, and other biological mitigation measures, to reduce indirect impacts to special-status wildlife to less than significant.

The BRA further supports the conclusion that additional night-time work restrictions are not required. The BRA explains that the project site is surrounded by development, lacks connectivity with large expanses of habitat, does not serve as a wildlife migration corridor, and is separated from the BCER and regional habitat areas by intervening barriers such as Petrol Road, large developments, oil and gas fields, and surrounding urban development. That setting evidence reduces the likelihood that project lighting or nighttime work would substantially interfere with wildlife, its movement, or regional habitat connectivity.

Accordingly, the County does not agree that additional lighting mitigation or categorical nighttime-work restrictions are required. The combination of **MM 4.1-4**'s lighting-plan, Dark Skies Ordinance, downward-shielding, minimum-illumination, and light-trespass controls; **MM 4.3-7**'s requirement to direct nighttime lighting away from special-status wildlife habitat; and the BRA's site-setting evidence provides substantial evidence that potential lighting-related biological impacts would be reduced to less than significant

Response 2-R

This comment recommends that project ground-disturbing activities be conducted outside the nesting season for migratory birds and notes that the project applicant ensuring that the project complies with the Migratory Bird Treaty Act. The County acknowledges that conducting ground-disturbing activities outside the nesting season is one way to reduce the potential for impacts to active nests; however, the Draft EIR already includes enforceable nesting bird and Swainson's hawk survey and avoidance measures that address the potential impact if work occurs during the nesting season.

Specifically, **Mitigation Measure MM 4.3-9** requires preconstruction surveys if construction activities are conducted during the typical nesting bird season, and the survey area must include a 500-foot buffer surrounding the property. **MM 4.3-9** also requires Swainson's hawk protocol-level surveys consistent with Swainson's Hawk Technical Advisory Committee survey methods, and the Errata revision adds that, if construction is delayed and occurs during a subsequent nesting bird season, an additional Swainson's hawk protocol survey will be required. If nesting activity is identified, **MM 4.3-9** requires project modification or delay as necessary to avoid direct take of protected nests, eggs, or young; establishes buffers for active nests; prohibits construction in the buffer zone until young have fledged and achieved independence; and requires documentation of compliance with the Migratory Bird Treaty Act and California Fish and Game Code.

In addition**, MM 4.3-10** requires preconstruction protocol-level surveys by a qualified biologist if construction activities are scheduled during the breeding season for raptors and other migratory birds, and requires the qualified biologist to determine buffer distances and timing restrictions so the project does not cause nest abandonment or destruction of eggs or young. **MM 4.3-11** further requires the areas slated for vegetation removal to be surveyed for actively nesting birds before vegetation removal during site preparation, and prohibits removal of vegetation in areas containing actively nesting birds.

CDFW's own comment letter, as summarized in Comment 2-F, acknowledges the Draft EIR's mitigation measures for nesting birds and states that CDFW concurs with the mitigation measures provided for California horned lark and nesting birds, while reserving separate concerns regarding other listed or candidate species addressed in subsequent responses. Thus, the Draft EIR already incorporates the type of preconstruction survey and active-nest avoidance framework needed to avoid and minimize nesting bird impacts if construction occurs during the nesting season.

Because **MM 4.3-9**, **MM 4.3-10**, and **MM 4.3-11** require preconstruction nesting bird and Swainson's hawk surveys, active-nest buffers, timing restrictions, and avoidance of vegetation removal where active

nests are present, a categorical prohibition on all nesting-season ground disturbance is not required to reduce impacts to less than significant levels. No additional mitigation is required, and no change to the Draft EIR's significance conclusion is warranted.

Response 2-S

This comment recommends a preconstruction survey for nesting migratory birds be conducted prior to start of project activities in the bird nesting season. The County acknowledges that seasonal avoidance would support compliance with the MBTA. However, this is part of an existing regulatory compliance requirement that the proposed project would implement and is not a CEQA mitigation designed to reduce impacts to a less than significant level. Moreover, **Mitigation Measures MM 4.3-9** and **MM 4.3-10** already require preconstruction nesting bird surveys during the nesting season and buffers for active nests; therefore, the requested protection is already addressed in the Draft EIR mitigation framework. Accordingly, this proposed edit is not required. Please also see Response to Comment 2-R.

Response 2-T

This comment recommends no-disturbance buffers for active nests that are not monitored by a biologist. The County acknowledges that such buffers would support compliance with the MBTA by helping to avoid impacts on active nests. However, this is part of an existing regulatory compliance requirement that the proposed project would implement and is not a CEQA mitigation designed to reduce impacts to a less than significant level; accordingly, this proposed edit is not required. Please also see Responses to Comments 2-R and 2-S.

Response 2-U

This comment describes the limitations of the California Natural Diversity Database ("CNDDB") and notes that CNDDB records are based on voluntary submissions and therefore may not identify every location where special-status species could occur. The County acknowledges this limitation, but the Draft EIR and BRA do not rely on CNDDB records alone to determine whether special-status species may occur on or near the project site.

The BRA used multiple lines of evidence to evaluate special-status species, including CNDDB, CDFW Special Animals List, CNPS Rare Plant Inventory, Calflora, Jepson eFlora, USFWS IPaC, USFWS critical habitat mapping, NWI, NHD, NRCS soils information, aerial mapping, and site-specific field reconnaissance. The BRA also included a field reconnaissance of the project site and 500-foot buffer on November 10, 2023, during which South Environmental recorded plants and wildlife observed on the site, mapped plant communities, and identified locally significant biological resources. The Draft EIR explains that the potential for special-status species to occur was based on database research, surveys of the project site, presence of suitable habitat, and proximity to previously recorded occurrences.

In addition, the Draft EIR includes a mitigation program that does not assume CNDDB data is complete and that requires additional surveys before ground disturbance and construction activities. These measures address CDFW's concern about the limitations of CNDDB data by requiring site-specific preconstruction surveys and agency consultation for special-status plants, special-status wildlife, burrowing owl, San Joaquin kit fox, nesting birds, Swainson's hawk, and Crotch's bumble bee before disturbance occurs. Accordingly, although CNDDB is an important screening tool, the Draft EIR's impact conclusions and mitigation program are supported by broader database review, field reconnaissance, habitat assessment, and enforceable survey-triggered mitigation requirements, and no additional revisions to the Draft EIR are required in response to this comment.

Response 2-V

This comment states that CEQA requires that special-status species data collected during the EIR process should be input into the CNDDB. This comment does not raise any specific issues or questions on the environmental analysis in the Draft EIR. The County acknowledges this comment's recommendation and will ensure that special-status species observations documented during preconstruction surveys required by **Mitigation Measures MM 4.3-3**, **MM 4.3-5**, **MM 4.3-6**, **MM 4.3-8**, and **MM 4.3-12** are reported to CNDDB consistent with applicable CEQA and CDFW guidance.

Response 2-W

This comment describes CDFW's filing-fee requirements for projects that may affect biological resources. The County acknowledges CDFW's comment and will comply with all applicable filing-fee requirements when filing the Notice of Determination for the project. As CDFW notes, the project would have an impact on biological resources, and the applicable fee is payable upon filing of the Notice of Determination by the Lead Agency to help defray CDFW's environmental review costs. Payment of any required CDFW filing fee will be made consistent with Fish and Game Code Section 711.4, Public Resources Code (PRC) Section 21089, and California Code of Regulations, title 14, Section 753.5, as applicable. This comment does not identify any deficiency in the Draft EIR's environmental analysis or mitigation measures, and no revisions to the Draft EIR are required in response to this comment

Response 2-X

The County acknowledges CDFW's concluding remarks and appreciates CDFW's review of, and comments on, the Draft EIR. The County has considered CDFW's recommendations and has provided responses to each substantive biological resources comment above, including responses addressing the Bakersfield Cactus Ecological Reserve, special-status species, artificial lighting, nesting birds, CNDDB limitations, environmental data reporting, and CDFW filing fees. Where appropriate, the Final EIR incorporates clarifications or mitigation refinements in response to CDFW's comments, including revisions to biological resources mitigation measures addressing San Joaquin kit fox, Swainson's hawk, burrowing owl, and related survey, avoidance, consultation, and take-authorization requirements. The comment does not identify a significant new environmental impact, a substantial increase in the severity of a previously identified impact, or a deficiency requiring revision or recirculation of the Draft EIR. No revisions to the Draft EIR are required in response to this comment. The County thanks the author for their comments and participation in the public review of the environmental document.

Comment Letter 3: Central Valley Regional Water Quality Control Board (May 20, 2026)

Nicole Menchaca

From: Kang, Virat@Waterboards <Virat.Kang@Waterboards.ca.gov>
Sent: Wednesday, May 20, 2026 1:56 PM
To: Nicole Menchaca
Cc: Zoning; bryan.rock; Scroggins, Matt@Waterboards
Subject: COMMENTS ON NOTICE OF PUBLIC HEARING FOR KERN COUNTY, PROPOSED COMMERICAL DEVELOPMENT PROJECT AND ZONING CHANGES, KERN COUNTY PLANNING AND NATURAL RESOURCES PLANNING DEPARTMENT, KERN COUNTY

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Good afternoon, Nicole,

On 20 April 2026, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) received a Notice of Public Hearings (NOPH) from the Kern Country Planning and Natural Resources Department (County). The NOPH is regarding the proposed Airport Commerce Center Industrial Project, file number: GPA #5, Map 81-35; ZCC #46, Map 81-35; PD Plan #36, Map 81-35 (Project). The Project involves the development of four industrial warehouse buildings totaling approximately 1.5 million square feet and two associated quick serve restaurants totaling approximately 9,400 square feet.
The Project is located at the northwest corner of the intersection of Airport Drive and Merle Haggard Drive in the unincorporated community of Oildale (Accessors Parcel Numbers 483-040-32, -33, -42, -43, -45, -46). The applicant for the Project is ACC Bakersfield JV, LLC. The County will be the Lead Agency, in accordance with the California Environmental Quality Act (CEQA). The NOPH indicates the County has prepared an Environmental Impact Report for the project.

The Project would also involve multiple zoning changes and amendments to county plans. Changes include: amendment to Metropolitan Bakersfield General Plan Land Use Element from Map Code GC (General Commercial) to SI Service Industrial (General Pan Amendment No. 5, Map 81-35); classification change from M-1 PD H (Light Industrial – Precise Development Combining – Airport Approach Height Combining) to M-2 PD H (Medium Industrial – Precise Development Combining – Airport Approach Height Combining); zone classification change from FPP (Floodplain Primary) to M-2 PD H (Medium Industrial – Precise Development Combining – Airport Approach Height Combining); approval of Precise Development Plan for site development and implementation of the M-2 PD H zoning request (PD No. 36, Map 81-35).

The Central Valley Water Board is responsible for protecting the quality of surface and ground waters of the state; therefore, our comments on the NOPH will address water quality matters only.

3-A

Waste Discharge Requirements (WDRs)
The Project would presumably generate multiple wastewater streams (e.g., domestic and commercial/industrial wastewater).

The discharge of any wastewater to land is subject to regulation under WDRs. If the proposed Project results in a new discharge of waste to land, or any material change or proposed change in the character, location, or volume of discharges from wastewater treatment facilities (WWTFs) within Kern County, a Report(s) of Waste Discharge (RWD) is required pursuant to California Water Code Section 13260. The RWD must include sufficient technical information for the Central Valley Water Board to revise WWTF's WDRs, including detailed information of the proposed treatment plans and solids handling facilities.

3-B

Small domestic wastewater systems that use subsurface disposal may be regulated by a local agency rather than a Regional Water Board, consistent with the State Water Board's Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems Policy (OWTS Policy). Wastewater systems regulated by local agencies may continue that coverage unless directed by the local agency or the Regional Water Board Executive Officer to seek WDRs from the Regional Water Board. Domestic wastewater treatment facilities with flows up to 100,000 gallons per day (gpd) may be enrolled in regulatory coverage under *State Water Resources Control Board Order WQ 2014-0153-DWQ, General Waste Discharge Requirements For Small Domestic Wastewater Treatment Systems* (Small Domestic General Order). For domestic wastewater facilities with flows that exceed 100,000 gpd, regulatory coverage may be obtained through a future Large Domestic General Order or individual WDRs orders. Enclosed is a document that provides general guidance for submitting a RWD.

The discharge of commercial/industrial wastewater to land is subject to regulation under WDRs. If the commercial/industrial wastewater will be held in tanks and will be hauled offsite for disposal, it must be hauled to an appropriately permitted facility. The applicant should indicate where the wastewater will be hauled and should provide a flow diagram which illustrates the entire process from wastewater generation to its' final fate. If the proposed Project results in a new discharge of waste to land, or any material change or proposed change in the character, location, or volume of discharges from WWTF's within Kern County, a RWD is required pursuant to California Water Code Section 13260. The RWD must include sufficient technical information for the Central Valley Water Board to revise WWTF's WDRs, including detailed information of the proposed treatment plans and solids handling facilities.

As discussed in the Antidegradation Considerations section below, any RWD must demonstrate compliance with the Antidegradation Policy. Any additional environmental document for future projects (and RWD's) should evaluate the impact that a WWTF's discharge will have on underlying groundwater and discuss what measures will be implemented to mitigate the potential impact on groundwater quality (e.g., discharge at agronomic rates, also how any treatment and/or storage ponds will be lined, operated, and maintained, etc.).

3-B cont'd

Title 22 and Reclamation General Order 2016-0068-DDW

The Water Quality Control Plan for the Tulare Lake Basin (Tulare Lake Basin Plan) encourages reclamation of domestic wastewater and states that, when feasible, wastewater reclamation shall be maximized. To comply with the Tulare Lake Basin Plan policies for recycled water, the County should investigate possible nearby reclamation options. This includes submitting a Title 22 Engineering Report to the State Water Resources Control Board, Division of Drinking Water (DDW) for DDW's approval. Pursuant to California Water Code 13523, the Central Valley Water Board is responsible for issuing Water Reclamation Requirements upon approval from DDW.

Therefore, after a Title 22 Engineering Report is submitted and approved by DDW, the County should apply for enrollment under State Water Resources Control Board Order WQ 2016-0068-DDW, *Water Reclamation Requirements for Recycled Water Use* (Reclamation General Order). To enroll under the Reclamation General Order, an applicant must submit an NOI to the Central Valley Water Board and a DDW-approved Title 22 Engineering Report. The NOI cannot be considered complete until DDW staff provides a Title 22 Engineering Report approval letter. Please note, that the County will also need to submit separate Notices of Intent for the Salt and Nitrate Control Programs (discussed in more detail below) as part of an application for WDRs and the Reclamation General Order with the exception of OWTS regulated by the County.

3-C

Salt and Nitrate Control Programs

The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting (Resolution R5-2018-0034). The Basin Plan amendments became effective on 17 January 2020. Targeted revisions were made by the Central Valley Water Board in 2020 with Resolution R5-2020-0057 and became effective on 10 November 2020

3-D

(https://www.waterboards.ca.gov/rwqcb5/board_decisions/adopted_orders/resolutions/r5-2020-0057_res.pdf).

The Salt Control Program (SCP) provides a framework for controlling and permitting salt discharges to surface water and groundwater in the Central Valley region. The SCP will be implemented in three ten-to-fifteen-year phases, wherein the findings from each phase will inform the next, allowing for adaptive management of salt discharges in the Central Valley region. The first phase (Phase 1) is underway.

During Phase 1, dischargers of salt are required to select one of two permitting pathways: the Conservative Permitting Approach or the Alternative Permitting Approach. Under the Conservative Permitting Approach, dischargers must meet conservative salt-loading limits and limit or prevent surface water and groundwater degradation, and limit the use of assimilative capacity and/or compliance time schedules. Under the Alternative Permitting Approach, dischargers must maintain current efforts to control salinity in their discharges and fully participate in the regionwide Prioritization and Optimization (P&O) Study.

Under the Nitrate Control Program (NCP), dischargers that cause or contribute to nitrate pollution in groundwater must qualify for a limited term "exception" from meeting nitrate limits. Compliance time schedules must be as short as practicable and are not to exceed 35 years. The Central Valley Water Board will only grant exceptions upon finding that all elements of the Board's Exceptions Policy are met. For nitrate, the Exceptions Policy dictates that exceptions will not be considered unless adequate supply of clean, safe, reliable and affordable drinking water is available for those who have been adversely affected by the non-compliant discharge.

Dischargers subject to the NCP are required to select one of two permitting approaches: the Individual Approach (Path A) or the Management Zone Approach (Path B). Path A requires dischargers to evaluate the impacts of their nitrate discharges on shallow groundwater underlying the area of discharge (Shallow Zone). Based on that evaluation, facility discharges will be identified as falling into one of five categories of nitrate discharges. Dischargers whose permitted discharges cause or may cause nitrate in the Shallow Zone to exceed 75 percent of the WQO for nitrate (i.e., Category 4 and 5 dischargers) may be required to develop and implement long-term Alternative Compliance Projects (ACPs) with identified milestones for addressing nitrate-related drinking water issues. Alternatively, under Path B, permitted dischargers of nitrate may elect to comply with the NCP by participating in basin- or sub-basin-specific Management Zones. Path B dischargers must collaborate with other dischargers within their respective Management Zones to ensure provision of safe drinking water to adversely affected residents within their areas and to develop and execute Management Zone Implementation Plans for managing and reducing nitrate loading to groundwater.

3-D cont'd

The Central Valley Water Board has identified and categorized Groundwater Basins/Sub-basins (Priority 1, Priority 2, and Non-Prioritized Basins) and established timelines for phased implementation of the NCP in these prioritized areas. As of the date of the adoption of this Order, Priority 1 Management Zones have Management Zone Implementation Plans (MZIPs) that are either accepted or approved by the Central Valley Water Board. Priority 2 Management Zones have approved Early Action Plans and are in the process of developing MZIPs. Groundwater basins that are not currently prioritized may be designated as a high priority on a case-by-case basis when determined necessary by the Central Valley Water Board. In such cases, existing dischargers to those basins will receive Notices to Comply, including a time schedule for implementation of NCP requirements.

New dischargers or existing dischargers proposing to increase the level of nitrate discharged to any designated groundwater basin/sub-basin (regardless of priority) must include the initial assessment information at the time of submittal of the ROWD. If a Management Zone does not exist at the time of application, the Central Valley Water Board may use its discretion to issue a time schedule to the discharger to comply with the Nitrate Control Program through a later-formed Management Zone. Dischargers of nitrate located in areas that are not part of a designated basin/sub-basin are not subject to the NCP unless they receive a Notice to Comply. If a discharger would like to elect a different permitting pathway under the NCP, they must notify the Central Valley Water Board in writing. The Central Valley Water Board will consider approval of the requested change on a case-by-case basis.

As described in the Basin Plans' Exceptions Policy, nitrate exceptions are intended to facilitate long-term attainment of WQOs or to provide the time needed to revise an inappropriate WQO or beneficial use designation. Dischargers granted a nitrate exception will be deemed to be in compliance with effluent and/or groundwater limitations that implement the WQO for nitrate. Nitrate exceptions shall generally not exceed a term of ten years; however, the Central Valley Water Board may adopt exceptions up to 35 years if the applicant(s) can demonstrate that it is necessary to further the management goals of the NCP. Any permitted discharger, or a recognized third party acting on behalf of multiple dischargers, may apply to the Central Valley Water Board for an exception from implementation of WQOs for nitrate for their wastewater discharges. For dischargers participating in a Management Zone, the Management Zone Implementation Plan may substitute for an exception application if it meets the criteria described in the Exceptions Policy. The Central Valley Water Board may rescind exceptions when the applicant(s) does not comply with the terms and conditions of their exception. The issuance, modification, or rescission of any exception must be approved by the Central Valley Water Board after public notice and hearing.

3-D cont'd

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Tulare Lake Basin Plan. The Antidegradation Policy is available at

http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf.

Regarding the Antidegradation Policy, the Tulare Lake Basin Plan states:

> *Pursuant to this policy, a Report of Waste Discharge, or any other similar technical report required by the Board pursuant to Water Code Section 13267, must include information regarding the nature and extent of the discharge and the potential for the discharge to affect surface or ground water quality in the region. This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives. The extent of information necessary will depend on the specific conditions of the discharge. For example, use of best professional judgement and limited available information may be sufficient to determine that ground or surface water will not be degraded. In addition, the discharger must identify treatment or control measures to be taken to minimize or prevent water quality degradation.*

3-E

The antidegradation analysis is a mandatory element in the land discharge WDRs permitting process and, therefore, the RWD for the proposed expansion must evaluate the potential water quality impacts associated with the proposed Project.

Construction Storm Water General Permit

Enrollment under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (NPDES General Permit No. CAS000002) is required when a project includes, but is not limited to, demolition, clearing, grading, grubbing, excavation, or any other similar land disturbance. Currently, construction/land disturbance activity requires coverage under the Construction Storm Water General Permit if it involves one or more acres, or less than an acre where the activity is part of a larger common plan of development or sale of one or more acres.

If construction/land disturbance associated with the subject project will disturb one acre or more, the applicant will need to obtain permit coverage under the Construction Storm Water General Permit. Before construction begins, the proponent must submit a Notice of Intent (NOI) to comply with the permit to the State Water Resources Control Board and a Storm Water Pollution Prevention Plan (SWPPP) must be prepared. For more information on the Construction Storm Water General Permit, please visit the State Water Resources Control Board website at (*https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html*).

3-F

Industrial Stormwater General Permit
Industrial dischargers that discharge stormwater offsite that eventually flows to waters of the United States require coverage under a federally mandated permit. In California, the applicable permit is the Industrial Storm Water General Permit Order 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the State Water Resources Control Board website (https://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.html).

3-G

Thank you for the opportunity to comment on this NOPH. If you have questions about these comments, please contact Virat Kang at (559) 488-4345 or Virat.Kang@waterboards.ca.gov.

Thank you,

Virat Kang
Water Resource Control Engineer

CALIFORNIA Water Boards

R5 CENTRAL VALLEY - FRESNO
R5 Permitting | R5 Non 15 Permitting

Email: Virat.Kang@Waterboards.ca.gov
Phone: +1 (559) 488-4345

Regional Water Quality Control Boards
1685 E Street, Fresno CA 93706
Website: www.waterboards.ca.gov

Follow: X | Instagram | Facebook | LinkedIn

Response to Comment Letter 3: Central Valley Regional Water Quality Control Board (May 20, 2026)

Response 3-A

This comment includes a brief summary of the project description and discretionary actions required to facilitate development of the project. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 3-B

The commenter states that the project may generate domestic and commercial/industrial wastewater and provides information regarding the potential applicability of Waste Discharge Requirements, the State Water Resources Control Board's Onsite Wastewater Treatment Systems Policy, and California Water Code Section 13260. The commenter further states that commercial or industrial wastewater proposed to be stored and transported off site must be hauled to an appropriately permitted facility and recommends that the applicant identify the receiving facility and provide a process flow diagram. The commenter also states that any Report of Waste Discharge should evaluate potential effects on underlying groundwater and demonstrate compliance with applicable antidegradation requirements.

During operation, the project would be served by the North of the River Sanitary District (NORSD) Wastewater Treatment Plant (WWTP). Because the project would discharge operational wastewater to a community sewer system and does not propose a discharge of wastewater to land, a Report of Waste Discharge and project-specific Waste Discharge Requirements under California Water Code Section 13260 would not be required. However, if a future tenant or modification to the project proposes a new discharge of wastewater to land or a material change in the character, location, or volume of a regulated discharge, the applicant or operator would be required to coordinate with the Central Valley Water Board, submit a Report of Waste Discharge, demonstrate compliance with applicable antidegradation requirements, and obtain Waste Discharge Requirements or other applicable regulatory coverage before initiating the discharge.

This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 3-C

The commenter states that the Water Quality Control Plan for the Tulare Lake Basin encourages the reclamation of domestic wastewater and recommends that the County investigate nearby reclamation opportunities. The commenter also provides information regarding the Title 22 Engineering Report process and enrollment under State Water Resources Control Board Order WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use.

The project would not construct or operate a wastewater treatment or recycled-water production facility. Thus, wastewater generated by the project and conveyed to NORSD would be treated and managed through the District's existing wastewater reclamation program. The project's identified water supply would be provided by the Oildale Mutual Water Company. The project does not propose to produce, distribute, or independently use recycled water and would not be the recycled-water producer or administrator responsible for obtaining a Title 22 Engineering Report or enrollment under the Reclamation General Order.

Any future recycled-water use at the project site would be subject to applicable State Water Resources Control Board, Division of Drinking Water, and Central Valley Water Board approvals.

This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 3-D

The commenter provides information regarding the Central Valley Water Board's Salt and Nitrate Control Programs and the compliance pathways applicable to permitted dischargers of salt and nitrate. As discussed above, and in Draft EIR Section 4.18, Utilities and Service Systems, project-generated wastewater would be conveyed to the NORSD WWTP through the District's community sewer system. The project does not propose a direct discharge of wastewater to land and would not independently obtain Waste Discharge Requirements or coverage under the Reclamation General Order.

NORSD would remain responsible for compliance with the Waste Discharge Requirements and applicable Salt and Nitrate Control Program requirements governing its wastewater treatment and effluent-reuse operations. Any future project discharge to land would require coordination with the Central Valley Water Board and compliance with all applicable Salt and Nitrate Control Program requirements before the discharge could occur. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 3-E

The commenter provides information regarding the State Water Board's Antidegradation Policy and the antidegradation analysis required for wastewater discharges to land. As discussed above, the project does not propose a wastewater treatment facility, expansion of an existing treatment facility, or discharge of wastewater to land. Therefore, a Report of Waste Discharge and project-specific antidegradation analysis are not required. Any future discharge to land would require Central Valley Water Board authorization and compliance with the Antidegradation Policy and Tulare Lake Basin Plan. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 3-F

The commenter states that projects disturbing one acre or more must obtain coverage under the Construction Storm Water General Permit, submit a Notice of Intent, and prepare a Storm Water Pollution Prevention Plan. As discussed in Draft EIR Section 4.9, Hydrology and Water Quality, the project would disturb more than one acre and would be required to obtain coverage under the Construction Storm Water General Permit. Compliance with **Mitigation Measure MM 4.9-1**, would require the project proponent to submit the required permit documents and prepare and implement a project-specific Storm Water Pollution Prevention Plan containing best management practices to control erosion, sediment, and other construction-related pollutants. Therefore, the project would comply with the requirements identified by the commenter. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 3-G

The commenter states that industrial facilities that discharge stormwater off site to waters of the United States may require coverage under the Industrial Storm Water General Permit. The EIR evaluated potential

effects on surface water and groundwater quality and concluded that the project would not result in impacts to waters of the United States. To the extent that future project activities trigger the need for permits under the Clean Water Act, the project proponent would be required to obtain all necessary approvals, including any required water quality certifications, waste discharge requirements, or stormwater permits, prior to undertaking such activities. Compliance with these permitting requirements is mandatory and is administered through existing regulatory programs independent of CEQA. The Water Board's comment provides clarification regarding regulatory processes and does not identify a deficiency in the EIR's analysis or conclusions. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary. The County thanks the author for their comments and participation in the public review of the document.

Comment Letter 4: California Geologic Energy Management Division (CalGEM) (March 3, 2026)

March 3, 2026

VIA ELECTRONIC MAIL

Nicole Menchaca
2700 M Street
Suite 100
Bakersfield, CA 93301

HuiskenN@kerncounty.com

Assessor Parcel Number(s): Multiple
Project Location Address: Merle Haggard Drive and Airport

PROJECT TITLE: Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC.

Public Resources Code (PRC) section 3208.1 establishes re-abandonment responsibility when previously plugged and abandoned oil, gas or geothermal wells will be impacted by planned property development or construction activities. Local permitting agencies, property owners, and/or developers should be aware of, and fully understand, that significant and potentially dangerous issues may be associated with development near previously abandoned oil, gas, and geothermal wells.

The California Geologic Energy Management Division (CalGEM) has received the above-referenced project dated February 26, 2026. To assist local permitting agencies, property owners, and developers in making safe and practical land use decisions regarding potential development near oil, gas, or geothermal wells, CalGEM provides a table in the attached enclosure of the wells within the parcel boundary or in its vicinity, based on CalGEM's Well Finder database (https://maps.conservation.ca.gov/doggr/wellfinder/).

4-A

CalGEM categorically advises against building over, or in any way impeding access to, oil, gas, or geothermal wells. Impeding access to a well could result in the need to remove any structure or obstacle that prevents or impedes access including, but not limited to, buildings, housing, fencing, landscaping, trees, pools, patios, sidewalks, roadways, and decking at the landowner's expense if there is a need to access a well. Maintaining sufficient access is considered the ability for a well servicing unit and associated necessary equipment (consisting of well servicing rig, pumping equipment, pipe trailer) to reach a well from a public street or access way, solely over the parcel on which the well is located. A well servicing unit, and any necessary equipment, should be able to pass unimpeded along and over the route, and should be able to access

4-B

the well without disturbing the integrity of surrounding infrastructure. Impermeable barriers such as asphalt, concrete, and plastic may trap hazardous gases and liquids underneath and could create a safety hazard if built over a well that later develops a leak.

CalGEM recommends that any well for which access is impeded or built over, against CalGEM's advice, should be evaluated by a qualified petroleum professional for compliance with the statutory objectives of isolating all hydrocarbon-bearing strata; protecting underground and surface waters; prevention of subsequent damage to life, health, property, and other resources; and prevention of loss of oil, gas, or reservoir energy. CalGEM recommends that wells that do not meet these standards are abandoned or re-abandoned prior to construction. The well information can be accessed through CalGEM's Well Finder database mentioned above. PRC section 3208, subdivision (a), provides the primary statutory authority for CalGEM to oversee adequate abandonment of wells. Additionally, CalGEM has developed the regulatory guidance for operators to be followed during well abandonment, which are listed within California Code of Regulation, title 14 (CCR) section 1723 and associated sub-sections (for onshore wells), and section 1745 and associated sub-sections (for offshore wells). 4-B cont'd

There is no guarantee that a well abandoned in compliance with current Division requirements as prescribed by law will not start leaking in the future. Due to the inability to predict all subsurface conditions or changes, it always remains a possibility that any well may start to leak oil, gas, and/or water after abandonment, no matter how thoroughly the well was plugged and abandoned. CalGEM acknowledges wells plugged and abandoned to the most current Division requirements as prescribed by law have a lower probability of leaking in the future, however there is no guarantee that such abandoned wells will not leak.

CalGEM advises that all wells identified on the development parcel prior to, or during, development activities be tested for liquid and gas leakage. Surveyed locations in Latitude and Longitude, NAD 83 decimal format, and leak testing results should be provided to CalGEM. CalGEM expects any wells found leaking to be reported to CalGEM immediately. 4-C

PRC section 3208.1 gives CalGEM the authority to order or permit the re-abandonment of any well where it has reason to question the integrity of the previous abandonment. Responsibility for re-abandonment costs may be affected by the choices made by the local permitting agency, property owner, and/or developer in considering the general advice set forth in this letter. The PRC continues to define the person or entity responsible for re-abandonment as: 4-D

1. The property owner - If the well was plugged and abandoned in conformance with Division requirements at the time of abandonment, and in its current condition does not pose an immediate danger to life, health, and property, but requires additional work solely because the owner of the property on which the well is located proposes construction on the property that would prevent or impede

access to the well for purposes of remedying a currently perceived future problem, then the owner of the property on which the well is located shall obtain all rights necessary to re-abandon the well and be responsible for the re-abandonment.

2. The person or entity causing construction over or near the well - If the well was plugged and abandoned in conformance with Division requirements at the time of plugging and abandonment, and the property owner, developer, or local agency permitting the construction failed either to obtain an opinion from the supervisor or district deputy as to whether the previously abandoned well is required to be re-abandoned, or to follow the advice of the supervisor or district deputy not to undertake construction that impedes access, then the person or entity causing the construction over or near the well shall obtain all rights necessary to re-abandon the well and be responsible for the re-abandonment.

3. The party or parties responsible for disturbing the integrity of the abandonment - If the well was plugged and abandoned in conformance with Division requirements at the time of plugging and abandonment, and after that time someone other than the operator or an affiliate of the operator disturbed the integrity of the abandonment in the course of developing the property, then the party or parties responsible for disturbing the integrity of the abandonment shall be responsible for the re-abandonment.

4-D cont'd

Should any wells require abandonment or re-abandonment, the responsible party must submit a Notice of Intention (NOI) to CalGEM through WellSTAR. The NOI form can be accessed in the 'Plugging and Abandonment' section of the following link: https://www.conservation.ca.gov/calgem/for_operators.

No well work may be performed on any oil, gas, or geothermal well without written approval from CalGEM. Well work requiring approval includes, but is not limited to, mitigating leaking gas or other fluids from abandoned wells, modifications to well casings, and/or any other re-abandonment work. CalGEM also regulates the top of a plugged and abandoned well's minimum and maximum depth below final grade. CCR section1723.5 states well casings shall be cut off at least 5 feet but no more than 10 feet below the surface of the ground. If any well needs to be lowered or raised (i.e. casing cut down or casing riser added) to meet this regulation, a permit from CalGEM is required before work can start.

4-E

CalGEM makes the following additional recommendations to the local permitting agency, property owner, and developer:

1. To ensure that present and future property owners are aware of (a) the existence of all wells located on the property, and (b) potentially significant issues associated with any improvements near oil or gas wells, CalGEM recommends that information regarding the below identified well(s), and any other pertinent information obtained after the issuance of this letter, be communicated to the appropriate county recorder for inclusion in the title information of the subject

4-F

real property.

2. CalGEM recommends that any soil containing hydrocarbons be disposed of in accordance with local, state, and federal laws. Please notify the appropriate authorities if soil containing significant amounts of hydrocarbons is discovered during development.

4-F cont'd

As indicated in PRC section 3106, CalGEM has statutory authority over the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells, and attendant facilities, to prevent, as far as possible, damage to life, health, property, and natural resources; damage to underground oil, gas, and geothermal deposits; and damage to underground and surface waters suitable for irrigation or domestic purposes. In addition to CalGEM's authority to order work on wells pursuant to PRC sections 3208.1 and 3224, it has authority to issue civil and criminal penalties under PRC sections 3236, 3236.5, and 3359 for violations within CalGEM's jurisdictional authority. CalGEM does not regulate grading, excavations, or other land use issues.

Should you have any questions, or if any wells are encountered that were not part of this letter, contact CalGEM at (661) 322-4031 or via email at CalGEMCentralCSWR@conservation.ca.gov.

4-G

Sincerely,

Emilio Flores

Emilio Flores
Office Technician

Enclosure

Enclosure: The wells listed below are reported to be located within and nearby the parcel boundary and may have future access impeded.

APN No.	API No.	Well Name
Multiple	No wells found	
48304042	0402910465	35-16
48304046	0402910466	35-17

4-H

Response to Comment Letter 4: California Geologic Energy Management Division (CalGEM) (March 3, 2026)

Response 4-A

The comment summarizes PRC Section 3208.1, which establishes well abandonment responsibility when a previously plugged and abandoned well will be impacted by planned property development or construction activities. The comment also acknowledges receipt of the proposed project dated February 26, 2026, and has included a table at the end of the letter that indicates any possible wells within the parcel boundary or in its vicinity. As discussed in the Draft EIR and the table at the end of the comment letter, Section 4.8, Hazards and Hazardous Materials and Section 4.11, Mineral Resources, the project site contains two plugged former oil/gas wells (Well #35-16 and Well #35-17).

The Lead Agency acknowledges CalGEM's authority under PRC Section 3208.1 and the well information provided in the table enclosed with the comment letter. The project site contains two plugged former oil/gas wells (Well #35-16 and Well #35-17), which are identified and analyzed in Section 4.8, Hazards and Hazardous Materials, and Section 4.11, Mineral Resources, of the Draft EIR. As detailed in Responses 4-B through 4-H, the Draft EIR responds to the regulatory framework summarized in the comment by incorporating **Mitigation Measures MM 4.8-4** through **MM 4.8-7**, which require coordination with CalGEM and compliance with applicable re-abandonment requirements prior to construction. Because the comment summarizes the regulatory framework already addressed in the Draft EIR and does not identify new significant environmental information or a deficiency in the Draft EIR's analysis, no revisions to the Draft EIR are required.

Response 4-B

The comment advises against building over or in any way impeding access to, oil, gas, or geothermal wells. CalGEM recommends that any well for which access is impeded or built over, against CalGEM's advice, should be evaluated by a qualified petroleum professional for compliance with the statutory objectives of isolating all hydrocarbon-bearing strata; protecting underground and surface waters; prevention of subsequent damage to life, health, property, and other resources; and prevention of loss of oil, gas, or reservoir energy.

As discussed in Section 4.8, Hazards and Hazardous Materials, the Draft EIR responds directly to CalGEM's recommendation by incorporating mitigation that avoids building over or impeding access to the on-site wells. **Mitigation Measure MM 4.8-5** requires the existing wells be reevaluated to determine if the existing plugged and abandoned wells have leaked and to coordinate with CalGEM regarding additional testing and remediation. **MM 4.8-6** requires coordination with CalGEM to determine whether well testing is necessary, to provide surveyed well locations and any leak-testing results to CalGEM, to report any wells found leaking to CalGEM immediately, and to reseal and properly re-abandon, consistent with CalGEM requirements, any well that does not meet testing requirements. **MM 4.8-6** requires the applicant, prior to ground-disturbing activities, to document that coordination with CalGEM has been completed regarding the avoidance and/or remediation of abandoned wells to current CalGEM standards, and **4.8-7** requires a note on all final maps and grading plans directing that CalGEM be contacted to inspect and approve any required remediation if a plugged, abandoned, or unrecorded well is uncovered or damaged. Where contamination is identified during testing, **MM 4.8-5** requires that a qualified consultant prepare a report of the results and a remediation work plan for CalGEM review. Together, these measures require coordination with and approval by CalGEM and re-abandonment to current CalGEM standards,

consistent with the objectives of CalGEM's recommendation that impeded or built-over wells be evaluated by a qualified petroleum professional. Therefore, with implementation of **MM 4.8-5** through **MM 4.8-7**, impacts associated with development of the project in proximity to the wells would be less than significant.

The comment reflects CalGEM's recommendations regarding access to, and evaluation of, the on-site wells, which the Draft EIR has incorporated through the mitigation measures described above. The comment does not identify a deficiency in the Draft EIR's analysis or present significant new information requiring revisions to the Draft EIR.

Response 4-C

This comment states that there are no guarantees a well abandoned in compliance with current requirements will not start leaking in the future. As such, the comment advises that all wells identified on the project site be tested for liquid and gas leakage prior to, or during, development activities and results should be reported to CalGEM. As described in Response 4-B, Section 4.8, Hazards and Hazardous Materials, of the Draft EIR includes **Mitigation Measure MM 4.8-5**, which directly responds to CalGEM's recommendation by requiring the existing wells to be reevaluated to determine whether the plugged and abandoned wells have leaked, in coordination with CalGEM regarding additional testing and remediation. The Draft EIR specifically acknowledges CalGEM's determination that Well 35-17 is not plugged and abandoned to current Division standards because the top of the Basal Etchegoin zone isolation plug is not present (CCR Section 1723.1), while Well 35-16 is plugged and abandoned consistent with current PRC and CCR requirements. Consistent with the comment, **MM 4.8-5** requires that surveyed well locations and leak-testing results be provided to CalGEM, that any wells found leaking be reported to CalGEM immediately, and that any well not meeting testing requirements be resealed and properly re-abandoned consistent with CalGEM requirements. **MM 4.8-6** further requires coordination with CalGEM to determine whether re-abandonment is required prior to construction. Because the Draft EIR's mitigation measures incorporate the leak-testing and reporting that CalGEM recommends, the comment does not identify a deficiency in the Draft EIR's analysis or present new significant information requiring revisions to the Draft EIR.

Response 4-D

The comment states that the failure to plug and re-abandon any wells may result in enforcement action pursuant to PRC Sections 3208.1 and 3224. The comment provides further information on PRC Section 3208.1 regarding the person or entity responsible for re-abandonment.

The Lead Agency acknowledges that CalGEM may pursue enforcement, including an order to perform re-abandonment well work, under PRC Sections 3208.1 and 3224, and acknowledges the framework in PRC Section 3208.1 for assigning re-abandonment responsibility among the property owner, the party causing construction over or near a well, and any party disturbing the integrity of a prior abandonment. The comment does not identify a deficiency in the Draft EIR's analysis or present significant new information requiring revisions to the Draft EIR.

Response 4-E

The comment states that, should any wells require abandonment or re-abandonment, the responsible party must submit a Notice of Intention (NOI) to CalGEM through WellSTAR and that no well work may be performed without CalGEM's written approval. As described in Response 4-B, Section 4.8, Hazards and Hazardous Materials, of the Draft EIR includes **Mitigation Measure MM 4.8-5**, which requires the existing wells to be reevaluated to determine whether they have leaked and to coordinate with CalGEM regarding additional testing and remediation, including resealing and re-abandonment of any well not meeting

CalGEM requirements. **MM 4.8-6** requires coordination with CalGEM to determine whether re-abandonment is required prior to construction. The NOI submittal through WellSTAR and CalGEM's written approval prior to any well work are part of the CalGEM re-abandonment process that these measures require the responsible party to complete, and **MM 4.8-5** also requires that any wells encountered during construction be reported to CalGEM for review before work proceeds in their vicinity.

The comment describes CalGEM's procedural requirements for re-abandonment, which the Draft EIR's mitigation measures require the responsible party to satisfy. The comment does not identify a deficiency in the Draft EIR's analysis or present significant new information requiring revisions to the Draft EIR.

Response 4-F

The comment provides two recommendations for the project: (1) that information regarding the wells be communicated to the appropriate county recorder for inclusion in the title information for the project site; and (2) that any soil containing hydrocarbons be disposed of in accordance with local, state, and federal laws. The first recommendation—recordation of well information with the county recorder—is a recommendation by CalGEM that the Draft EIR has not adopted as a mitigation measure; the applicant will implement this recommendation to the extent required by applicable law, and in any event will coordinate with CalGEM regarding the on-site wells, as required by **Mitigation Measure MM 4.8-6**, prior to ground-disturbing activities. With respect to the second recommendation, Section 4.8, Hazards and Hazardous Materials, already incorporates this requirement: **MM 4.8-5** requires that any soil containing hydrocarbons be disposed of in accordance with local, state, and federal laws, and **MM 4.8-4** requires that work stop and the appropriate authorities be notified if suspect or contaminated materials of unknown origin are discovered during construction.

Because the Draft EIR already incorporates CalGEM's recommendation regarding the disposal of hydrocarbon-containing soil, and the recordation recommendation does not identify a deficiency in the Draft EIR's analysis, the comment does not present new significant information requiring revisions to the Draft EIR.

Response 4-G

The comment provides a discussion of CalGEM's statutory authority, as indicated in PRC Sections 3106, 3208.1, 3224, 3236, 3236.5, and 3359. The Lead Agency acknowledges CalGEM's statutory authority. The comment notes that if, during development activities, any previously unknown wells are discovered that were not part of the review, the project proponent shall immediately notify CalGEM's Inland District office for consultation, as remedial plugging and abandonment operations may be required. This procedure is incorporated into the project through **Mitigation Measure MM 4.8-5**, which requires that, if new wells are encountered during construction, all work cease in the vicinity of the well and the project proponent immediately notify CalGEM's construction site well review engineer in the Inland District Office and file an amended site plan with well casing diagrams for CalGEM review, and through **MM 4.8-7**, which requires a note on all final maps and grading plans directing that CalGEM be contacted to inspect and approve any required remediation if previously unknown wells are uncovered or damaged.

This comment does not raise a substantive issue on the content of the Draft EIR's mitigation measures. The comment does not identify a deficiency in the Draft EIR's analysis or present significant new information requiring revisions to the Draft EIR. The County thanks the commenter for its review and participation in the public review of the document.

Response 4-H

The comment is an enclosure which provides the parcel number API number and well name for wells located in the vicinity of the project site. This comment does not raise a substantive issue on the content of the Draft EIR or its associated mitigation measures. The comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record, and revisions to the Draft EIR are not necessary. The County thanks the author for their comments and participation in the public review of the environmental document.

Comment Letter 5: California Geologic Energy Management Division (CalGEM) (May 13, 2026)

May 13, 2026

VIA ELECTRONIC MAIL

Kern County Planning and Natural Resources Department
2700 M Street
Suite 100
Bakersfield, CA 93301

HuiskenN@kerncounty.com

Assessor Parcel Number(s): Multiple
Project Location Address: Northwest comer of Airport Drive and Merle Haggard Drive

PROJECT TITLE: GPA #5, Map 81-35; ZCC #46, Map 81-35; PD Plan #36, Map 81-35

Public Resources Code (PRC) section 3208.1 establishes re-abandonment responsibility when previously plugged and abandoned oil, gas or geothermal wells will be impacted by planned property development or construction activities. Local permitting agencies, property owners, and/or developers should be aware of, and fully understand, that significant and potentially dangerous issues may be associated with development near previously abandoned oil, gas, and geothermal wells.

The California Geologic Energy Management Division (CalGEM) has received the above-referenced project dated 05/12/2026. To assist local permitting agencies, property owners, and developers in making safe and practical land use decisions regarding potential development near oil, gas, or geothermal wells, CalGEM provides a table in the attached enclosure of the wells within the parcel boundary or in its vicinity, based on CalGEM's Well Finder database (https://maps.conservation.ca.gov/doggr/wellfinder/).

CalGEM categorically advises against building over, or in any way impeding access to, oil, gas, or geothermal wells. Impeding access to a well could result in the need to remove any structure or obstacle that prevents or impedes access including, but not limited to, buildings, housing, fencing, landscaping, trees, pools, patios, sidewalks, roadways, and decking at the landowner's expense if there is a need to access a well. Maintaining sufficient access is considered the ability for a well servicing unit and associated necessary equipment (consisting of well servicing rig, pumping equipment, pipe trailer) to reach a well from a public street or access way, solely over the parcel on which the well is located. A well servicing unit, and any necessary equipment, should be able to pass unimpeded along and over the route, and should be able to access the well without disturbing the integrity of surrounding infrastructure. Impermeable barriers such as asphalt, concrete, and plastic may trap hazardous gases and liquids

5-A

underneath and could create a safety hazard if built over a well that later develops a leak.

CalGEM recommends that any well for which access is impeded or built over, against CalGEM's advice, should be evaluated by a qualified petroleum professional for compliance with the statutory objectives of isolating all hydrocarbon-bearing strata; protecting underground and surface waters; prevention of subsequent damage to life, health, property, and other resources; and prevention of loss of oil, gas, or reservoir energy. CalGEM recommends that wells that do not meet these standards are abandoned or re-abandoned prior to construction. The well information can be accessed through CalGEM's Well Finder database mentioned above. PRC section 3208, subdivision (a), provides the primary statutory authority for CalGEM to oversee adequate abandonment of wells. Additionally, CalGEM has developed the regulatory guidance for operators to be followed during well abandonment, which are listed within California Code of Regulation, title 14 (CCR) section 1723 and associated sub-sections (for onshore wells), and section 1745 and associated sub-sections (for offshore wells).

There is no guarantee that a well abandoned in compliance with current Division requirements as prescribed by law will not start leaking in the future. Due to the inability to predict all subsurface conditions or changes, it always remains a possibility that any well may start to leak oil, gas, and/or water after abandonment, no matter how thoroughly the well was plugged and abandoned. CalGEM acknowledges wells plugged and abandoned to the most current Division requirements as prescribed by law have a lower probability of leaking in the future, however there is no guarantee that such abandoned wells will not leak.

5-A cont'd

CalGEM advises that all wells identified on the development parcel prior to, or during, development activities be tested for liquid and gas leakage. Surveyed locations in Latitude and Longitude, NAD 83 decimal format, and leak testing results should be provided to CalGEM. CalGEM expects any wells found leaking to be reported to CalGEM immediately.

PRC section 3208.1 gives CalGEM the authority to order or permit the re-abandonment of any well where it has reason to question the integrity of the previous abandonment. Responsibility for re-abandonment costs may be affected by the choices made by the local permitting agency, property owner, and/or developer in considering the general advice set forth in this letter. The PRC continues to define the person or entity responsible for re-abandonment as:

1. The property owner - If the well was plugged and abandoned in conformance with Division requirements at the time of abandonment, and in its current condition does not pose an immediate danger to life, health, and property, but requires additional work solely because the owner of the property on which the well is located proposes construction on the property that would prevent or impede access to the well for purposes of remedying a currently perceived future

problem, then the owner of the property on which the well is located shall obtain all rights necessary to re-abandon the well and be responsible for the re-abandonment.

2. The person or entity causing construction over or near the well - If the well was plugged and abandoned in conformance with Division requirements at the time of plugging and abandonment, and the property owner, developer, or local agency permitting the construction failed either to obtain an opinion from the supervisor or district deputy as to whether the previously abandoned well is required to be re-abandoned, or to follow the advice of the supervisor or district deputy not to undertake construction that impedes access, then the person or entity causing the construction over or near the well shall obtain all rights necessary to re-abandon the well and be responsible for the re-abandonment.

3. The party or parties responsible for disturbing the integrity of the abandonment - If the well was plugged and abandoned in conformance with Division requirements at the time of plugging and abandonment, and after that time someone other than the operator or an affiliate of the operator disturbed the integrity of the abandonment in the course of developing the property, then the party or parties responsible for disturbing the integrity of the abandonment shall be responsible for the re-abandonment.

5-A cont'd

Should any wells require abandonment or re-abandonment, the responsible party must submit a Notice of Intention (NOI) to CalGEM through WellSTAR. The NOI form can be accessed in the 'Plugging and Abandonment' section of the following link: https://www.conservation.ca.gov/calgem/for_operators.

No well work may be performed on any oil, gas, or geothermal well without written approval from CalGEM. Well work requiring approval includes, but is not limited to, mitigating leaking gas or other fluids from abandoned wells, modifications to well casings, and/or any other re-abandonment work. CalGEM also regulates the top of a plugged and abandoned well's minimum and maximum depth below final grade. CCR section 1723.5 states well casings shall be cut off at least 5 feet but no more than 10 feet below the surface of the ground. If any well needs to be lowered or raised (i.e. casing cut down or casing riser added) to meet this regulation, a permit from CalGEM is required before work can start.

CalGEM makes the following additional recommendations to the local permitting agency, property owner, and developer:

1. To ensure that present and future property owners are aware of (a) the existence of all wells located on the property, and (b) potentially significant issues associated with any improvements near oil or gas wells, CalGEM recommends that information regarding the below identified well(s), and any other pertinent information obtained after the issuance of this letter, be communicated to the appropriate county recorder for inclusion in the title information of the subject

real property.

2. CalGEM recommends that any soil containing hydrocarbons be disposed of in accordance with local, state, and federal laws. Please notify the appropriate authorities if soil containing significant amounts of hydrocarbons is discovered during development.

As indicated in PRC section 3106, CalGEM has statutory authority over the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells, and attendant facilities, to prevent, as far as possible, damage to life, health, property, and natural resources; damage to underground oil, gas, and geothermal deposits; and damage to underground and surface waters suitable for irrigation or domestic purposes. In addition to CalGEM's authority to order work on wells pursuant to PRC sections 3208.1 and 3224, it has authority to issue civil and criminal penalties under PRC sections 3236, 3236.5, and 3359 for violations within CalGEM's jurisdictional authority. CalGEM does not regulate grading, excavations, or other land use issues.

5-A cont'd

Should you have any questions, or if any wells are encountered that were not part of this letter, contact CalGEM at (661) 322-4031 or via email at CalGEMCentralCSWR@conservation.ca.gov.

Sincerely,

Emilio Flores

Emilio Flores
Office Technician

Enclosure

Enclosure: The wells listed below are reported to be located within and nearby the parcel boundary and may have future access impeded.

APN No.	API No.	Well Name
Multiple	No wells found	
48304042	0402910465	35-16
48304046	0402910466	35-17

5-A cont'd

Response to Comment Letter 5: California Geologic Energy Management Division (CalGEM) (May 13, 2026)

Response 5-A

The California Department of Conservation, Geologic Energy Management Division (CalGEM) submitted a comment letter dated May 13, 2026, on the Draft EIR for the project. CalGEM previously submitted a substantially similar comment letter dated March 3, 2026 (Comment 4) on the Draft EIR. Both letters address the same two on-site plugged former oil/gas wells (Well #35-16 and Well #35-17), cite the same provisions of PRC Sections 3106, 3208, and 3208.1, provide the same recommendations regarding well access, leak testing, re-abandonment procedures, soil disposal, and title recordation, and include the same well enclosure table. Because the substantive content and recommendations in the May 13, 2026, letter are the same as those in the March 3, 2026, letter, the County's point-by-point responses provided in Response to Comment 4 are equally applicable to this letter. The reader is referred to Response to Comment 4 (Responses 4-A through 4-H) for the County's detailed responses. This comment does not identify a deficiency in the Draft EIR's analysis or present significant new information.

Comment Letter 6: California Department of Transportation (Caltrans) (March 23, 2026)

California Department of Transportation

DISTRICT 6 OFFICE
1352 WEST OLIVE AVENUE |P.O. BOX 12616 |FRESNO, CA 93778-2616
(559) 981-7373 | FAX (559) 488-4195 | TTY 711
www.dot.ca.gov

March 20, 2026

06KER-204-PM 6.752
DRAFT ENVIRONMENTAL IMPACT REVIEW
AIRPORT COMMERCE CENTER
GTS: https://ld-igr-gts.dot.ca.gov/district/6/report/39358#57632

Sent via email

Nicole Menchaca- Division Chief, Advanced Planning
Kern County Planning and Natural Resources Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301

Dear Mxs. Nicole Menchaca:

Thank you for the opportunity to review the Draft Environmental Impact Report (DEIR) for the proposed construction of the Airport Commerce Center, consisting of four single-story warehouses totaling approximately 1,505,440 square feet and two single-story quick-service restaurants totaling approximately 9,410 square feet. The proposed project is located on six parcels totaling approximately 108.74 acres, approximately 1.5 miles east of State Route (SR) 65 and approximately 1.5 miles northeast of State Route (SR) 99 within the City of Bakersfield, in Kern County.

The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. The Local Development Review (LDR) Program reviews land use projects and plans through the lenses of our mission and state planning priorities of infill, conservation, and travel-efficient development. To ensure a safe and efficient transportation system, we encourage early consultation and coordination with local jurisdictions and project proponents on all development projects that utilize the multimodal transportation network.

6-A

Caltrans provides the following comments consistent with the State's smart mobility goals that support a vibrant economy and sustainable communities:

6-B

1. Within the DEIR, a traffic impact study was conducted to analyze surrounding intersections that may be affected by project-generated traffic. One such location includes the intersection of SR 65 and Merle Haggard Drive. Based on the analysis presented in the DEIR, this intersection is anticipated to operate satisfactorily under opening year conditions with project-generated traffic. However, the study indicates that the intersection is projected to experience operational deficiencies under future year (2043) conditions, even without the addition of project-generated traffic. While the project is not the sole cause of these deficiencies, cumulative growth contributes to the need for future improvements at this location. 6-B cont'd

2. In accordance with the Local Development Review Safety Review Practitioner's Guidance, it was determined that a separate safety review is not warranted in addition to the traffic study included in the DEIR. The proposed development is located approximately 1.5 miles from the nearest State Highway System intersection, does not modify state highway facilities, does not introduce new access to the State Highway System, and does not change existing intersection control. 6-C

3. As summarized in the DEIR, to ensure the continued operational capacity and safety of the nearby state highways and its surrounding local roadways, Caltrans supports the project's participation in a local or regional fee program to contribute its fair share toward future improvements needed to maintain acceptable operations on the State Highway System. This would provide the local municipality with funding for infrastructure improvements necessary to complement future highway safety improvements needed due to the growth and development in the area. 6-D

   Caltrans has no additional comments at this time based on the information provided. Continued coordination may be warranted as future improvements are identified or programmed. 6-E

If you have any further questions, please contact Nicholas Isla at (559) 981-7373 or email nicholas.isla@dot.ca.gov.

Sincerely,

DAVID PADILLA, Branch Chief
Local Development Review Branch

Response to Comment Letter 6: California Department of Transportation (Caltrans) (March 23, 2026)

Response 6-A

This comment provides a brief summary of the project description and an overview of California Department of Transportation's (Caltrans) mission and Local Development Review (LDR) Program, which resulted in the substantive comments provided in the comment letter. The County acknowledges Caltrans' role in ensuring a safe, sustainable, integrated, and efficient transportation system and appreciates the opportunity for interagency coordination on this project.

This comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record, and revisions to the Draft EIR are not necessary.

Response 6-B

The comment notes that the intersection of SR 65 (Porterville Highway) and Merle Haggard Drive is anticipated to experience operational deficiencies under future year (2043) conditions, even without the addition of project-generated traffic. The County acknowledges Caltrans' observation and appreciates the agency's confirmation that the intersection operates satisfactorily under opening year conditions with project-generated traffic.

Section 4.16, Transportation and Traffic, of the Draft EIR addresses this intersection in detail. As presented in Table 4.16-3, the SR 65/Merle Haggard Drive intersection is projected to operate at LOS E (73.9 seconds delay) during the AM peak hour and LOS F (94.4 seconds delay) during the PM peak hour under future (2043) conditions without the project. Under future plus project conditions, delays increase to LOS E (79.3 seconds) AM and LOS F (120.2 seconds) PM. Critically, while the project contributes incrementally to delay, it does not cause the intersection to degrade to a lower LOS category during the AM peak hour; the deficiency is attributable to cumulative regional growth independent of the project. Table 4.16-4 identifies future intersection improvements, including the addition of a northbound right-turn lane at this intersection, which are required through the Regional Transportation Improvement Fee (RTIF) program and/or as part of the California High Speed Rail (HSR) project. The project would be required to comply with the RTIF program and pay fees toward funding these improvements. Further, as set forth in **Mitigation Measure MM 4.16-2**, the project is required to pay a fair share contribution (5.01% for local improvements at this intersection) toward required local improvements not covered by the RTIF program or anticipated by adjacent development. For additional information on improvements associated with RTIF and HSR anticipated as part of future-year conditions analysis, see Appendix L of the Draft EIR.

Additionally, the County notes that pursuant to PRC Section 21099 and CEQA Guidelines section 15064.3, automobile delay as measured by level of service (LOS) is not considered a significant impact on the environment for purposes of CEQA. The LOS analysis presented in the Draft EIR is provided for informational and General Plan consistency purposes only and does not serve as a basis for determining significant environmental impact under CEQA. The County appreciates Caltrans' concurrence that cumulative regional growth—rather than project-specific traffic—is the primary contributor to future operational deficiencies at this location and confirms that the project's participation in the RTIF program and compliance with **MM 4.16-2** will ensure the project contributes its proportional fair share toward necessary improvements to maintain acceptable operations on the State Highway System.

This comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record, and revisions to the Draft EIR are not necessary.

Response 6-C

This comment confirms that Caltrans, in accordance with its Local Development Review Safety Review Practitioner's Guidance, determined that a separate safety review is not warranted in addition to the traffic analysis included in the Draft EIR. Caltrans based this determination on the following factors: (1) the proposed project is located approximately 1.5 miles from the nearest State Highway System intersection; (2) the project does not modify state highway facilities; (3) the project does not introduce new access to the State Highway System; and (4) the project does not change existing intersection control.

The County concurs with Caltrans' determination. The Draft EIR's traffic analysis in Section 4.16, including the Traffic Study (Draft EIR Appendix L), provides a comprehensive evaluation of transportation impacts associated with the project. Caltrans' independent conclusion that no additional safety review is warranted provides further support for the adequacy of the Draft EIR's transportation impact analysis. This comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record, and revisions to the Draft EIR are not necessary.

Response 6-D

This comment confirms Caltrans' support for the project's participation in a local or regional fee program to contribute its fair share toward future improvements needed to maintain acceptable operations on the State Highway System. Caltrans specifically acknowledges that such participation would provide the local municipality with funding for infrastructure improvements necessary to complement future highway safety improvements needed due to growth and development in the area.

The County appreciates Caltrans' concurrence with this approach. Consistent with Caltrans' recommendation, the project is required to comply with **Mitigation Measure MM 4.16-2**, which requires payment of Transportation Traffic Impact fees prior to issuance of any building permit within Metropolitan Bakersfield. As detailed in Table 4.16-4 of the Draft EIR, the project's fair share contribution toward local intersection improvements at the SR 65/Merle Haggard Drive intersection is 5.01%. The County confirms that the project's compliance with the RTIF program and **MM 4.16-2** satisfies Caltrans' stated objective of ensuring the project contributes its proportional share toward maintaining acceptable operations on the State Highway System.

This comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record, and revisions to the Draft EIR are not necessary.

Response 6-E

This comment states that Caltrans has no additional comments at this time based on the information provided, and notes that continued coordination may be warranted as future improvements are identified or programmed.

The County acknowledges and concurs with this comment. The County is committed to continued coordination with Caltrans as future improvements are identified or programmed, consistent with the interagency consultation requirements of CEQA and Caltrans' Local Development Review process. As conditions of project approval, the project will be required to comply with **Mitigation Measures MM 4.16-1** through **MM 4.16-4**, which collectively ensure adequate transportation infrastructure, fair share fee

contributions, transportation demand management, and construction traffic management in coordination with Caltrans District 6. This comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record, and revisions to the Draft EIR are not necessary. The County thanks the author for their comments and participation in the public review of the environmental document.

7.3.2 Local Agencies

Comment Letter 7: Kern County Public Works Department – Survey (April 12, 2026)

April 13, 2025

To: Craig M. Murphy, Director
Planning and Natural Resources Department
Nicole Menchaca, Division Chief

From: Jeremy M. Brock, County Surveyor
By: Andres Arias, Engineering Support Supervisor Phone: 28959

Subject: Draft Environmental Impact Report for the Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. (PP24405).

I have reviewed the above noted project Notice of Preparation of a Draft EIR and recommend the following conditions be placed on the Conditional Use Permits:

1. Prior to issuance of a building or grading permit: All survey monuments shall be tied out by a Licensed Land Surveyor. A corner record for each monument or record of survey shall be submitted to the County Surveyor for review and processing, per Section 8771 of the Professional Land Surveyor's (PLS) Act. 7-A

2. Prior to Final Inspection: All survey monuments that were destroyed during construction shall be re-set or have a suitable witness corner set. A post construction corner record for each monument re-set or a record of survey shall be submitted to the County Surveyor for processing, per Section 8771 of the Professional Land Surveyor's Act.

3. Upon completion of project: All survey monuments shall be accessible by a Licensed Land Surveyor or their representatives, with prior notice, per Section 8774 of the PLS Act and Civil Code 846.5 (a).

Thank you for the opportunity to review and comment on this project. Should you have any questions please contact me.

KERN COUNTY
Planning & Natural Resources

OFFICE MEMORANDUM

TO: Distribution List – PLEASE SIGN AND DATE BELOW AS SOON AS RECEIVED AND RETURN TO THE PLANNING & NATURAL RESOURCES DEPARTMENT BEFORE APRIL 13, 2026

FROM: Nicole Menchaca, Division Chief
Planning & Natural Resources Department

DATE: February 27, 2026

SUBJECT: Draft Environmental Impact Report (EIR) – Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. (PP24405)

7-A cont'd

Enclosed is a Notice of Availability with a link to access the Draft EIR for the above mentioned proposed project. The Kern County Planning and Natural Resources Department, as Lead Agency (per CEQA Guidelines Section 15050), solicits your review and comments of your agency as to the scope and content of the environmental information, which is germane to your agency's statutory responsibilities in connection with the proposed project.

The comment period for the Draft EIR is 45 days (Per CEQA Guidelines Section 15105), which ends on **Monday, April 13, 2026 at 5:00 pm.** Please submit your agency comments by that date and addressed to Nicole Menchaca, Supervising Planner at the Planning and Natural Resources Department.

In order to verify that this document was received by your department, **please date and sign this memo** and return by office mail to the Planning and Natural Resources Department, Attn: Nicole Menchaca. Thank you in advance for your cooperation.

Distribution List (Kern County):

Administrative Office
PWD – Building & Development – Floodplain
PWD – Building & Development – Survey
Environmental Health Services
Fire Department – Aaron Duncan
Library/Beale – Local History Room
Library Director – Andie Sullivan
Sheriff Administration
PWD – Building & Development – Development Review
PWD – Operations & Maintenance – Regulatory Monitoring & Reporting
Airports Department

RECEIVED: 3.9.2026 **By:** Jeremy Brock **Dept.:** Public Works - Building & Dev. COUNTY SURVEYOR'S OFFICE

Response to Comment Letter 7: Kern County Public Works Department – Survey (April 12, 2026)

Response 7-A

The comment states that the County Public Works Department—County Surveyor has reviewed the Draft EIR for the proposed project and recommends the following conditions be placed on the proposed project:

1. Prior to issuance of a building or grading permit: All survey monuments shall be tied out by a Licensed Land Surveyor. A corner record for each monument or record of survey shall be submitted to the County Surveyor for review and processing, per Section 8771 of the Professional Land Surveyor's (PLS) Act.

2. Prior to final inspection: All survey monuments that were destroyed during construction shall be re-set or have a suitable witness corner set. A post construction corner record for each monument re-set or a record of survey shall be submitted to the County Surveyor for processing, per Section 8771 of the PLS Act.

3. Upon completion of the project: All survey monuments shall be accessible by a Licensed Land Surveyor or their representatives, with prior notice, per Section 8774 of the PLS Act and Civil Code 846.5(a).

The author is appreciative of the opportunity to comment on the proposed project.

Staff acknowledges the comment's requested conditions and confirms that all requested conditions will be included as conditions of approval for the requested Precise Development Plan. The comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record, and revisions to the Draft EIR are not necessary. The County thanks the author for their comments and participation in the public review of the document.

Comment Letter 8: Kern County Public Works Department – Development Review (April 23, 2026)

Office Memorandum

To: Craig Murphy, Director
Planning and Natural Resources Department
Attn: Nicole Menchaca, Division Chief

April 23, 2026

From: Cesar Ayon, Engineering Manager CA
Public Works Department/Development

Subject: 7-5.3 – GPA 5, Map 81-35; ZCC 46, Map 81-35; PD Plan 36; Map 81-35
Location: Generally the northwest corner of Airport Dr and Merle Haggard Drive in the unincorporated community of Oildale (APN's: 483-040-32, -33, -42, -43, -45, -46)

Development Review Division

This Department has reviewed the subject project and recommends the following:

1. Record an irrevocable offer of dedication to the County of Kern of all subject property for Merle Haggard Drive, 55 feet in width, and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance and Development Standards.

2. Record an irrevocable offer of dedication to the County of Kern of all subject property for Airport Drive, 55 feet in width, and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance and Development Standards.

3. Record an irrevocable offer of dedication to the County of Kern of all subject property for Landings Way, 45 feet in width, including the off-site portion of Landings Way from the northerly project boundary line to southerly right-of-way of Petrol Road for orderly development per the Kern County Land Division Ordinance and Development Standards.

4. Record an irrevocable offer of dedication to the County of Kern of all subject property for Petrol Road, 45 feet in width, including the off-site portion of Petrol Road from the westerly project boundary line to easterly right-of-way of Landings Way for orderly development, per the Kern County Land Division Ordinance and Development Standards.

5. Record pedestrian access easements at all wheelchair ramp locations, per the Kern County Land Division Ordinance and Development Standards.

6. Access from Merle Haggard Drive shall only be by two drive approaches, and access from Airport Drive shall only be by two drive approaches for ingress and egress. Access from Landings Way shall only be by one drive approach, and access from Petrol Road shall only be by one drive approach for ingress and egress. Drive approach locations shall adhere to the Kern County Development Standards, Plate R-58.

8-A

7. All drive approaches shall be a maximum of 35' wide per Kern County Development Standards, Plate R-60.

8. Provide a 20-foot by 20-foot right of way corner cutoff at all intersections.

9. Under street improvement plans approved by the Kern County Public Works Department, construct Merle Haggard Drive project frontage to Type "A" Subdivision Standards, half width Arterial Street, in accordance with the Kern County Development Standards and Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, drive approaches, median, right turn lanes (Plate R-40) at main entrance, restriping and the necessary tie-ins.

10. Under street improvement plans approved by the Kern County Public Works Department, construct Airport Drive project frontage to Type "A" Subdivision Standards, half width Arterial Street, in accordance with the Kern County Development Standards and Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, drive approaches, right turn lanes (Plate R-40) at each entrance, restriping and the necessary tie-ins.

11. Under street improvement plans approved by the Kern County Public Works Department, construct Landings Way project frontage to Type "A" Subdivision Standards, half width Collector Street, in accordance with the Kern County Development Standards and Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, drive approaches, and the necessary tie-ins.

8-A cont'd

12. Under street improvement plans approved by the Kern County Public Works Department, construct Petrol Road project frontage to Type "A" Subdivision Standards, half width Collector Street, in accordance with the Kern County Development Standards and Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, drive approaches, and the necessary tie-ins.

13. Under street improvement plans approved by the Kern County Public Works Department, construct Landings Way off-site portion, to Type "A" Subdivision Standard, half width Collector Street, for orderly development, per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, and the necessary tie-ins.

14. Under street improvement plans approved by the Kern County Public Works Department, construct Petrol Road off-site portion, to Type "A" Subdivision Standard, half width Collector Street, for orderly development, per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, and the necessary tie-ins.

15. Please include a striping plan and streetlight plan with the street improvement plans.

16. All easements shall be kept open, clear, and free from buildings and structures of any kind pursuant to Chapters 18.50 and 18.55 of the Kern County Land Division Ordinance. All obstructions, including utility poles and lines, trees, pole signs, fences, or similar obstructions, shall be removed from the ultimate road rights-of-way. Compliance with this requirement is the responsibility of the applicant and may result in significant financial expenditures.

8-A cont'd

Thank you for the opportunity to comment on this project. If you have any questions or comments, please contact Rodd Parke of this Division at (661) 862-8848.

Sewer and Water Division

This Department has reviewed the subject project and recommends the following:

(a) A Will-Serve Letter from the sewer district shall be provided to County Staff.
(b) Sewer must be connected to a regional wastewater treatment plant.

8-B

Thank you for the opportunity to comment on this project. If you have any questions or comments, please contact Kyle Perez of this Division at (661) 862-8852.

Floodplain Management Division

Our section has reviewed the attached subject documents and has the following comments:

The runoff of storm water from the site will be increased due to the increase in impervious surface generated by the proposed development.

The subject property is subject to flooding.

Therefore, this section recommends the following be included as conditions of approval for this project:

The applicant shall provide a plan for the disposal of drainage waters originating on site and from adjacent road right-of-ways (if required), subject to approval of the Public Works Department.

The applicant's engineer shall provide a study that demonstrates that the off-site drainage and/or flood waters are received and discharged in basically the same location and manner as prior to development. Should diversion of water be necessary as part of a comprehensive plan, sufficient work shall be done upstream and downstream to provide other affected properties at least the same level of flood protection as prior to development.

In accordance with the Kern County Floodplain Management Ordinance, the applicant's engineer shall provide a flood hazard study that determines the extent, depth and velocity of flood flows. Mitigation measures to protect persons and property shall be proposed. The study shall be subject to the approval of the Kern County Department of Engineering, Surveying and Permit Services.

8-C

Thank you for the opportunity to comment on this project. If you have any questions or comments, please contact Brian Blaise of this Division at (661) 862-5098.

CSA Division

This Division has reviewed the subject project and has no comments:

The project **GPA5, Map 81-35; ZCC 46, Map 81-35; PD Plan 36, Map 81-35** does not lie within the boundary of a CSA.
The applicant must request to annex into County Service Area No. 60 and extend benefits for the following services:

1. CSA 60 - Streetlight Maintenance
2. CSA 60.1 - Street Sweeping
3. CSA 60.2 - Drainage facilities maintenance (if required).

Thank you for the opportunity to comment on this project. If you have any questions or comments, please contact Miguel Munoz of this Division at (661) 862-8908.

8-D

Response to Comment Letter 8: Kern County Public Works Department – Development Review (April 23, 2026)

Response 8-A

Staff acknowledges the comment from the Kern County Public Works Department—Development Review Division recommending conditions of approval addressing right-of-way dedications, pedestrian access easements, access locations, drive-approach widths, corner cutoffs, frontage and off-site street improvements, striping and streetlight plans, easement clearance, and related compliance with the Kern County Land Division Ordinance and Kern County Development Standards.

The roadway, access, and circulation issues identified in the comment are addressed in the Draft EIR's Project Description and transportation analysis. The Draft EIR also addresses the comment's access and design concerns through mitigation and County-standard compliance requirements. **Mitigation Measures MM 4.16-1** through **MM 4.16-4** require the project's geometric design features, surrounding roadways, and site access to comply with applicable Kern County standards, including standards intended to address roadway design, sight distance, circulation, and emergency access. The Public Works Development Review conditions further implement those standards by specifying the location and number of drive approaches, maximum drive-approach widths, right-of-way corner cutoffs, and street-improvement plan requirements.

Consistent with the Development Review Division's comment, Staff confirms that the requested conditions will be included as conditions of approval for the requested Precise Development Plan. These conditions will require the applicant to provide the required right-of-way dedications and pedestrian access easements, construct required frontage and off-site roadway improvements under Public Works-approved street-improvement plans, include the required striping and streetlight plans, maintain easements and ultimate road rights-of-way free of obstructions, and otherwise comply with applicable Kern County Development Standards and Land Division Ordinance requirements.

The comment's statement that compliance may result in significant financial expenditures is noted; those expenditures relate to implementation of required public-improvement and right-of-way conditions rather than to a separate physical environmental impact not already evaluated in the Draft EIR. Because the Draft EIR and related Public Works conditions already evaluate and require the physical roadway, access, circulation, striping, streetlight, and right-of-way improvements associated with the project, and because the requested Development Review Division conditions will be imposed as enforceable conditions of approval consistent with the Draft EIR's transportation and site-access analysis, the comment does not identify a new significant environmental impact, a substantial increase in the severity of a previously identified impact, or a deficiency requiring revision or recirculation of the Draft EIR. No revisions to the Draft EIR are required in response to this comment.

Response 8-B

Staff acknowledges the comment from the Kern County Public Works Department—Sewer and Water Division recommending that conditions of approval be placed on the project requiring the applicant to provide a will-serve letter from the sewer district to County Staff and requiring sewer service to be connected to a regional wastewater treatment plant.

The wastewater service issues identified in the comment are addressed in Draft EIR Section 4.18, Utilities and Service Systems. As discussed in the Draft EIR and in responses addressing wastewater service, project-generated operational wastewater would be conveyed through the community sewer system to the

NORSD WWTP, and the project does not propose a discharge of wastewater to land. The Draft EIR also explains that the project does not propose to construct or operate a wastewater treatment or recycled-water production facility, and that wastewater generated by the project and conveyed to the NORSD would be treated and managed through that district's existing wastewater reclamation program. Accordingly, the requested sewer-connection condition is consistent with the Draft EIR's wastewater-service assumptions and with the Draft EIR's analysis that project wastewater would be handled through existing community wastewater infrastructure rather than through on-site wastewater disposal or a new project-specific land discharge.

Consistent with the Sewer and Water Division's comment, Staff confirms that the requested sewer-service requirements will be included as enforceable conditions of approval for the requested Precise Development Plan. These conditions will require the applicant to provide County Staff with a will-serve letter from the sewer district and to connect sewer service to a regional wastewater treatment plant, thereby ensuring that project implementation remains consistent with the wastewater-service assumptions evaluated in the Draft EIR.

Because the Draft EIR already evaluates wastewater service and utility impacts, and because the requested Sewer and Water Division conditions will be imposed as enforceable conditions of approval consistent with the Draft EIR's wastewater-service assumptions, the comment does not identify a new significant environmental impact, a substantial increase in the severity of a previously identified impact, or a deficiency requiring revision or recirculation of the Draft EIR. No revisions to the Draft EIR are required in response to this comment.

Response 8-C

Staff acknowledges the comment from the Kern County Public Works Department—Floodplain Management Division regarding increased stormwater runoff associated with the project's proposed increase in impervious surfaces and the Division's recommended drainage and flood-hazard conditions of approval. Staff further acknowledges the Division's recommendations that the applicant's engineer demonstrate that off-site drainage and flood waters will be received and discharged in substantially the same location and manner as under pre-development conditions, that any necessary diversion be designed so affected upstream and downstream properties receive at least the same level of flood protection as under pre-development conditions, and that a flood hazard study be prepared in accordance with the Kern County Floodplain Management Ordinance to determine the extent, depth, and velocity of flood flows and identify measures to protect persons and property.

The hydrology and floodplain issues identified in the comment are addressed in Draft EIR Section 4.9, Hydrology and Water Quality. The Draft EIR evaluates whether the project would substantially alter existing drainage patterns through the addition of impervious surfaces in a manner that would result in erosion or siltation, increased runoff causing flooding, exceedance of stormwater drainage capacity or additional polluted runoff, or impediment or redirection of flood flows. The Draft EIR identifies potentially significant impacts related to altered drainage patterns, on-site or off-site flooding, stormwater drainage capacity, polluted runoff, and flood-flow redirection, and concludes that those impacts would be reduced to less than significant levels through implementation of **Mitigation Measure MM 4.9-2**.

MM 4.9-2 requires the project proponent/operator, prior to issuance of a grading permit, to complete a hydrologic study and final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The required study must include a numerical stormwater model evaluating existing and proposed drainage conditions during storm events up to the 100-year event, consider erosion and

sedimentation in light of modeled stormwater-flow changes, and include engineering recommendations to offset project-related increases in stormwater runoff and to manage flow concentration, flow depth, flow velocity, erosion, sedimentation, and flooding on site or off site. **MM 4.9-2** further requires the hydrologic study and drainage plan to be prepared in accordance with the Kern County Grading Code and Kern County Development Standards and approved by the Kern County Public Works Department before grading permits are issued.

The Draft EIR also explains that project runoff would be collected and conveyed to four retention and treatment basins designed to retain and treat peak 100-year storm runoff flow. For stormwater drainage capacity, the Draft EIR states that the retention basins would provide storage exceeding the post-development 100-year, 24-hour storm event and that the approved drainage plan would include design features sized for 100-year, 24-hour storm events to manage and retain stormwater runoff on site. For flood-flow redirection, the Draft EIR states that the project would be reviewed by Kern County Public Works—Floodplain for adherence to applicable floodplain-management standards, and that **MM 4.9-2** would require hydrologic analysis and drainage design measures to minimize increases in runoff from the project site.

Consistent with the Floodplain Management Division's comment, Staff confirms that the recommended drainage and flood-hazard requirements will be included as conditions of approval for the requested Precise Development Plan. These conditions will implement and reinforce **MM 4.9-2** by requiring the applicant's engineer to prepare the required drainage and flood-hazard studies, demonstrate that off-site drainage and flood waters will be managed in substantially the same location and manner as under pre-development conditions, identify any measures necessary to avoid reducing flood protection for affected properties, and obtain County approval before grading or other applicable development permits are issued. The conditions are also consistent with the Kern County Floodplain Management Ordinance, which regulates development, filling, grading, paving, and other changes that may increase flood damage, alter natural floodplains or stream channels, unnaturally divert flood waters, or increase flood hazards in other areas.

Because the Draft EIR already evaluates the hydrology and floodplain-management issues raised in the comment, already requires **MM 4.9-2** to reduce drainage, runoff, and flood-flow impacts to less than significant levels, and because the requested Floodplain Management Division conditions will be imposed as enforceable conditions of approval consistent with **MM 4.9-2**, the comment does not identify a new significant environmental impact, a substantial increase in the severity of a previously identified impact, or a deficiency requiring revision or recirculation of the Draft EIR. No revisions to the Draft EIR are required in response to this comment.

Response 8-D

The comment states that the County Public Works Department—CSA Division has reviewed the Draft EIR for the proposed project and notes that the project does not lie within the boundaries of a CSA and the Division recommends a condition of approval be placed on the project requiring the applicant to annex into County Service Area 60 and extend benefits for the following services:

1. CSA 60 - Streetlight Maintenance

2. CSA 60.1 - Street Sweeping

3. CSA 60.2 - Drainage facilities maintenance (if required)

In response, staff acknowledges the comment's requested conditions and confirms that all requested conditions will be included as conditions of approval for the requested Precise Development Plan. The

comment does not raise a substantive issue on the content of the Draft EIR. The comments provided have been noted for the record, and revisions to the Draft EIR are not required. The County thanks the author for their comments and participation in the public review of the environmental document.

Comment Letter 9: Kern County Fire Department (KCFD) (April 7, 2026)

Office of the Fire Marshal
Kern County Fire Department
Fire Prevention Unit

2820 M St. • Bakersfield, CA 93301 • www.kerncountyfire.org
Telephone 661-391-3310 • FAX 661-636-0466/67 • TTY Relay 800-735-2929

April 27, 2026

Kern County Planning and Natural Resources Department
2800 M St., Bakersfield, CA 93301
Attn: **Nicole Menchaca, Division Chief**

Re: Kern County Fire Department Comments Regarding Planning Department Project

To Whom It May Concern:

The Kern County Fire Department (KCFD), as the local fire authority, has received a request for comments regarding GPA #5, Map 81-35; ZCC #46, Map 81-35; PD Plan #36, Map 81-35. Upon initial review, it has been determined that all new construction will require fire water flowing a minimum 1,500 GPM for 2 hours with 20 PSI residual. All fire access roads to each parcel must meet specifications set forth in Section 503.2 of the California Fire Code and the applicable Appendix and Ordinance sections. Any structures that exceed 10,000 square feet will require fire sprinklers and a fire alarm to be installed. Any aboveground flammable liquid tanks in excess of 125 gallons will require permitting through Kern County Fire Department. Commercial fire suppression hood system and CO2 permits are required within commercial buildings or tenant spaces. 9-A

A more detailed review and project comments will be conducted when the building permit is obtained, and plans are submitted to KCFD. 9-B

Please feel free to call our Fire Prevention Office at (661) 391-3310 with any questions.

Respectfully,
Kaylee Schoenheide
Fire Plans Examiner
Kern County Fire Department

Response to Comment Letter 9: Kern County Fire Department (KCFD) (April 7, 2026)

Response 9-A

Staff acknowledges the comment from the Kern County Fire Department (KCFD) describing KCFD's local regulatory authority to enforce state and local fire protection, health, and safety requirements. Staff further acknowledges KCFD's statement that the project will be required to meet KCFD standards, submit plans, obtain applicable KCFD permits for new construction, pay applicable fees prior to permit issuance, and satisfy KCFD permit-approval requirements.

Consistent with KCFD's comment, Staff confirms that the KCFD requirements identified in the comment will be included as conditions of approval for the proposed project. These conditions will require the project applicant to submit plans for KCFD review, obtain applicable KCFD permits and approvals before new construction proceeds, comply with applicable fire protection, emergency access, fire-flow, building, and safety standards administered by KCFD, and pay applicable KCFD fees prior to permit issuance.

Because the Draft EIR already evaluates emergency access and related public-improvement requirements, and because the KCFD requirements will be imposed as enforceable conditions of approval and implemented through KCFD's ordinary permit-review process, the comment does not identify a new significant environmental impact, a substantial increase in the severity of a previously identified impact, or a deficiency requiring revision or recirculation of the Draft EIR. No revisions to the Draft EIR are required in response to this comment.

Response 9-B

The comment states that KCFD will provide more detailed review comments at the time of KCFD plan review and building permit issuance. This comment does not raise a substantive issue on the content of the Draft EIR. The comments provided have been noted for the record, and revisions to the Draft EIR are not required. The County thanks the author for their comments and participation in the public review of the environmental document.

Comment Letter 10: Kern County Superintendent of Schools (KCSOS) (May 1, 2026)

KCSOS
Kern County Superintendent of Schools
Office of John G. Mendiburu, Ed.D.— Advocates For Children

RECEIVED
MAY 01 2026
Kern County Planning & Natural Resources Dept.

April 24, 2026

Kern County Planning Department
Attn: Nicole Menchaca
2700 M Street, Suite 100
Bakersfield, CA 93301

Our File No.: CO25-0072

RE: DEVELOPER FEES FOR: GPA No. 5, ZCC No. 46, PD Plan No. 36; Map No. 81-35
(North side of Merle Haggard Dr., between Airport Dr. and Landings Way)

Dear Ms. Menchaca,

This office represents the Beardsley Elementary and Kern High School Districts with regard to the imposition of school impact fees and appreciates the opportunity to respond on behalf of the districts regarding the proposed project. This letter is limited to addressing the possible effects which the project might have on school facilities created by students attributable to the project. It is not intended to address other possible environmental concerns which might be identified by the district(s) after reviewing it. 10-A

As referenced in correspondence dated March 21, 225 (File No: CO25-0033), we are affirming the above-mentioned project regarding the Airport Commerce Center Industrial Park Project proposing the construction of four industrial warehouses and two quick serve restaurants and site improvements including (a) Amendment to the Metropolitan Bakersfield General Plan Land Use Element from map code GC (General Commercial) to SI (Service Industrial) (b) Zone Classification Change No. 46 from M-1 PD H (Light Industrial Precise Development Combining – Airport Approach Height Combining) to M-2 PD H (Medium Industrial Precise Development Combining – Airport Approach Height Combining) on approximately 13.76 acres and from FPP (Floodplain Primary) to M-2 PD H (Medium Industrial Precise Development Combining – Airport Approach Height Combining) on 8.56-acres; (C) Approval of Precise Development Plan for site development and implementation of the M-2 PD H zoning request could have significant effects on either of these district's facilities so long as statutory school impact fees are collected as required by law and that no further mitigation measures regarding school facilities are necessary. Currently, this fee is set at $0.84 per square foot of new commercial/industrial construction, an amount subject to COLA adjustment every two years. 10-B

Thank you for the opportunity to comment on the project. Should you have any questions, or if we can be of any further assistance in this matter, please contact me at 636-4599, or through e-mail at anwatson@kern.org. 10-C

Sincerely,

Andrea Watson, Specialist
School District Facility Services

Cc: Districts

Response to Comment Letter 10: Kern County Superintendent of Schools (KCSOS) (May 1, 2026)

Response 10-A

The comment expresses appreciation for the opportunity to respond on behalf of the Kern County Superintendent of Schools regarding the project. This comment clarifies that the letter's contents are intended to address possible effects that the project may have on school facilities, and not to comment on any other environmental concerns.

Response 10-B

This comment affirms that the project would not have significant impacts on the Beardsley Elementary or Kern High School Districts so long as statutory school impact fees are collected in accordance with applicable law. The proposed project will incorporate a standard, enforceable condition of approval as part of the requested Precise Development Plan that requires the payment of all statutory fees at the time of issuance of building permits, including school impact fees. This comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record, and revisions to the Draft EIR are not required. The County thanks the author for their comments and participation in the public review of the environmental document.

Response 10-C

This comment is a conclusion to the comment letter. This comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record, and revisions to the Draft EIR are not required. The County thanks the author for their comments and participation in the public review of the environmental document.

Comment Letter 11: San Joaquin Valley Air Pollution Control District (SJVAPCD) (April 10, 2026)

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

April 10, 2026

Nicole Menchaca
County of Kern
Planning and Natural Resources Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301

Project: Airport Commerce Center Industrial Project Draft Environmental Impact Report

District CEQA Reference No: 20260220

Dear Ms. Menchaca:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the Draft Environmental Impact Report (DEIR) from the County of Kern (County) for the proposed development project. Per the DEIR, the project consists of four industrial warehouse buildings totaling approximately 1,505,440 square feet. (Project). The Project is located at Airport Drive and Merle Haggard Drive in Oildale, CA. 11-A

The District offers the following comments at this time regarding the Project:

1) <u>Voluntary Emission Reduction Agreement</u>

The District appreciates the County's inclusion of a Voluntary Emission Reduction Agreement (VERA) as a mitigation measure to address the Project's construction and operational mobile emissions of nitrogen oxides (NOx), reactive organic gases (ROG), and particulate matter (PM), as specified in Mitigation Measure 4.2-5. The District supports the use of a VERA as an effective mechanism to achieve quantifiable and enforceable emission reductions. 11-B

The District is available to coordinate with the County and the project proponent to discuss an appropriate framework for implementing the VERA to fully mitigate the Project's construction and operational related mobile emissions.

Samir Sheikh
Executive Director/Air Pollution Control Officer

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

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

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

www.valleyair.org www.healthyairliving.com

Printed on recycled paper.

2) Industrial/Warehouse Emission Reduction Strategies

The District recommends the County incorporate emission reduction strategies that can reduce potential harmful health impacts, such as those listed below:

- Require HHD truck routing patterns that limit exposure of residential communities and sensitive receptors to emissions (see comment 3)
- Require cleanest available heavy-duty trucks and off-road equipment (see comments 4 and 6)
- Require minimization of heavy-duty truck idling (see comment 5)
- Require solid screen buffering trees, solid decorative walls, and/or other natural ground landscaping techniques are implemented along the property line of adjacent sensitive receptors
- Orient loading docks away from sensitive receptors unless physically impossible
- Require loading docks a minimum of 500 feet away from the property line of the nearest truck loading bay opening, unless dock is exclusively used for electric trucks
- Incorporate signage and “pavement markings” to clearly identify on-site circulation patterns to minimize unnecessary on-site vehicle travel
- Require truck entries be located on streets of a higher commercial classification
- Locate and require truck entry, exit, and internal circulation away from sensitive receptors
- Prohibit Heavy-Duty diesel truck drive aisles from being used on sides of the building that are directly adjacent to a sensitive receptor property line
- Require a separate entrance for heavy-duty trucks accessible via a truck route, arterial road, major thoroughfare, or a local road that predominantly serves commercial oriented uses
- Require projects be designed to provide the necessary infrastructure to support use of zero-emissions on-road vehicles and off-road equipment (see comment 9)
- Require all building roofs are solar-ready
- Require all portions of roof tops that are not covered with solar panels are constructed to have light colored roofing material with a solar reflective index of greater than 78
- Ensure rooftop solar panels are installed and operated to supply 100% of the power needed to operate all non-refrigerated portions of the development project
- Install solar photovoltaic systems and associated battery storage on the project site
- Require power sources at loading docks for all refrigerated trucks have “plugin” capacity, which will eliminate prolonged idling while loading and unloading goods

11-C

- Incorporate bicycle racks and electric bike plug-ins
- Require the use of low volatile organic compounds (VOC) architectural and industrial maintenance coatings
- Designate an area during construction to charge electric powered construction vehicles and equipment, if temporary power is available
- Prohibit the use of non-emergency diesel-powered generators during construction
- Inform the project proponent of the incentive programs (e.g., Carl Moyer Program and Voucher Incentive Program) offered to reduce air emissions from the Project

11-C cont.

3) <u>Truck Routing</u>

Truck routing involves the assessment of which roads Heavy Heavy-Duty (HHD) trucks take to and from their destination, and the emissions impact that the HHD trucks may have on residential communities and sensitive receptors. Per the DEIR, the Project consists of an industrial park, which is expected to result in a high volume of HHD truck traffic.

The District recommends that the DEIR include requirements for the project proponent to assess HHD truck routing patterns for the Project, with the aim of limiting exposure of residential communities and sensitive receptors to emissions. This evaluation would consider the current truck routes, the quantity and type of each truck (e.g., Medium Heavy-Duty, HHD, etc.), the destination and origin of each trip, traffic volume correlation with the time of day or the day of the week, overall Vehicle Miles Traveled (VMT), and associated exhaust emissions. The truck routing evaluation would also identify alternative truck routes and their impacts on VMT and air quality.

11-D

4) <u>Cleanest Available Heavy-Duty Trucks</u>

The San Joaquin Valley will not be able to attain stringent health-based federal air quality standards without significant reductions in emissions from HHD trucks, the single largest source of NOx emissions in the San Joaquin Valley. Accordingly, to meet federal air quality attainment standards, the District's ozone and particulate matter attainment plans rely on a significant and rapid transition of HHD fleets to zero or near-zero emissions technologies.

For development projects which typically generate a high volume of HHD truck traffic (e.g., "high-cube" warehouses), there are HHD trucks traveling to-and-from the project location at longer distribution trip length distances. Since the Project will exceed the District significance thresholds, the District recommends that the following measures be considered by the County to reduce Project-related operational emissions:

11-E

- *Recommended Measure*: Fleets associated with operational activities utilize the cleanest available HHD trucks, including zero and near-zero technologies.

- *Recommended Measure*: All on-site service equipment (cargo handling, yard hostlers, forklifts, pallet jacks, etc.) utilize zero-emissions technologies.

11-E cont

5) Reduce Idling of Heavy-Duty Trucks

The goal of this strategy is to limit the potential for localized PM2.5 and toxic air contaminant impacts associated with the idling of Heavy-Duty trucks. The diesel exhaust from idling has the potential to impose significant adverse health and environmental impacts.

Since the Project consists of warehouses, which is expected to result in HHD truck trips, the District recommends the DEIR include measures to ensure compliance of the state anti-idling regulation (13 CCR § 2485 and 13 CCR § 2480) and discuss the importance of limiting the amount of idling, especially near sensitive receptors. In addition, the District recommends the County consider the feasibility of implementing a more stringent 3-minute idling restriction and requiring appropriate signage and enforcement of idling restrictions.

11-F

6) Electric On-Site Off-Road and On-Road Equipment

The Project consists of warehouses, which may have the potential to result in increased use of off-road equipment (e.g., forklifts) and on-road equipment (e.g., mobile yard trucks with the ability to move materials). The District recommends that the DEIR include requirements for project proponents to utilize electric or zero emission off-road and on-road equipment.

11-G

7) Vegetative Barriers and Urban Greening

There are residential units located east and southeast of the Project. The District suggests the County consider the feasibility of incorporating vegetative barriers and urban greening as a measure to further reduce air pollution exposure on sensitive receptors (e.g., residential units).

While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, vegetative barriers have been shown to be an additional measure to potentially reduce a population's exposure to air pollution through the interception of airborne particles and the update of gaseous pollutants. Examples of vegetative barriers include, but are not limited to the following: trees, bushes, shrubs, or a mix of these. Generally, a higher and thicker vegetative barrier with full coverage will result in greater reductions in downwind pollutant concentrations. In the same manner, urban greening is also a way to help

11-H

improve air quality and public health in addition to enhancing the overall beautification of a community with drought tolerant, low-maintenance greenery. 11-H cont.

8) Under-fired Charbroilers

The Project may have restaurants with under-fired charbroilers. Such charbroilers may pose the potential for immediate health risk, particularly when located in densely populated areas or near sensitive receptors.

Since the cooking of meat can release carcinogenic PM2.5 species, such as polycyclic aromatic hydrocarbons, controlling emissions from new under-fired charbroilers will have a substantial positive impact on public health. The air quality impacts on neighborhoods near restaurants with under-fired charbroilers can be significant on days when meteorological conditions are stable, when dispersion is limited and emissions are trapped near the surface within the surrounding neighborhoods. This potential for neighborhood-level concentration of emissions during evening or multi-day stagnation events raises air quality concerns. 11-I

Furthermore, reducing commercial charbroiling emissions is essential to achieving attainment of multiple federal PM2.5 standards. Therefore, the District recommends that the DEIR include a measure requiring the assessment and potential installation, as technologically feasible, of particulate matter emission control systems for new large restaurants operating under-fired charbroilers.

The District is available to assist the County and project proponents with this assessment. Additionally, the District is currently offering substantial incentive funding that covers the full cost of purchasing, installing, and maintaining the system during a demonstration period covering two years of operation. Please contact the District at (559) 230-5800 or technology@valleyair.org for more information, or visit: https://ww2.valleyair.org/grants/restaurant-charbroiler-technology-partnership/

9) Electric Infrastructure

To support and accelerate the installation of electric vehicle charging equipment and development of required infrastructure, the District offers incentives to public agencies, businesses, and property owners of multi-unit dwellings to install electric charging infrastructure (Level 2 and 3 chargers). The purpose of the District's Charge Up! Incentive program is to promote clean air alternative-fuel technologies and the use of low or zero-emission vehicles. The District recommends that the County and project proponents install electric vehicle chargers at project sites, and at strategic locations. 11-J

Please visit https://ww2.valleyair.org/grants/charge-up for more information.

10) District Rules and Regulations

The District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. A project subject to District rules and regulations would reduce its impacts on air quality through compliance with the District's regulatory framework. In general, a regulation is a collection of individual rules, each of which deals with a specific topic. As an example, Regulation II (Permits) includes District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 2520 (Federally Mandated Operating Permits), and several other rules pertaining to District permitting requirements and processes. 11-K

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: https://ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations. To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (661) 392-5665.

10a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 (Permits Required) requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 (New and Modified Stationary Source Review) requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology (BACT). 11-L

This Project will be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and will require District permits. Prior to construction, the Project proponent should submit to the District an application for an ATC. For further information or assistance, the project proponent may contact the District's SBA Office at (661) 392-5665.

10b) District Rule 9510 - Indirect Source Review (ISR)

The Project is subject to District Rule 9510 because it will receive a project-level discretionary approval from a public agency and will equal or exceed 25,000 square feet of light-industrial development space.

11-M

The purpose of District Rule 9510 is to reduce the growth in both NOx and PM emissions associated with development and transportation projects from mobile

and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects. The ISR Rule requires developers to mitigate their NOx and PM emissions by incorporating clean air design elements into their projects. Should the proposed development project clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that ultimately funds incentive projects to achieve off-site emissions reductions.

Per Section 5.0 of the ISR Rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency. As of the date of this letter, the District has not received an AIA application for this Project. Please inform the project proponent to immediately submit an AIA application to the District to comply with District Rule 9510 so that proper mitigation and clean air design under ISR can be incorporated into the Project's design. One AIA application should be submitted for the entire Project.

11-M cont.

Information about how to comply with District Rule 9510 can be found online at: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview

The AIA application form can be found online at: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview/forms-and-applications/

District staff is available to provide assistance, and can be reached by phone at (559) 230-5900 or by email at ISR@valleyair.org.

10c) District Rule 9410 (Employer Based Trip Reduction)

The Project will be subject to District Rule 9410 (Employer Based Trip Reduction) since the project would result in employment of 100 or more "eligible" employees. District Rule 9410 requires employers with 100 or more "eligible" employees at a worksite to establish an Employer Trip Reduction Implementation Plan (eTRIP) that encourages employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. Under an eTRIP plan, employers have the flexibility to select the options that work best for their worksites and their employees.

11-N

Information about District Rule 9410 can be found online at: https://ww2.valleyair.org/compliance/rule-9410-employer-based-trip-reduction/.

For additional information, you can contact the District by phone at 559-230-6000 or by e-mail at etrip@valleyair.org

10d) District Rule 4601 (Architectural Coatings)

The Project will be subject to District Rule 4601 since it is expected to utilize architectural coatings. Architectural coatings are paints, varnishes, sealers, or stains that are applied to structures, portable buildings, pavements or curbs. The purpose of this rule is to limit VOC emissions from architectural coatings. In addition, this rule specifies architectural coatings storage, cleanup and labeling requirements. Additional information on how to comply with District Rule 4601 requirements can be found online at: https://ww2.valleyair.org/media/tkgjeusd/rule-4601.pdf

11-O

10e) District Regulation VIII (Fugitive PM10 Prohibitions)

The project proponent will be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities.*

Since the project will result in at least 1-acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the project proponents intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). Also, since the project will result in the disturbance of 5-acres or more, the project proponent shall submit to the District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). For additional information regarding the written notification or Dust Control Plan requirements, please contact District Compliance staff at (559) 230-5950.

11-P

The application for both the Construction Notification and Dust Control Plan can be found online at: https://ww2.valleyair.org/media/fm3jrbsq/dcp-form.docx

Information about District Regulation VIII can be found online at: https://ww2.valleyair.org/dustcontrol

11) District Comment Letter

The District recommends that a copy of the District's comments be provided to the Project proponent.

11-Q

If you have any questions or require further information, please contact Jacob Torrez by e-mail at Jacob.torrez@valleyair.org or by phone at (559) 230-6558.

Sincerely,

Mark Montelongo
Director of Policy and Government Affairs



Daniel Martinez
Program Manager

Response to Comment Letter 11: San Joaquin Valley Air Pollution Control District (SJVAPCD) (April 10, 2026)

Response 11-A

This comment provides introductory remarks and summarizes the proposed project. The comment does not raise a substantive issue on the content of the Draft EIR. The County appreciates the District's support for the VERA as an effective and enforceable mitigation mechanism. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 11-B

This comment noted appreciation for the County's inclusion of a VERA. The County appreciates the District's support for the VERA as an effective and enforceable mitigation mechanism and will coordinate with the District on a VERA implementation framework. The comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 11-C

The comment recommends that the County incorporate emission reduction strategies that can reduce potential harmful health impacts. The strategies recommended by the District do overlap with measures already incorporated into the proposed project or required by existing regulation. Many of the recommended strategies have been incorporated into the Final EIR. Each of the strategies are responded to individually below:

Require HHD truck routing patterns that limit exposure of residential communities and sensitive receptors to emissions. Please see response to comment 1-I.

Require cleanest available heavy-duty trucks and off-road equipment. Please see responses to comments 1-E and 1-J.

Require minimization of heavy-duty truck idling. Please see response to comment 1-I and 1-J.

Require solid screen buffering trees, solid decorative walls, and/or other natural ground landscaping techniques are implemented along the property line of adjacent sensitive receptors. Please see response to comment 1-J.

Orient loading docks away from sensitive receptors unless physically impossible. The proposed project design places the loading docks such that they do not directly face the nearest residences east and southeast of the proposed project site, and such that they are separated from those receptors by project setbacks, roads, landscaping, and detention areas. Furthermore, the nearest sensitive receptor is not located adjacent, but is located approximately 400 feet southeast of the proposed project site, and over 1,000 feet from the nearest proposed industrial building. Please see response to comment 1-B regarding the HRA, which demonstrated that even the most impacted sensitive receptor would not face health risk levels above the significance threshold.

Require loading docks a minimum of 500 feet away from the property line of the nearest truck loading bay opening, unless dock is exclusively used for electric trucks. The proposed project's nearest proposed loading dock is located approximately 1,100 feet from the nearest sensitive receptor. Furthermore, the nearest sensitive receptor is not located adjacent, but is located approximately 400 feet southeast of the

proposed project site, and over 1,000 feet from the nearest proposed industrial building. Please also see response to comment 1-I.

Incorporate signage and "pavement markings" to clearly identify on-site circulation patterns to minimize unnecessary on-site vehicle travel. Mitigation Measure MM 4.2-3 has been updated to include **MM 4.2-3(j)**, which stipulates that during project operations, the project proponent must install and maintain clear signage and drive-aisle pavement markings identifying onsite circulation patterns to minimize unnecessary vehicle travel and stating that offsite parking is strictly prohibited. Additionally, **MM 4.16-1** has been revised to require, during project operations, implementation of an approved Truck Routing Plan identifying designated routes for project-related truck traffic, installation and maintenance of signs directing truck drivers to the approved routes, and distribution of the plan to project tenants, visitors, and users.

Require truck entries be located on streets of a higher commercial classification. Locate and require truck entry, exit, and internal circulation away from sensitive receptors. Per project design, the proposed truck entries onsite would be located on Airport Drive, Merle Haggard Drive, Petrol Road, and Landings Way, which serve the surrounding industrial and commercial area and provide access toward SR 99 and SR 65. Airport Drive is an arterial highway per the Metropolitan Bakersfield General Plan with six lanes of travel. Merle Haggard Drive is a major east-west route and varies from two to six lanes. Petrol Road and Landings Way are two lane roadways. Landings way is primarily used for truck and trailer access to the southerly parking lot within the Amazon Fulfillment Center. This recommendation is suggested in order to attempt to reduce impacts to sensitive receptors of truck emissions, including of TOCs. As described above, the nearest sensitive receptor is not located adjacent to the proposed project, and is located approximately 400 feet southeast, and over 1,000 feet from the nearest proposed industrial building. Please also see response to comment 1-B.

Prohibit Heavy-Duty diesel truck drive aisles from being used on sides of the building that are directly adjacent to a sensitive receptor property line. None of the proposed project's property lines are directly adjacent to a sensitive receptor property line and thus no Heavy-Duty diesel truck drive aisles would be adjacent to properties containing sensitive receptors.

Require a separate entrance for heavy-duty trucks accessible via a truck route, arterial road, major thoroughfare, or a local road that predominantly serves commercial oriented uses. The proposed project would include multiple 35-foot truck driveways designed to County Plate R-58 standards and connected to roads serving primarily industrial and commercial uses. Truck ingress and egress to the site is provided via the 35' driveway on Petrol, the (2) 35' wide drive aisles on Airport Drive, the (2) 35' wide driveways on Merle Haggard Drive provide ingress (western driveway) and egress (eastern driveway) and lastly the 35' driveway on Landings Way will also provide ingress/egress to the proposed project site for trucks. In addition to access of all proposed 35' drive aisles, passenger vehicles and emergency vehicles would additionally have exclusive access to two (2) 20-foot driveways on Airport Drive and one (1) 26-foot driveway along Merle Haggard Drive. Please also see the response above regarding truck entries being on streets of higher classification.

Require projects be designed to provide the necessary infrastructure to support use of zero-emissions on-road vehicles and off-road equipment. The project has been designed and includes mitigation measures to provide infrastructure to support the use of zero-emission on- and off-road equipment. Please see responses to comments 1-E and 1-J.

Require all building roofs are solar-ready. Ensure rooftop solar panels are installed and operated to supply 100% of the power needed to operate all non-refrigerated portions of the development project. Install solar photovoltaic systems and associated battery storage on the project site. MM 4.5-1 has been revised in the Final EIR to require the installation of rooftop solar photovoltaic systems to the maximum extent feasible within one year of the first day of project operations, supplemental ground-mounted solar if needed, solar water heating for nonindustrial uses, and solar panels on employee parking canopies where feasible and **MM 4.7-2** requires that the project either install solar panels on the project site to provide 100% of the project's proposed clean energy needs or participate in the PG&E solar choice program in order to procure 100% of the project's electricity needs from renewable energy sources. If the applicant elects pathway (a), the project's building roofs would necessarily be designed to accommodate the solar panel coverage required to meet 100 percent of the project's energy demand, which represents the maximum functional solar capacity for the project's energy profile. If the applicant elects pathway (b), the project's energy needs are met through offsite renewable procurement, and onsite solar installation is not required because the same GHG reduction outcome is achieved through the alternative compliance pathway. In either case, maximum feasible solar generation to offset project energy demand, is achieved through **MM 4.7-2** performance standard. Moreover, please note the requirements of SB 100 and SB 1020 to achieve 90%, 95%, and 100% renewable and zero-carbon retail sales by 2035, 2040, and 2045, respectively. **MM 4.5-1** has also been revised in the Final EIR to include the installation of associated battery storage onsite.

Require all portions of roof tops that are not covered with solar panels are constructed to have light colored roofing material with a solar reflective index of greater than 78. MM 4.5-1 requires all building roofs to use light-colored roofing material to reduce heat generation and associated building energy demand, and has been revised in the Final EIR to require roofing material to have a solar reflective index of at least 78.

Require power sources at loading docks for all refrigerated trucks have "plugin" capacity, which will eliminate prolonged idling while loading and unloading goods. MM 4.2-7 requires that all TRUs entering the proposed project site be plug-in capable, requires electrical hookups at the loading bays of cold-storage tenants, and prohibits engine-powered refrigeration when compatible electrical power is available.

Incorporate bicycle racks and electric bike plug-ins. MM 4.5-1 requires onsite bicycle lanes, bicycle racks, and bicycle lockers. **MM 4.5-1** has been revised in the Final EIR to include the installation of electric bike plug-ins under **MM 4.5-1(m)**. **MM 4.16-3** requires a bike-share program, secure bicycle parking, showers, and on-site bicycle-repair facilities.

Require the use of low volatile organic compounds (VOC) architectural and industrial maintenance coatings. MM 4.2-6 requires the use of super-compliant, low-VOC paints containing less than 10 grams per liter during project construction and ongoing maintenance.

Designate an area during construction to charge electric powered construction vehicles and equipment, if temporary power is available. As described in response to comment 1-E, the project's construction related emissions are less than the applicable thresholds and thus no mitigation is required. However, revised **MM 4.2-3** would provide an area on the project site to charge electric powered construction vehicles.

Prohibit the use of non-emergency diesel-powered generators during construction. As described in 1-E comment response, the project's construction related emissions are less than the applicable thresholds

and thus no further mitigation is required. However, any emergency back-up diesel generators would be subject to stringent SJVAPCD permitting requirements which would require ultra-low sulfur diesel fuel use and Tier 4 final engines, reducing emissions. **MM 4.2-3** also requires that all diesel-fueled off-road construction equipment be equipped with CARB Tier 4-compliant engines or better.

Inform the project proponent of the incentive programs (e.g., Carl Moyer Program and Voucher Incentive Program) offered to reduce air emissions from the project. The County notes that it has made the project proponent aware of the various incentive programs that exist to reduce emissions from the proposed project.

The County concludes that the District's recommended additional strategies are either already incorporated into the proposed project, as described above, or are adequately addressed in the responses above. Revisions to multiple mitigation measures, as described above, have been made to the Final EIR in response to the District's additional recommendations.

Response 11-D

The comment recommends that the County evaluate Heavy Heavy-Duty (HHD) truck routing patterns for the proposed project with the aim of limiting exposure of residential communities and sensitive receptors to emissions. Please see response to comment 1-B. The project's HRA modeled truck travel along the primary roadway configuration provided by the project applicant and determined that impacts to the nearest sensitive receptors would be below the District health risk threshold. In addition, **Mitigation Measure MM 4.16-1** directs truck activity away from sensitive receptors to the extent feasible. Please see response to comment 1-I for additional discussion of truck routing concerns. To the extent the comment is referring to meeting the NAAQS for criteria pollutant emissions, that is a separate issue from the TAC analysis in the HRA, which relates to health risk. The Draft EIR finds that the project's operational emissions will be significant, implementation of mitigation, including the DMA/VERA in **MM 4.2-5** will reduce project emissions of criteria pollutants to as near to net zero as feasible.

Response 11-E

The comment recommends two measures to address project operational emissions:

Require fleets associated with operational activities to utilize the cleanest available HHD trucks, including zero and near-zero technologies. As explained, the project's mitigation, including the DMA/VERA in **Mitigation Measure MM 4.2-5**, will reduce project criteria pollutants to as near to net zero as possible. Nonetheless, the proposed project supports the transition ZEVs through project elements and mitigation measures as outlined in responses to comments 1-E, 1-I, 1-J, and 11-C.

Require that all on-site service equipment use zero-emission technology. Revised **MM 4.7-1(a)** requires electric-powered off-road equipment, including forklifts and material-handling equipment, for all daily indoor and outdoor warehouse and business operations. Please also see response to comment 1-E.

Response 11-F

The comment notes that the Draft EIR should include measures to ensure compliance with state anti-idling regulations, such as signage and enforcement, and consider stricter limits. Please see response to comment 1-J.

Response 11-G

The comment states that the proposed project will result in increased use of off-road equipment and on-road equipment as it will include the use of forklifts and on-site cargo equipment, and recommends that the Draft EIR include requirements for project proponents to utilize electric or zero emission off-road and on-road equipment. The proposed project incorporates this recommendation through **Mitigation Measure MM 4.7-1**, as revised in the Final EIR, which requires electric-powered off-road equipment for all daily indoor and outdoor warehouse and business operations. Existing **MM 4.5-1(k)** similarly requires the use of electric forklifts and other material handling vehicles based on feasibility of operations. Please see response to comment 1-J.

Response 11-H

The comment suggests that the County consider the feasibility of incorporating vegetative barriers and urban greening as a measure to further reduce air pollution exposure on sensitive receptors (e.g., residential units). **Mitigation Measure MM 4.1-3** requires that prior to the issuance of building permits for any facilities on the proposed project site, the proponent/operator applicant shall submit to the Kern County Planning and Natural Resources Department for approval a landscape plan that complies with the Kern County Zoning Ordinance requirements listed in Chapter 19.86 - Landscaping. Specifically, the landscape plan requires a vegetation barrier along the frontages of Merle Haggard Drive and Airport Drive along the proposed project site. The vegetation barrier shall consist of multiple rows of trees and shrubs, a 10-foot-high berm, a decorative wall, or a combination thereof. Please also see response to comment 1-J. The recommendation is therefore already incorporated into the proposed project and no further revisions to the Draft EIR are necessary.

Response 11-I

The commenter raises general concerns regarding emissions from potential under-fired charbroilers associated with future restaurant uses and recommends inclusion of a measure requiring evaluation and installation of control technologies. At this time, the proposed project does not include specific tenant information or details regarding the presence, size, or type of commercial cooking equipment that would be installed and it is possible that there will not be such emitting uses at the proposed project site. As such, the potential use of under-fired charbroilers would be speculative. Nonetheless, **Mitigation Measure MM 4.2-3** has been revised in the Final EIR to include a requirement for future restaurant tenants to evaluate and install control technologies, consistent with SJVAPCD recommendations.

Response 11-J

The comment states that to support and accelerate the installation of electric vehicle charging infrastructure, the District offers incentives to public agencies and businesses to install electric charging infrastructure and notes that the program supports the development and implementation of fueling infrastructure. The comment recommends that the County consider installing electric vehicle infrastructure at the proposed project site and provides a website for additional information. **Mitigation Measure MM 4.5-2** as revised requires both light-duty and heavy-duty charging infrastructure and provides for make-ready infrastructure for future charging and electrical needs. **MM 4.2-7** provides for electric hook-ups for TRUs. Please see responses to comments 1-E and 1-J for more information.

Response 11-K

The comment states that the District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. This comment provides general information related to the District's rules and regulations. The proposed project will comply with all applicable District rules and regulations as outlined in **Mitigation Measure MM 4.2-1**. The comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 11-L

The comment provides a summary of the requirements of District rules 2010 (Permits Required) and 2201 (New and Modified Stationary Source Review). The proposed project will comply with District Rules 2010 and 2201 to the full extent required by applicable law, as outlined by **Mitigation Measure MM 4.2-1**. The comment further states that prior to construction the proposed project proponent should submit an application for Authority to Construct (ATC) from the District. The project proponent will submit an application for ATC as requested by the District. The comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 11-M

The comment states that the proposed project is subject to District Rule 9510 - Indirect Source Review (ISR) because it will receive a project-level discretionary approval from a public agency and will equal or exceed 25,000 square feet of light industrial space. This comment provides a summary of the requirements of District Rule 9510. The comment states that the ISR Rule requires developers to mitigate their NOx and PM emissions by incorporating clean air design elements into their projects. Should a proposed development project's clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that funds incentive projects to achieve off-site emissions. The proposed project will comply with District's Rule 9510 to the full extent required by applicable law. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 11-N

The comment indicates that the proposed project will be subject to District Rule 9410 (Employer Based Trip Reduction) if the proposed project would result in employment of 100 or more "eligible" employees. District Rule 9410 requires employers with 100 or more "eligible" employees at a worksite to establish an Employer Trip Reduction Implementation Plan (eTRlP) that encourages employees to reduce single occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. The proposed project will comply with District Rule 9410 to the full extent required by applicable law. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 11-O

The comment states that the proposed project will be subject to District Rule 4601 since it is expected to utilize architectural coatings.

As stated in the Draft EIR, the proposed project would comply with District Rule 4601 and utilize low VOC architectural coatings and be subject to the list of requirements outlined in the link provided in the comment. The comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 11-P

The comment states that the project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 - Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities. The comment further states that if the project is at least one acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the proponent's intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). Also, should the proposed project result in the disturbance of 5-acres or more, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials, the project proponent shall submit to the District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). The comment provides additional information about the Dust Control Plan online and via telephone. The proposed project will comply with all District rules and regulations to the full extent required by applicable law.

As stated in the Draft EIR, the project proponent will submit a Dust Control Plan as required by the District and outlined under **Mitigation Measure MM 4.2-2**. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 11-Q

The comment requests that a copy of the comments be provided to the project proponent and provides closing remarks and contact information for appropriate District staff. The comments have been forwarded to the project proponent. This comment does not otherwise raise a substantive issue on any of the content in the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary. The County thanks the commentor for their comments and participation in the public review of the document.

7.3.3 Interested Parties

Comment Letter 12: Golden State Environmental Justice Alliance (GSEJA) (April 9, 2026)

BLUM, COLLINS & HO LLP
ATTORNEYS AT LAW
10250 CONSTELLATION BOULEVARD
SUITE 2300
LOS ANGELES, CALIFORNIA 90067
(213) 572-0400

April 9, 2026

Nicole Menchaca
Advanced Planning Division Chief
Kern County Planning and Natural Resources Department
Public Services Building
2700 M Street, Suite100
Bakersfield, CA 93301

Via Email to:
HuiskenN@kerncounty.com

Subject: Comments on Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. EIR (SCH NO. 2025030498)

Dear Ms. Menchaca,

Thank you for the opportunity to comment on the Environmental Impact Report (EIR) for the proposed Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC Project. Please accept and consider these comments on behalf of Golden State Environmental Justice Alliance. Also, Golden State Environmental Justice Alliance formally requests to be added to the public interest list regarding any subsequent environmental documents, public notices, public hearings, and notices of determination for this Project. Send all communications to Golden State Environmental Justice Alliance, P.O. Box 79222, Corona, CA 92877.

12-A

1.0 Summary

The Project proposes the construction and operation of an industrial warehouse Project with two quick-service restaurant pad buildings on an approximately 110-acre site. The industrial portion of the Project includes the development of four (4) industrial warehouse buildings totaling approximately 1,505,440 square feet, consisting of 625,446 square feet for warehousing, 393,624 square feet for cold storage, 335,826 square feet for industrial manufacturing or assembly for a food/beverage company, and 150,544 square feet for office space. The two (2) associated quick-serve restaurant pad buildings total approximately 9,410 square feet.

Specific characteristics for each proposed building are as follows:

1. Industrial Warehouse Building 1. 257,580 square feet building footprint with 231,822 square feet of warehouse and 25,758 square feet of office space, 43 dock-high doors, two grade-level doors, 242 passenger car parking stalls, and 25 truck/trailer parking stalls.
2. Industrial Warehouse Building 2. 192,780 square feet building footprint with 173,502 square feet of industrial manufacturing or assembly (food or beverage products) and 19,278 square feet of office space, 11 dock-high doors, 32 knock-out doors, two grade-level doors, 427 passenger car parking stalls, and 0 truck/trailer parking stalls.
3. Industrial Warehouse Building 3. 180,360 square feet building footprint with 162,324 square feet of industrial manufacturing or assembly (food or beverage products) and 18,036 square feet of office space, 10 dock-high doors, 8 knock-out doors, two grade-level doors, 400 passenger car parking stalls, and 8 truck/trailer parking stalls.
4. Industrial Warehouse Building 4. Designed as a cross-dock sort fulfillment center; 874,720 square feet building footprint with 393,624 square feet of warehouse, 393,624 square feet of cold storage, and 87,472 square feet of office space, 151 dock-high doors, 797 passenger car parking stalls, and 368 truck/trailer parking stalls.
5. Quick Serve Restaurant Pad with Drive Thru 1. 5,570 square foot building footprint and 75 passenger vehicle parking stalls.
6. Quick Serve Restaurant Pad with Drive Thru 2. 3,840 square foot building footprint and 60 passenger vehicle parking stalls.

12-A cont'd

The site provides a total of 2,001 passenger car parking stalls, 401 truck/trailer parking stalls, 265 truck/trailer loading docks, 40 truck/trailer knock-out doors (truck/trailer loading dock doors that can be activated at any time ("knocked out") by employees), and 10 grade-level truck/trailer loading doors. The industrial/warehouse building heights are described as "reaching up to 60 feet." The industrial/warehouse uses are proposed to include outdoor storage, manufacturing processes for food or beverage products, and cold storage facilities (quantities of each are not expressly provided). Since the future tenants are stated to be unknown, the EIR assumes the warehouse buildings will operate 24 hours a day, 365 days a year, with multiple shift rotations and approximately 532 employees, and the quick-serve restaurant pads will operate 24 hours a day with approximately 40 employees.

The following discretionary actions are required to implement the proposed Project:

1. General Plan Amendment No. 5, Map 81-35 of the Metropolitan Bakersfield General Plan Land Use Element from Map Code GC (General Commercial) to SI (Service Industrial) on an approximate 13.76-acre parcel of the 110-acre proposed Project site.
2. Zone Classification Change No. 46, Map 81-35 from M-1 PD H (Light Industrial – Precise Development Combining-Airport Approach Height Combining) to M-2 PD H (Medium Industrial - Precise Development Combining - Airport Approach Height Combining), or a more restrictive district, on an approximate 13.76-acre portion and from FPP (Floodplain Primary) to M-2 PD H (Medium Industrial - Precise Development Combining - Airport Approach Height Combining), or a more restrictive district, on an approximate 8.56-acre portion of the 110-acre proposed Project site.
3. Precise Development Plan No. 36, Map 81-35 for the development of four (4) industrial warehouse buildings totaling approximately 1,505,440 square-feet consisting of 625,446 square-feet for warehousing, 393,624 square-feet for cold storage, 335,826 square feet for industrial manufacturing or assembly for a food/beverage company, 150,544 square feet for office space, and two (2) associated quick-serve restaurants totaling approximately 9,410 square-feet on approximately 110 acres pursuant to Sections 19.38.020.D.1, 19.38.020.D.4, and 19.38.020.E.2 of the Kern County Zoning Ordinance.
4. Nonsummary Vacation, Map 81-35 to vacate two (2) drainage easements on the proposed Project site totaling approximately 10.24 acres.

12-A cont'd

4.2 Air Quality, 4.5 Energy, and 4.7 Greenhouse Gas Emissions

The EIR does not include relevant environmental justice issues for analysis in reviewing potential impacts, including cumulative impacts from the proposed Project. This conflicts with CEQA Guidelines Section 15131 (c), which requires that "Economic, social, and particularly housing factors shall be considered by public agencies together with technological and environmental factors in deciding whether changes in a Project are feasible to reduce or avoid the significant effects on the environment identified in the EIR. If information on these factors is not contained in the EIR, the information must be added to the record in some other manner to allow the agency to consider the factors in reaching a decision on the Project." This is especially significant as the surrounding community is highly burdened by pollution. According to CalEnviroScreen 4.0[1], CalEPA's screening tool that ranks each census tract in the state for pollution and socioeconomic vulnerability. The proposed Project's census tract (6029000101) is ranked in the 94th percentile for overall pollution burden, meaning the surrounding community bears the impact of multiple sources of pollution and is more polluted than average on several

[1] CalEnviroScreen 4.0 https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

pollution indicators measured by CalEnviroScreen. For example, the Project census tract ranks in the 91st percentile for ozone burden and 99th percentile for particulate matter (PM) 2.5 burden. These environmental factors are typically attributed to heavy car and truck activity in the area. While California has strict vehicle-emissions standards, exhaust from cars and trucks is the main source of air pollution in much of the state[2]. Ozone can cause lung irritation, inflammation, and worsening of existing chronic health conditions, even at low levels of exposure[3]. Fine particle pollution has been shown to cause many serious health effects, including heart and lung disease, and exposure to PM 2.5 contributes to deaths across California[4]. See also the attached air quality comments and analysis from SWAPE.

The census tract ranks among the most severely impacted in several areas that impact water quality. The census tract ranks in the 83rd percentile for groundwater threats. People who live near contaminated groundwater may be exposed to chemicals moving from the soil into the air inside their homes[5]. Accordingly, the census tract ranks in the 96th percentile for drinking water impacts, which indicates that it ranks with the worst quality drinking water in the state. Poor communities and people in rural areas are exposed to contaminants in their drinking water more often than people in other parts of the state[6].

The census tract also ranks in the 59th percentile for solid waste facility impacts and 95th percentile for hazardous waste facility impacts. Solid waste facilities can expose people to hazardous chemicals, release toxic gases into the air (even after these facilities are closed), and chemicals can leach into soil around the facility and pose a health risk to nearby populations[7]. Hazardous waste generators and facilities contribute to the contamination of air, water, and soil near waste generators and facilities can harm the environment as well as people[8].

12-A cont'd

Further, the census tract is a diverse community including 27% Hispanic, 1% African-American, and 1% Native American residents, who are especially vulnerable to the impacts of pollution. The community has a high rate of low educational attainment, meaning 41% of the census tract over age 25 has not attained a high school diploma, which is an indication that they may lack

[2] OEHHA Traffic https://oehha.ca.gov/calenviroscreen/indicator/traffic-density
[3] OEHHA Ozone Burden https://oehha.ca.gov/calenviroscreen/indicator/air-quality-ozone
[4] OEHHA Air Quality: PM 2.5 https://oehha.ca.gov/calenviroscreen/indicator/air-quality-pm25
[5] OEHHA Groundwater Threats https://oehha.ca.gov/calenviroscreen/indicator/groundwater-threats
[6] OEHHA Drinking Water https://oehha.ca.gov/calenviroscreen/drinking-water
[7] OEHHA Solid Waste Facilities https://oehha.ca.gov/calenviroscreen/indicator/solid-waste-sites-and-facilities
[8] OEHHA Hazardous Waste Generators and Facilities https://oehha.ca.gov/calenviroscreen/indicator/hazardous-waste-generators-and-facilities

health insurance or access to medical care. The community also has a high rate of poverty, meaning 73% of the households in the census tract have a total income before taxes that is less than the poverty level. Income can affect health when people cannot afford healthy living and working conditions, nutritious food, and necessary medical care[9]. Poor communities are often located in areas with high levels of pollution[10]. Poverty can cause stress that weakens the immune system and causes people to become ill from pollution[11]. Living in poverty is an indication that residents may lack health insurance or access to medical care. Medical care is vital for this census tract as it ranks in the 82nd percentile for incidence of asthma and 89th percentile for incidence of cardiovascular disease.

Additionally, the Project census tract (6029000101) and the census tracts adjacent to the Project site (6029000102 (east), 6029005103 (north/northeast), 6029000200 (south), and 6029003900 (west) are identified as SB 535 Disadvantaged Communities[12]. This indicates that the cumulative negative impacts of development and environmental impacts in the area are disproportionately impacting these communities. The EIR does not discuss that the surrounding area is a disadvantaged community and does not utilize this information in its analysis. The EIR has not considered the Project's significant and unavoidable environmental impacts in relation to the SB 535 status of the Project census tract and the surrounding area. The negative environmental, health, and quality of life impacts of the warehousing and logistics industry in the area have become distinctly inequitable. The severity of environmental impacts, particularly on these Disadvantaged Communities, must be included for analysis as part of a revised EIR.

12-A cont'd

4.8 Hazards and Hazardous Materials

The EIR states that the Project is within Compatibility Zone C of the Meadows Field Airport per the Kern County Airport Land Use Compatibility Plan (ALUCP). The EIR concludes the Project will have less than significant impacts because, "Ultimately, due to the distance from the airport, conformance to the design and review process, and coordination with the FAA as prescribed below in Mitigation Measure MM 4.8-12 the Project would not result in the development of structures that would result in safety hazards for airport operations, aircraft flying in the vicinity, or for people residing or working in the Project area." The EIR does not provide any substantial evidence to support a less-than-significant finding. The EIR is misleading to the public and decision makers by excluding information regarding the statutorily required review by the

[9] OEHHA Poverty https://oehha.ca.gov/calenviroscreen/indicator/poverty
[10] Ibid.
[11] Ibid.
[12] OEHHA SB 535 Census Tracts https://oehha.ca.gov/calenviroscreen/sb535

ALUC. The proposed Project requires a General Plan Amendment to change the land use designation on the Project site. Prior to the amendment of a General Plan, the ALUC shall review the plan, ordinance, or regulation for consistency with the ALUCP (PUC Section 21676(b))[13]. The EIR must be revised to include a finding of significance as the Project does not comply with PUC Section 21676(b).

Additionally, delaying the ALUC review until after the close of the public review period circumvents the environmental analysis requirements of CEQA. For example, Mitigation Measure 4.8-12 requires that the Project "Obtain a Federal Aviation Administration issued 'Determination of No Hazard to Air Navigation' or make the Federal Aviation Administration's recommended changes to the Project." The Project relies upon the installation of and use of solar panels to support less than significant Energy impacts, among others. The glare generated by the installation of solar panels at the Project site can be a hazard to air navigation. The EIR has not included substantial evidence to demonstrate that the Project will obtain the FAA's "Determination of No Hazard to Air Navigation" while simultaneously preserving features relied upon for mitigation. The EIR must be revised to disclose this information and include a finding of significance.

4.10 Land Use and Planning

The EIR concludes that the proposed Project is consistent with the Metropolitan Bakersfield General Plan without considering the EIR's conclusion that the Project will result in significant and unavoidable cumulatively considerable impacts to Air Quality, Greenhouse Gases, Noise, and Utilities (Water Supply). The EIR is inadequate as an informational document, and a revised EIR must be prepared with a consistency analysis that considers the Project's significant and unavoidable impacts in its analysis, including but not limited to the following goals and policies that were adopted for the purposes of avoiding or mitigating an environmental effect:

12-A cont'd

1. MBGP Land Use Element Policy 15. Allow for the development of a variety of commercial centers/corridors which are differentiated by their function, intended users, and level of intensity, including convenience centers serving local residential neighborhoods, sub-regional centers which serve groupings of neighborhoods, and major regional centers which serve the planning area and surrounding areas. (I-1).

[13] California Airport Planning Land Use Handbook Section 1.3.4. ALUC Review https://dot.ca.gov/-/media/dot-media/programs/aeronautics/documents/californiaairportlanduseplanninghandbook-a11y.pdf

2. MBGP Circulation Element Policy 8. Limit full access median breaks on arterials to a maximum of three per mile and include left-turn lanes at each (I-10, I-11).
3. MBGP Circulation Element Policy 11. Design local collector street systems to minimize through traffic movements and include short block lengths to discourage excessive speeds (I-34).
4. MBGP Circulation Element Policy 15. Prohibit trucks from non-truck routes within incorporated areas except as necessary for direct property access for pick-up and delivery (I-13).
5. MBGP Circulation Element Policy 16. Require that truck access to commercial and industrial properties be designed to minimize impacts on adjacent residential parcels (I-14).
6. MBGP Circulation Element Policy 20. Prohibit parking on new arterials in incorporated areas. In unincorporated areas, prohibit parking when traffic studies warrant elimination. Allow parking on collectors and on residential streets (I-17).
7. MBGP Circulation Element Policy 21. Route traffic around, rather than through, pedestrian-oriented areas (I-18).
8. MBGP Circulation Element Policy 36. Prevent streets and intersections from degrading below Level of Service "C" where possible due to physical constraints (as defined in a Level of Service Standard) or when the existing Level of Service is below "C" prevent where possible further degradation due to new development or expansion of existing development with a three part mitigation program: adjacent right-of-way dedication, access improvements and/or an area-wide impact fee. The areawide impact fee would be used where the physical changes for mitigation are not possible due to existing development and/or the mitigation measure is part of a larger Project, such as freeways, which will be built at a later date (I-28, I-29).
9. MBGP Circulation Element Transit Policy 2. Consider for bus turnouts along arterials and collectors where appropriate (I-1).
10. MBGP Circulation Element Transit Policy 3. Consider transit service issues in the site plan review process (I-2).
11. MBGP Circulation Element Bikeway Policy 11. Construct bike lanes in conjunction with all street improvement projects that coincide with the Bikeway Master Plan (I-3, I-10).
12. MBGP Circulation Element Parking Policy 3. Ensure that adequate on-site parking supply and parking lot circulation are provided on all site plans in accordance with the adopted parking standards (I-3).

12-A cont'd

13. MBGP Conservation Element Goal 1 (Water Resources). Conserve and augment the available water resources of the planning area.
14. MBGP Conservation Element Goal 2 (Water Resources). Assure that adequate groundwater resources remain available to the planning area.
15. MBGP Conservation Element Goal 3 (Water Resources). Assure that adequate surface water supplies remain available to the planning area.
16. MBGP Conservation Element Policy 2 (Water Resources). Minimize the loss of water which could otherwise be utilized for groundwater recharge purposes and benefit the planning area groundwater aquifers from diversion to locations outside the area (I-3).
17. MBGP Conservation Element Policy 5 (Water Resources). Work towards resolving the problem of groundwater resource deficiencies in the upland portions of the planning area (I-5, I-6).
18. MBGP Conservation Element Policy 6 (Water Resources). Protect the planning area groundwater resources from further quality degradation (I-7).
19. MBGP Conservation Element Policy 8 (Water Resources). Consider each proposal for water resource usage within the context of total planning area needs and priorities--major incremental water transport, groundwater recharge, flood control, recreational needs, riparian habitat preservation, and conservation (I-9).
20. MBGP Conservation Element Goal 1 (Air Quality). Promote air quality that is compatible with health, well being, and enjoyment of life by controlling point sources and minimizing vehicular trips to reduce air pollutants.
21. MBGP Conservation Element Goal 3 (Air Quality). Reduce the amount of vehicular emissions in the planning area.
22. MBGP Conservation Element Policy 16 (Air Quality). Cooperate with Golden Empire Transit and Kern Regional Transit to provide a comprehensive mass transit system for Bakersfield; require large-scale new development to provide related improvements, such as bus stop shelters and turnouts (I-1).
23. MBGP Safety Element Policy 3 (Flooding). Prevent urban development encroachment, which would impede flood flows in the Kern River designated floodway (I-3, I-5).
24. MBGP Public Services and Facilities Element Goal 1 (Water Distribution). Ensure the provision of adequate water service to all developed and developing portions of the planning area.

12-A cont'd

The EIR also provides misleading and erroneous consistency analysis with other goals and policies of the MBGP. For example, the EIR concludes that the Project is consistent with Public Services and Facilities Element Goal 3 (Water Distribution), “Require that all new development

proposals have an adequate water supply available (I-3, I-4)," and refers the reader to the analysis with Water Resources Policy 2 that states, "Section 4.9, Hydrology and Water Quality, of this Draft EIR, provides an analysis of water supplies available to serve the Project. Unmetered water wells cannot be used as a source of groundwater for the permit activity. Groundwater may only be used in a permitted activity from a water well equipped with a water meter." The EIR excludes that the Project would result in significant and unavoidable cumulatively considerable Hydrology and Utilities and Service Systems impacts, specifically Project construction and operational groundwater use, rendering the Project directly inconsistent with Public Services and Facilities Element Goal 3 (Water Distribution). The Kern County Subbasin is over drafted, and the District's GSP has been deemed inadequate, along with the other Kern subbasin plans, where other similar known and unknown projects could occur. The Project's construction and operational groundwater use will further deplete the basin and the available water supply. The EIR has not provided substantial evidence to support the conclusion that the Project is consistent with Goal 3 and must be revised to include a finding of significance.

The EIR also concludes the Project is consistent with Air Quality, "Policy 2. Encourage land uses and land use practices which do not contribute significantly to air quality degradation," because "Impacts to air quality are analyzed in Section 4.2, Air Quality, in this Draft EIR. As shown in Tables 4.2-5 and 4.2-7, the proposed Project would not generate ROG emissions in excess of thresholds. The Project does not include any of the listed measures. Implementation of MM 4.2-1 would require the Project to continuously comply with applicable rules and regulations set forth by the San Joaquin Valley Air Pollution Control District." The EIR excludes that the Project would result in significant and unavoidable cumulative considerable impacts to Air Quality, rendering the Project directly inconsistent with this policy. The EIR has not provided substantial evidence to support the conclusion that the Project is consistent with this policy and must be revised to include a finding of significance.

The EIR concludes the Project is consistent with "Conservation Element Policy 4 (Air Quality). Consider air pollution impacts when evaluating discretionary land use proposals. Considerations should include: a) Alternative access routes to reduce traffic congestion; b) Development phasing to match road capacities; c) Buffers including increase vegetation to increase emission dispersion and reduce impacts of gaseous or particulate matter on sensitive uses.," because, "Impacts to air quality are analyzed in Section 4.2, Air Quality, in this Draft EIR. As shown in Tables 4.2-5 and 4.2-7, the proposed Project would not generate ROG emissions in excess of thresholds. The Project does not include any of the listed measures. Implementation of MM 4.2-1 would require the Project to continuously comply with applicable rules and regulations set forth by the San

12-A cont'd

Joaquin Valley Air Pollution Control District." The EIR excludes that the Project would result in significant and unavoidable cumulative considerable impacts to Air Quality, rendering the Project directly inconsistent with this policy. The EIR has not provided substantial evidence to support the conclusion that the project is consistent with this policy and must be revised to include a finding of significance.

Further, the EIR concludes the Project is consistent with "Circulation Element Goal 3. Minimize the impact of truck traffic on circulation, and on noise sensitive land uses," and "Policy 34. Minimize the impacts of land use development on the circulation system. Review all development plans, rezoning applications, and proposed general plan amendments with respect to their impact on the transportation system, and require revisions as necessary," because "Transportation and traffic analysis is provided in Section 4.16, Transportation and Traffic, of this Draft EIR. The proposed Project includes roadway improvements and mitigation measures that will address deficiencies in the roadways and provide a safe and efficient street system that links the Project site to the rest of the area. Implementation of MM 4.16-3, and MM 4.16-4 would ensure the preparation of a Transportation Demand Management Plan and Traffic Control Plan, as well as any off-site intersection improvements required to maintain the level of service standard for the surrounding area." The EIR excludes that the Project would result in significant and unavoidable cumulative considerable impacts to Transportation (VMT), rendering the Project directly inconsistent with the MBGP goal/policy. The proposed GPA and ZC will result in increased VMT, which significantly and cumulatively negatively impacts the circulation systems. The EIR has not provided substantial evidence to support the conclusion that the Project is consistent with these MBGP goal/policy and must be revised to include a finding of significance.

12-A cont'd

The EIR summarizes that the Project previously submitted an application for Zone Variance (ZV) No. 7, Map 81-35, which requested to "allow a maximum of 60-foot-tall structures where 35-foot-tall structures are the maximum allowed height." The EIR states that, "Since the circulation of the NOP, the zone variance has since been withdrawn, and no analysis regarding the zone variance has been included in the remaining sections of this Draft EIR document." The EIR does not state the reasoning for the withdrawal of the ZV, which is notable as the Project still proposes 60 feet tall buildings, and a 35-foot-tall building height limit still applies. Kern County Zoning Ordinance (KCZO) Section 19.76.080 - Height Limits requires that, "No building, structure, plant, or tree in an H district shall exceed thirty-five (35) feet in height, except as may be approved pursuant to Sections 19.76.130 and 19.76.140 of this chapter. However, in no case shall the height exceed the height allowed by the base zone with which the

H combining district is combined. KCZO Section 19.76.140 (E) requires that, "For any proposed structure or vegetation that will exceed a height of thirty-five (35) feet, a letter from the Federal Aviation Administration which shall state that the proposed development does not constitute a hazard to air traffic and does not violate any federal regulations. The letter shall also include any special conditions imposed by the Federal Aviation Administration." Section 19.76.146 also requires that, "Prior to the consideration of a development plan pursuant to this section, the development plan shall be submitted to the Kern County airports department and any applicable airport district or operator of a public use airport for review and comment."

The proposed industrial/warehouse buildings are 60 feet tall. It is clear that the Project has not been reviewed by the Federal Aviation Administration (FAA) as Mitigation Measure 4.8-12 requires that the Project, "Obtain a Federal Aviation Administration issued 'Determination of No Hazard to Air Navigation' or make the Federal Aviation Administration's recommended changes to the Project." The application for the proposed Project does not include "a letter from the Federal Aviation Administration which shall state that the proposed development does not constitute a hazard to air traffic and does not violate any federal regulations. The letter shall also include any special conditions imposed by the Federal Aviation Administration," as required by KCZO Section 19.76.140 (E). Further, KCZO Section 19.76.140 requires that, "Prior to the consideration of a development plan pursuant to this section, the development plan shall be submitted to the Kern County airports department and any applicable airport district or operator of a public use airport for review and comment," and the EIR does not include substantial evidence that the Project was submitted. The Project application is incomplete, and the county's processing of the application should not have proceeded until all required application items were submitted. The Project does not comply with Kern County Zoning Ordinance Sections 19.76.080 and 19.76.140. The EIR must be revised to include a finding of significance due to these conflicts with regulations adopted for the purposes of mitigating or avoiding an environmental effect (aviation safety and compatibility).

12-A cont'd

Additionally, the EIR does not provide an accurate consistency analysis with Kern COG'S 2022 Regional Transportation Plan (RTP)[14]. The EIR concludes that since the Project is located in an area that RTP/SCS identifies as "an area designated for strategic employment," it is fully consistent with the RTP/SCS, including the goals listed below. Due to errors in modeling, modeling without supporting evidence, and the EIR's determination that the Project will have significant and unavoidable cumulatively considerable impacts to Air Quality, Greenhouse Gas

[14] Kern COG 2022 RTP https://www.kerncog.org/category/docs/rtp/

Emissions, Hydrology and Water Quality, Transportation (VMT), and Utilities and Service Systems (water supply), the proposed Project is directly inconsistent with Goal 1 to improve the mobility of people and freight, Goal 3 to improve the reliability and safety of the transportation system, Goal 5 to promote livable communities and satisfaction of consumers with the transportation system, and Goal 6 to minimize effects on the environment. The EIR also excludes the Project, which requires a GPA and ZC to proceed, which indicates that the Project was not accounted for in the RTP/SCS and its PEIR analysis. The EIR has not included substantial evidence to support a less-than-significant finding and must be revised to include a finding of significance due to inconsistency with the 2022 RTP document.

Further, it must be noted that the horizon year of the Metropolitan Bakersfield General Plan (MBGP) is 2020. Any development beyond 2020 is not accounted for or analyzed by the MBGP and its EIR. The Project is proposed six years after the horizon year of the MBGP and therefore is not accounted for in its growth projections or environmental analysis. The EIR is inadequate as an informational document since the horizon year of the MBGP has passed, and it has not provided a cumulative analysis of all industrial projects approved since the adoption of the MBGP to accurately quantify the existing buildout scenario of the MBGP. A revised EIR must be prepared to include this information for analysis to adequately and accurately analyze all potentially significant environmental impacts. A finding of significance must be included in a revised EIR because the Project is not accounted for in the MBGP growth projections and is beyond the 2020 horizon year analyzed in the MBGP EIR.

12-A cont'd

4.13 Population and Housing

The EIR attempts to support its less-than-significant finding by stating that, "By 2050, the unincorporated areas will have an estimated 129,818 jobs available, Metropolitan Bakersfield Area will have 269,961 jobs available, for a Countywide total of 430,044 jobs." Kern COG adopted 2035 growth projections as part of the 2022 RTP/SCS. Specifically, Table 3-2: Growth Trends for Kern County and Selected Communities within the RTP/SCS[15] notes that Metro Bakersfield will add 18,065 jobs between 2020 and 2035, with the 2020 baseline employment at 211,235 jobs and the 2035 forecast at 229,300 jobs. Utilizing the EIR's calculation of 572 operational employees, the Project represents 3.1% of Metro Bakersfield's employment growth from 2020 to 2035. A single Project accounting for this quantity of the projected employment growth within Metro Bakersfield over 15 years represents a significant amount of growth. The

[15] Kern COG 2022 RTP Planning Assumptions https://www.kerncog.org/wp-content/uploads/2022/04/CHAPTER-3-PLANNING-ASSUMPTIONS-2022-RTP-1.pdf

EIR must be revised to include this analysis, and also provide a cumulative analysis discussion of projects approved since 2020 and projects "in the pipeline" to evaluate the County's progress towards these forecasts.

For example, other recent industrial projects known as Majestic Gateway Bakersfield[16] required a GPA to the MBGP from General Commercial (GC) to Light Industrial (LI) and was anticipated to generate 1,512 employees; Westside Industrial Project[17] required a GPA to the MBGP from RIA (Intensive Agriculture) to Light Industrial (LI) and was anticipated to generate 1,830 employees; Malibu Vineyards Industrial required a GPA to the MBGP from R-IA to SI (Service Industrial) and was anticipated to generate 6,000 employees[18]; IPG Industrial Project was anticipated to generate 596 employees[19]. When considered with the proposed Project, they will cumulatively generate 10,483 employees, which is 58% of Metro Bakersfield's employment growth forecast over 15 years, accounted for by only five recent industrial projects (most of which required changes in land use designations to proceed). This total increases exponentially when other industrial and commercial development activity is added to the calculation. A revised EIR must be prepared to include this information for analysis, and also provide a cumulative analysis discussion of projects approved since RTP adoption and projects "in the pipeline" to evaluate the County's progress towards these forecasts. Additionally, it must be noted that the proposed Project (and the cumulative projects listed here) were all proposed after 2020, indicating that they are beyond the growth assumptions and forecasts of the MBGP and its associated EIR from which the proposed Project tiers. This necessitates a finding of significance as part of a revised EIR.

12-A cont'd

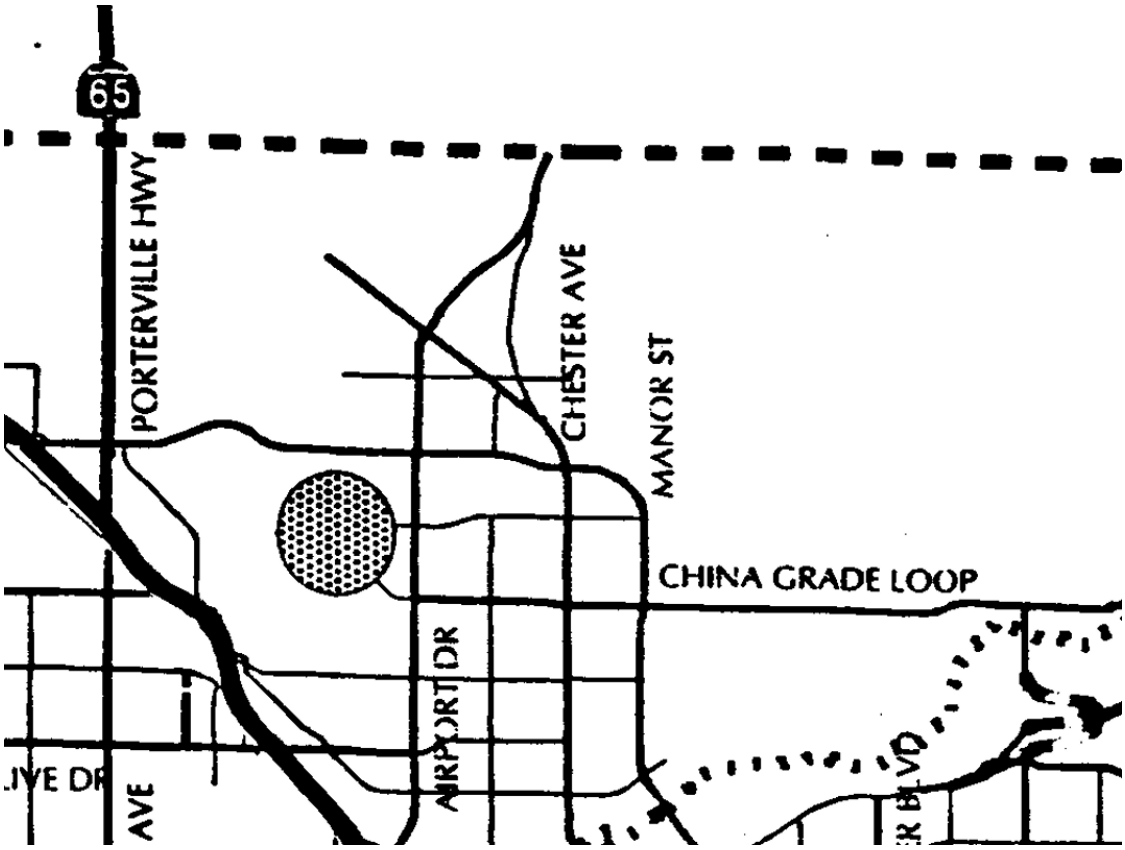
The EIR relies upon the MBGP's concept of "centers" to conclude that the Project will result in less than a significant impact. The EIR states that, "While the Project would encourage job growth in the vicinity of the Project, this growth is encouraged and planned for, per the MBGP's' centers' concept.

The MBGP has designated zones within the planning area to facilitate growth within these identified centers. The Project site is located within an area designated as an "Intensified Activity Center" as shown in Figure II-2 of the MBGP."

[16] Majestic Gateway Bakersfield https://ceqanet.opr.ca.gov/2022030196/2
[17] Westside Industrial Project https://ceqanet.opr.ca.gov/Project/2023100467
[18] Malibu Vineyards Industrial https://ceqanet.opr.ca.gov/2022080056/2
[19] IPG Industrial Project https://ceqanet.lci.ca.gov/Project/2023110442

However, the EIR excludes that the MBGP's "centers" concept is focused on mixed-use commercial and high-density residential development as "centers" of economic and community vitality. The MBGP Land Use chapter states that, "Figure II-2 conceptually illustrates these land use principles. The 'centers' concept provides for a land use pattern consisting of several concentrated mixed-use commercial and high-density residential centers surrounded by medium-density residential uses. Centers may be differentiated by functional activity, density/intensity, and physical character. Single-family residential uses are located between these mixed-use commercial/residential centers primarily…." and that, "The plan encourages that each center: (a) focus on a major open space amenity, such as a park or water body; (b) link land uses to the Kern River where possible; and (c) exhibit pedestrian sensitivity with appropriate design applied to encourage pedestrian activity. In addition to these centers, peripheral development will be focused in smaller community centers, such as in the Greenfield and Lamont areas, with local-serving commercial services and residential uses."

Notably, the Project site is not depicted within an "Intensified Activity Center" in Figure II-2 within the MBGP, which directly contrasts the EIR's claim that it is within this area. The Intensified Activity Center is the Meadows Field Airport, as shown below.



12-A cont'd

The MBGP also states that, "In addition to promoting the formation of several large concentrated mixed-use centers, the plan also attempts to consolidate smaller, neighborhood-serving commercial development by prescribing minimum distances between commercial parcels and by discouraging strip commercial development." The MBGP "centers" concept focuses on the connection between commercial and residential uses, which is not an objective or primary use proposed within the Project. The MBGP's "center" concept does not apply to the Project site and cannot be utilized as justification for a less than significant finding.

The EIR also utilizes uncertain and misleading language in stating that the Project would generate, "up to 100" jobs during construction phase, and that, "Construction workers are *likely* to commute to the Project site from various local communities and not relocate to the area given the temporary timeframe for construction and that various trades would be at the Project site during specific phases of the construction." The EIR states construction would proceed for 29 months, which is more than two years; this vastly exceeds a temporary commitment. The EIR also states that, "Additionally, Mitigation Measure MM 4.14-2, as included in Section 4.14, Public Services, would *encourage* a 50% local workforce for construction, reducing the number of workers commuting into the area for work. If temporary housing should be necessary, it is *expected* that accommodations would be available in *the nearby hotels*. Given that the increase in employment during the construction phase of the project is temporary, the short-term employment of construction workers on-site would not result in the building of new residences and would not result in unplanned population growth. The geographic distance of "nearby hotels" is undefined. Regarding the Project's operational jobs, the EIR states that, "given the relatively higher housing vacancy rate and unemployment rate compared to the State, the additional new jobs as a result of the Project would *likely* be filled by the local labor market. As a result, the increase in new jobs would not induce substantial population growth." The EIR has not provided substantial evidence to support these claims, such as the unemployed workforce's interest in or qualifications for work in the construction or industrial sectors. Relying on the workforce population of the entire Kern County and adjacent regions will increase Project related VMT that already generates a cumulatively considerable, significant, and unavoidable impact. The EIR has not provided substantial evidence to support a less-than-significant finding and must be revised to include a finding of significance.

12-A cont'd

4.16 Transportation and Traffic

The VMT analysis has underestimated the significance of the proposed Project's VMT generation. The EIR has not analyzed the Project's truck/trailer/delivery van activity. A revised EIR must be prepared to include all truck/trailer/delivery van activity for quantified VMT

analysis. The operational nature of distribution centers involves high rates of truck/trailer/delivery van VMT due to traveling from large import hubs to regional distribution centers to their final delivery destinations. Once employees arrive at the proposed Project for work, they will conduct their jobs by driving trucks/trailer/delivery vans across the region as part of the daily operations as a distribution center, which will drastically increase Project-generated VMT. The Project's truck/trailer and delivery van activity is unable to utilize public transit or active transportation, and it is misleading to the public and decision makers to exclude this activity from VMT analysis. A revised EIR must be prepared to reflect a quantified VMT analysis that includes all truck/trailer and delivery van activity.

The EIR has not adequately analyzed the Project's potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses, or the Project's potential to result in inadequate emergency access. The EIR has excluded any specific truck/trailer turning exhibits from public review. There are no exhibits adequately depicting the available maneuvering and queueing space for trucks/trailers at the intersection of the Project driveways and the adjacent streets. There are also no exhibits adequately depicting the onsite turning radius available for trucks maneuvering throughout the site. Section 2.2 of the EIR states that the EIR is a Project-level analysis; pursuant to CEQA Section 15146, the EIR must be more detailed in its analysis of all portions of the development. However, it does not provide Project-specific analysis of the Project's potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses, or the Project's potential to result in inadequate emergency access. The EIR must be revised to include a finding of significance, as it has not provided any meaningful evidence or analysis to support a less-than-significant finding.

12-A cont'd

The EIR includes broad, blanket statements that "The proposed Project would not include a design feature or utilize vehicles with incompatible uses that would create a hazard on the roadways surrounding the Project site. Consistent with applicable County Code requirements, all internal drive aisles and Project driveways would be designed to allow for truck turning movement. The proposed Project would not include the development of sharp curves, dangerous intersections, or other hazardous design features." These statements are not supported by substantial evidence. This does not comply with CEQA's requirements for adequate informational documents and meaningful disclosure (CEQA Guidelines Section 15121 and Public Resources Code Section 21003(b)). The EIR has not provided any details regarding the County requirements for Project access and/or street design or meaningful analysis of the Project's compliance or noncompliance with these requirements Deferring this environmental

analysis required by CEQA to the construction permitting phase is improper mitigation and does not comply with CEQA's requirement for meaningful disclosure and adequate informational documents, as well as the EIR's status as a Project EIR that must provide a Project-level analysis in all areas of environmental analysis. A revised EIR must be prepared to include a finding of significance, as the EIR has not provided any meaningful evidence to support a less-than-significant finding.

The EIR states regarding emergency access that, "Project driveways would be designed to provide adequate and safe access to and from the Project site and would provide several routes for emergency responders to access different portions of the Project site and surrounding areas. The County's development and permitting review process would ensure that all access and circulation to and through the site would meet California Fire Code requirements. Further, consistent with County Code requirements, all internal drive aisles and Project driveways would be designed to allow for truck turning movements. In addition, all drive aisles would accommodate standard fire lane turning radii and hammerhead turnaround maneuvers to allow access for emergency vehicles."

The EIR has not provided any meaningful information, such as a list of the County's Code requirements/California Fire Code requirements and how the Project does or does not comply with the requirements, to support a less-than-significant finding. This does not comply with CEQA's requirements for adequate informational documents and meaningful disclosure (CEQA Guidelines Section 15121 and Public Resources Code Section 21003(b)). Deferring this environmental analysis required by CEQA to the construction permitting phase is improper mitigation and does not comply with CEQA's requirement for meaningful disclosure and adequate informational documents. A revised EIR must be prepared to include a finding of significance, as the EIR has not provided any meaningful evidence to support a less-than-significant finding.

12-A cont'd

Additionally, the EIR has not provided any analysis of the available horizontal and vertical sight distance at the intersection of the Project driveways and adjacent streets. Sight distance is the continuous length of street ahead visible to the driver. At unsignalized intersections, corner sight distance must provide a substantially clear line of sight between the driver of the vehicle waiting on the minor road (driveway) and the driver of an approaching vehicle. A revised EIR must be prepared with this analysis based on the American Association of State Highway and Transportation Officials (AASHTO) Stopping Sight Distance requirements.

5.3 Irreversible Impacts

The EIR has not adequately analyzed the Project's consumption of nonrenewable resources. Water in Kern County is a nonrenewable resource since it is consumed faster than it can be naturally replenished. The EIR states that if the commitment of resources, "…occur in accordance with the adopted goals, policies, and implementation measures of the Kern County General Plan, as a matter of public policy, those commitments have been determined to be acceptable. The Kern County General Plan ensures that any irreversible environmental changes associated with those commitments will be minimized." The EIR excludes that the Project would result in significant and unavoidable cumulative considerable Hydrology and Utilities and Service Systems impacts, specifically Project construction and operational groundwater use. The Kern County Subbasin is over drafted, and the District's GSP has been deemed inadequate, along with the other Kern subbasin plans, where other similar known and unknown projects could occur. The Project's construction and operational groundwater use will further deplete the basin and the available water supply. The Project is directly inconsistent with Public Services and Facilities Element Goal 3 (Water Distribution) of the MBGP. The EIR must be revised to include a finding of significance due to the Project's irreversible impact, and there is no logical justification for the Project's consumption of nonrenewable resources.

5.4 Growth Inducement

A revised EIR must be prepared to include an accurate cumulative analysis discussion here to demonstrate the impact of the proposed Project in a cumulative setting. The EIR does not include any information regarding the buildout conditions of the MBGP in order to provide an adequate and accurate environmental analysis. It must be noted that the horizon year of the Metropolitan Bakersfield General Plan (MBGP) is 2020. Any development beyond the year 2020 is not accounted for or analyzed by the MBGP and its EIR. The Project is proposed five years after the horizon year of the MBGP and therefore is not accounted for in its growth projections or environmental analysis. The EIR is inadequate as an informational document since the horizon year of the MBGP has passed, and it has not provided a cumulative analysis of all industrial projects approved since the adoption of the MBGP to accurately quantify the existing buildout scenario of the MBGP. A revised EIR must be prepared to include this information for analysis to adequately and accurately analyze all potentially significant environmental impacts. A finding of significance must be included in a revised EIR because the Project is not accounted for in the MBGP growth projections and is beyond the 2020 horizon year analyzed in the MBGP EIR.

12-A cont'd

Additionally, the EIR again utilizes uncertain and misleading language in stating that, "Construction workers would *primarily* be drawn from the *local* labor pool or would temporarily stay in hotels in *local* communities." The EIR does not provide the geographic distance of either "local labor pool" or "hotels in local communities," and does not provide substantial evidence that these areas can accommodate the Project construction staff. Regarding the Project's operational jobs, the EIR's assertion that operations staff, "…would most likely be drawn from the surrounding cities and unincorporated communities. These areas would include, but not be limited to, the unincorporated community of Oildale and the cities of Bakersfield, Kern City, City in the Hills, and Oil City. Given the size of the surrounding communities, the nature of the job, and the relatively high unemployment, it is not expected that the proposed Project during the operational phase would induce substantial population growth. This is not supported by substantial evidence, such as the specific quantity of unemployed people in the areas listed. It must be noted that Kern City and City in the Hills are neighborhoods within Bakersfield and not incorporated cities; Oil City is part of unincorporated Kern County, adjacent to the Kern River, and does not appear to have any population. Kern City is a retirement community[20] and it is unlikely that this area would provide any quantity of project employees. There is also no information given about the unemployed workforce's (within the vicinity of the Project site, as specified in the EIR) interest in or qualifications for work in the construction or industrial sectors. Ultimately, relying on the workforce population of the entire Kern County and adjacent regions will increase already significant Project-related VMT. The EIR has not provided any substantial evidence to support a less than significant finding and must be revised to including a finding of significance.

12-A cont'd

The EIR has not provided an adequate or accurate cumulative analysis discussion to demonstrate the impact of the proposed Project in a cumulative setting. Kern COG adopted 2035 growth projections as part of the 2022 RTP/SCS. Specifically, Table 3-2: Growth Trends for Kern County and Selected Communities within the RTP/SCS[21] notes that Metro Bakersfield will add 18,065 jobs between 2020 and 2035, with the 2020 baseline employment at 211,235 jobs and the 2035 forecast at 229,300 jobs. Utilizing the EIR's calculation of 572 operational employees, the Project represents 3.1% of Metro Bakersfield's employment growth from 2020 to 2035. A single Project accounting for this quantity of the projected employment growth within Metro Bakersfield over 15 years represents a significant amount of growth. The EIR must be revised to include this analysis, and also provide a cumulative analysis discussion of projects approved

[20] https://www.kerncity.org/about-us/history/
[21] Kern COG 2022 RTP Planning Assumptions https://www.kerncog.org/wp-content/uploads/2022/04/CHAPTER-3-PLANNING-ASSUMPTIONS-2022-RTP-1.pdf

since 2020 and projects "in the pipeline" to evaluate the County's progress towards these forecasts.

For example, other recent industrial projects known as Majestic Gateway Bakersfield[22] required a GPA to the MBGP from General Commercial (GC) to Light Industrial (LI) and was anticipated to generate 1,512 employees; Westside Industrial Project[23] required a GPA to the MBGP from RIA (Intensive Agriculture) to Light Industrial (LI) and was anticipated to generate 1,830 employees; Malibu Vineyards Industrial required a GPA to the MBGP from R-IA to SI (Service Industrial) and was anticipated to generate 6,000 employees[24]; IPG Industrial Project was anticipated to generate 596 employees[25]. When considered with the proposed Project, they will cumulatively generate 10,483 employees, which is 58% of Metro Bakersfield's employment growth forecast over 15 years, accounted for by only five recent industrial projects (most of which required changes in land use designations to proceed). This total increases exponentially when other industrial and commercial development activity is added to the calculation. A revised EIR must be prepared to include this information for analysis, and also provide a cumulative analysis discussion of projects approved since RTP adoption and projects "in the pipeline" to evaluate the County's progress towards these forecasts. Additionally, it must be noted that the proposed Project (and the cumulative projects listed here) were all proposed after 2020, indicating that they are beyond the growth assumptions and forecasts of the MBGP and its associated EIR from which the proposed Project tiers. This necessitates a finding of significance as part of a revised EIR.

12-A cont'd

6.0 Alternatives

The EIR is required to evaluate a reasonable range of alternatives to the proposed Project, which will avoid or substantially lessen any of the significant effects of the Project (CEQA Guidelines Section 15126.6). The alternatives chosen for analysis include the CEQA-required "No Project" alternative and only two others - the Reduced Footprint Alternative and Eastern Kern/Mojave Specific Plan Project Alternative Site. The EIR does not evaluate a reasonable range of alternatives, as only two alternatives beyond the required No Project alternative are analyzed. The EIR does not include an alternative that meets the Project objectives and also eliminates all of the Project's significant and unavoidable impacts. The EIR must be revised to include analysis of a reasonable range of alternatives and foster informed decision making (CEQA

[22] Majestic Gateway Bakersfield https://ceqanet.opr.ca.gov/2022030196/2
[23] Westside Industrial Project https://ceqanet.opr.ca.gov/Project/2023100467
[24] Malibu Vineyards Industrial https://ceqanet.opr.ca.gov/2022080056/2
[25] IPG Industrial Project https://ceqanet.lci.ca.gov/Project/2023110442

Guidelines Section 15126.6). This must include alternatives such as development of the site with a Project that reduces all of the proposed Project's significant and unavoidable impacts to less than significant levels.

Impact on Biological Resources

Please see the attached comments and analysis from Dr. Smallwood.

Conclusion

For the foregoing reasons, GSEJA believes the EIR is flawed, and a revised EIR must be prepared for the proposed Project and recirculated for public review. Golden State Environmental Justice Alliance requests to be added to the public interest list regarding any subsequent environmental documents, public notices, public hearings, and notices of determination for this Project. Send all communications to Golden State Environmental Justice Alliance, P.O. Box 79222, Corona, CA 92877.

Sincerely,



Vashon Simien
Blum, Collins & Ho, LLP

Attachments:

1. SWAPE Technical Analysis
2. Shawn Smallwood, PhD Analysis Report

12-A
cont'd

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2219 Main Street, Suite 600
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

April 7, 2026

Gary Ho
Blum, Collins & Ho LLP
9255 W. Sunset Boulevard, Ste. 810
Los Angeles, CA 90069

Subject: Comments on the Airport Commerce Center Industrial Project (SCH No. 2025030498)

Dear Mr. Ho,

We have reviewed the February 2026 Draft Environmental Impact Report ("DEIR") for the Airport Commerce Center Industrial Project ("Project") located in Kern County ("County"). The Project proposes to construct four industrial warehouse buildings totaling approximately 1,505,440-square-feet ("SF") on the 110-acre site.

Our review concludes that the DEIR fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. A revised Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the Project may have on the environment.

12-A cont'd

Air Quality

Failure to Implement All Feasible Mitigation to Reduce Emissions

The DEIR estimates that the Project's operational NO_X emissions would exceed the applicable San Joaquin Valley Air Pollution Control District ("SJVAPCD") threshold (p. 4.2-47, Table 4.2-7).

Table 4.2-7: Mitigated Proposed Project Long-Term Operational Emissions

Emission Source	Annual Criteria Pollutant Emissions (tons/year)[a]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area						
Consumer Products	5.92	-	-	-	-	-
Architectural Recoating	0.35	-	-	-	-	-
Landscape Equipment	-	-	-	-	-	-
Energy						
Natural Gas	-	-	-	-	-	-
Mobile						
Trucks	0.38	26.32	4.29	0.27	4.13	1.47
TRUs[b]	0.12	0.96	0.11	0.002	0.03	0.03
Employee Passenger Vehicles	1.14	0.78	10.83	0.03	1.04	0.28
Retail Passenger Vehicles	1.14	0.63	8.44	0.02	0.70	0.19
Stationary Sources						
Six Emergency Diesel Engines (within Buildings 1 – 4)	0.24	0.89	0.62	0	0.04	0.04
Total Annual Emissions	**9.29**	**29.58**	**24.29**	**0.322**	**5.94**	**2.01**
SJVAPCD Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Exceeds Threshold?	No	**Yes**	No	No	No	No

NOTES:
[a] SJVAPCD Rule 9510 ISR requirement is to reduce a development project's operational NO_X and total PM_{10} emissions by 33.3% and 50%, respectively. The emissions estimates do not account for reductions which would occur pursuant to SJVAPCD Rule 9510.
[b] Conservatively assumes that all TRU emissions occurred within the SJVAB.
SOURCE: **Appendix B**

The DEIR concludes that the impacts associated with operation of the Project would be significant-and-unavoidable, stating:

> "As shown in Table 4.2-7: Mitigated Proposed Project Long-Term Operational Emissions, mitigation would reduce operational ROG emissions to below the SJVAPCD annual criteria threshold. However, the proposed Project would still exceed the SJVAPCD's annual criteria! threshold for NOx, resulting in a significant and unavoidable impact despite implementation of all feasible mitigation" (p. 4.2-39).

12-A cont'd

The DEIR implements Mitigation Measure ("MM") MM 4.1-3 – MM 4.2-7 (p. 1-29 – 1-33). However, while we agree that the Project would result in significant air quality impacts, the DEIR's assertion that this impact is significant-and-unavoidable is unreliable. According to CEQA Guidelines §15096(g)(2):

> "When an updated EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment."[1]

[1] "Cal. Code Regs. tit. 14 § 15096." California Legislature, available at: https://casetext.com/regulation/california-code-of-regulations/title-14-natural-resources/division-6-resources-agency/chapter-3-guidelines-for-implementation-of-the-california-environmental-quality-act/article-7-eir-process/section-15096-process-for-a-responsible-agency.

As such, the DEIR is required under CEQA to implement all feasible mitigation to reduce impacts to a less-than-significant level. To reduce the Project's air quality impacts to the maximum extent possible, additional feasible mitigation measures should be incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." The Project should not be approved until a revised EIR is prepared, incorporating all feasible mitigation to reduce emissions to the maximum extent possible.

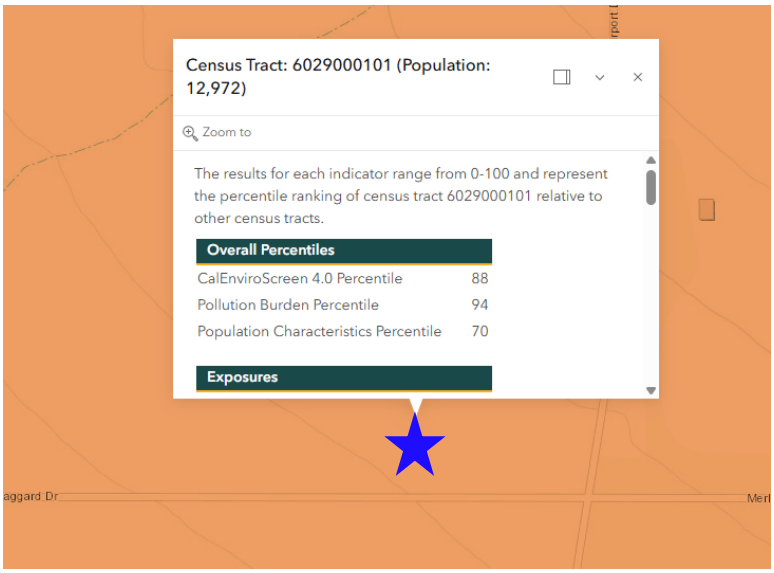
Disproportionate Health Risk Impacts of Warehouses on Surrounding Communities

The development of the proposed Project may contribute to the disproportionate health risk impact that warehouses already pose on community members living, working, and going to school within the immediate area of the Project site. Communities of color living within a half mile of warehouses face higher health risks, including increased rates of asthma and heart attacks, along with a greater environmental burden.[2] Specifically, more than 2.4 million people live within a half-mile radius of at least one warehouse, many of which experience disproportionate levels of poverty.[3] Another study indicates that lower-income neighborhoods with higher percentages of minority groups are more likely to contain warehouse facilities, presenting a crucial environmental justice concern.[4]

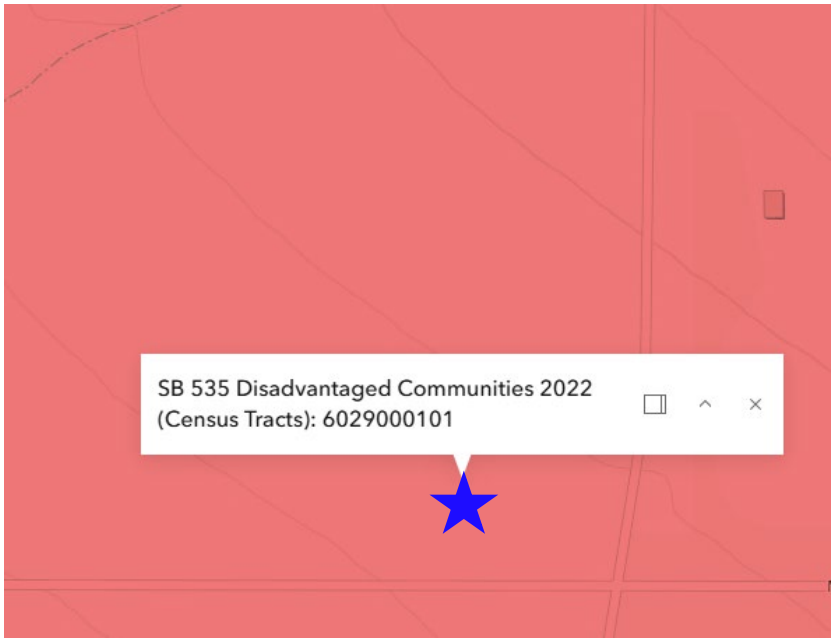
The San Joaquin Valley, which includes the proposed Project site, has some of the worst ozone and particulate matter air pollution in the nation, according to the U.S. Environmental Protection Agency.[5] When using CalEnviroScreen 4.0, the Environmental Protection Agency's ("CalEPA") screening tool that ranks each census tract in the State for pollution and socioeconomic vulnerability, we found that the Project's census tract is in the 88th percentile of most polluted census tracts in the State (see screenshot below).[6]

12-A cont'd

[2] "South Coast AQMD Governing Board Adopts Warehouse Indirect Source Rule." SCAQMD, May 2021, *available at:* http://www.aqmd.gov/docs/default-source/news-archive/2021/board-adopts-waisr-may7-2021.pdf?sfvrsn=9.
[3] "Southern California warehouse boom a huge source of pollution. Regulators are fighting back." Los Angeles Times, May 2021, *available at:* https://www.latimes.com/california/story/2021-05-05/air-quality-officials-target-warehouses-bid-to-curb-health-damaging-truck-pollution.
[4] "Location of warehouses and environmental justice: Evidence from four metros in California." Metro Freight Center of Excellence, January 2018, *available at:* https://www.metrans.org/assets/research/MF%201.1g_Location%20of%20warehouses%20and%20environmental%20justice_Final%20Report_021618.pdf, p. 21.
[5] "EPA Activities for Cleaner Air in the San Joaquin Valley." EPA, January 2026, available at: https://www.epa.gov/sanjoaquinvalley/air.
[6] "CalEnviroScreen 4.0." OEHHA, October 2021, *available at:* https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40.



According to CalEnviroScreen's Senate Bill ("SB") 535 Disadvantaged Communities Map, the Project site is identified as a designated disadvantaged community (see screenshot below).[7]



SB 535 provides funding for development projects that provide a benefit to disadvantaged communities. CalEPA has been given the responsibility for identifying those communities based on "geographic,

12-A cont'd

[7] "SB 535 Disadvantaged Communities (2022 Update)." California Environmental Protection Agency, *available at:* https://experience.arcgis.com/experience/1c21c53da8de48f1b946f3402fbae55c/page/SB-535-Disadvantaged-Communities/

socioeconomic, public health, and environmental hazard criteria."[8] The Project may therefore worsen disproportionate health risks for community members within the immediate area, a concern underscored by the mandates of SB 1000. SB 1000, enacted to address environmental justice concerns, requires local governments to integrate environmental justice elements into their planning processes, particularly focusing on reducing health risks for disadvantaged communities.[9] As the DEIR indicates that the proposed Project site is located approximately 400 feet, or 122 meters from a residential receptor, the Project should comply with the objectives of SB 1000 (4.2-50).

In accordance with the California Department of Justice ("CA DOJ") guidelines, the effects of air pollutants and greenhouse gas emissions from warehouses should be evaluated cumulatively. The CA DOJ states that cumulative impacts should be evaluated by considering the project's incremental effects alongside past, present, and future projects, even if the project alone does not exceed significance thresholds.[10] To more adequately assess the Project's impact on disadvantaged communities, both existing and future warehouse developments should be considered during the environmental review process.

As the Project site is in an SB 535 disadvantaged community that experiences disproportionately high levels of pollution, we recommend the DEIR reevaluate the Project's cumulative health risks to more sufficiently align with CA DOJ guidelines and SB 1000 environmental justice requirements.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The DEIR estimates that the Project would result in mitigated net annual greenhouse gas ("GHG") emissions of 53,967-metric tons of carbon dioxide equivalents per year ("MT CO_2e/year") (p. 4.7-28, Table 4.7-3).

12-A cont'd

[8] "Final Designation of Disadvantaged Communities." CalEPA, *available at:* https://calepa.ca.gov/wp-content/uploads/2022/05/Updated-Disadvantaged-Communities-Designation-DAC-May-2022-Eng.a.hp_-1.pdf, p. 1.

[9] "Environmental Justice in Local Land Use Planning." CA DOJ, *available at:* https://oag.ca.gov/environment/sb1000.

[10] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." CA DOJ, available at: https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/warehouse-best-practices.pdf, p. 6.

Table 4.7-3: Mitigated Operational Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons per Year)
Area	-
Energy	-
Mobile (within SJVAB)	32,534
Mobile (within SoCAB)	19,874
Transport Refrigeration Units	174
Stationary Sources	114
Waste	510
Water	485
Amortized Construction	137
Total	**53,967**

CO_2e = carbon dioxide equivalent
SOURCE: **Appendix B** of this EIR

The DEIR thus concludes that the Project would result in a significant-and-unavoidable GHG impact, stating that "despite implementation of all feasible mitigation measures, the Project would result in GHG emissions that would constitute a significant and unavoidable impact" (p. 4.7-35). The DEIR implements MM 4.2-2 — MM 4.2-5, MM 4.2-7, MM 4.5-1, MM 4.5-2, MM 4.16-1, and MM 4.16-3 (p. 1-53 – 1-84). However, while we agree that the Project would result in a significant GHG impact, the DEIR's assertion that this impact is significant-and-unavoidable is unsupported, as additional feasible mitigation is available.

As previously discussed, CEQA Guidelines § 15096(g)(2) indicates that an impact can only be labeled as significant-and-unavoidable after all available, feasible mitigation measures are considered. To reduce the Project's GHG impacts to the maximum extent possible, additional mitigation measures should be incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." The Project should not be approved until a revised EIR is prepared, incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

12-A cont'd

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

The DEIR is required under CEQA to implement all feasible mitigation to reduce the Project's potential impacts. As demonstrated above, the Project would result in potentially significant air quality and GHG impacts that should be mitigated further.

In order to reduce the NO_x emissions associated with Project operation, we recommend the DEIR consider incorporating several mitigation measures as listed below. The California Air Resources Board ("CARB") recommends:[11]

[11] "Recommended Air Pollution Emission Reduction Measures for Warehouses and Distribution Centers." CARB, August 2023, *available at*: https://ww2.arb.ca.gov/sites/default/files/2023-08/CARB%20Comments%20-%20NOP%20for%20the%20%20Oak%20Valley%20North%20Project%20DEIR.pdf; Attachment A, p. 5 – 8.

- Require tenants to use the cleanest technologies available, and to provide the necessary infrastructure to support zero-emission vehicles and equipment that will be operating on site.
- Requiring all service equipment (e.g., yard hostlers, yard equipment, forklifts, and pallet jacks) used within the project site to be zero-emission. This equipment is widely available and can be purchased using incentive funding from CARB's Clean Off-Road Equipment Voucher Incentive Project (CORE).
- Require future tenants to exclusively use zero-emission light and medium-duty delivery trucks and vans.
- Require all heavy-duty trucks entering or on the project site to be zero-emission vehicles, and be fully zero-emission. A list of commercially available zero-emission trucks can be obtained from the Hybrid and Zero-emission Truck and Bus Voucher Incentive Project (HVIP). Additional incentive funds can be obtained from the Carl Moyer Program and Voucher Incentive Program.
- Restrict trucks and support equipment from idling longer than two minutes while on site.

In addition to recommending similar mitigation as the above-mentioned measures from CARB, the CA DOJ suggests:[12]

- Constructing zero-emission truck charging/fueling stations proportional to the number of dock doors at the project.
- Running conduit to designated locations for future electric truck charging stations.
- Constructing and maintaining electric light-duty vehicle charging stations proportional to the number of employee parking spaces (for example, requiring at least 10% of all employee parking spaces to be equipped with electric vehicle charging stations of at least Level 2 charging performance).
- Running conduit to an additional proportion of employee parking spaces for a future increase in the number of electric light-duty charging stations.

12-A cont'd

To reduce the GHG emissions associated with the Project, we recommend several mitigation measures from the CA DOJ: [13]

- Designing all project building roofs to accommodate the maximum future coverage of solar panels and installing the maximum solar power generation capacity feasible.
- Oversizing electrical rooms by 25 percent or providing a secondary electrical room to accommodate future expansion of electric vehicle charging capability.
- Requiring all stand-by emergency generators to be powered by a non-diesel fuel.
- Requiring that every tenant train its staff in charge of keeping vehicle records in diesel technologies and compliance with CARB regulations, by attending CARB-approved courses. Also

[12] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice, September 2022, *available at*: https://oag.ca.gov/system/files/media/warehouse-best-practices.pdf, p. 8 – 10.
[13] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice, September 2022, *available at*: https://oag.ca.gov/system/files/media/warehouse-best-practices.pdf, p. 8 – 10.

require facility operators to maintain records on-site demonstrating compliance and make records available for inspection by the local jurisdiction, air district, and state upon request.

- Requiring tenants to enroll in the United States Environmental Protection Agency's SmartWay program, and requiring tenants who own, operate, or hire trucking carriers with more than 100 trucks to use carriers that are SmartWay carriers.
- Providing tenants with information on incentive programs, such as the Carl Moyer Program and Voucher Incentive Program, to upgrade their fleets.

CEQA Guidelines 15126.4 (c)(3) include "[o]ffsite measures, including offsets that are not otherwise required, to mitigate a project's emissions" as an option for GHG mitigation.[14] An example of this was in the case of the Oakland Sports and Mixed-Use Project, where off-site reduction measures in the neighboring communities were recommended.[15] We recommend consideration of local carbon offset programs to reduce the Project's GHG impacts as a measure of last result.

As demonstrated above, we have provided several mitigation measures that would reduce Project-related NO_x and GHG emissions developed from sources including CARB and the DOJ. These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently reduce emissions released during Project construction and operation.

A revised EIR should be prepared that includes all feasible mitigation measures, as well as updated air quality and GHG analyses to ensure that the necessary mitigation measures are implemented to reduce emissions to the maximum extent feasible. The revised EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's potentially significant emissions are reduced to the maximum extent possible

12-A cont'd

Disclaimer

SWAPE has received limited documentation regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or

[14] "Cal. Code Regs. tit. 14 § 15126.4." CEQA Guidelines, May 2024, *available at*: https://casetext.com/regulation/california-code-of-regulations/title-14-natural-resources/division-6-resources-agency/chapter-3-guidelines-for-implementation-of-the-california-environmental-quality-act/article-9-contents-of-environmental-impact-reports/section-151264-consideration-and-discussion-of-mitigation-measures-proposed-to-minimize-significant-effects.

[15] "Cal. Pub. Resources Code § 21168.6.7." 2023, *available at*: https://casetext.com/statute/california-codes/california-public-resources-code/division-13-environmental-quality/chapter-6-limitations/section-2116867-oakland-sports-and-mixed-use-project-conditions-for-approval-certification-of-project-for-streamlining.

otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

12-A cont'd

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Attachment A: Matt Hagemann CV
Attachment B: Paul Rosenfeld CV

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2219 Main Street, Suite 600
Santa Monica, CA 90405

(949) 887-9013
mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg.

- **Geologic and Hydrogeologic Characterization, Investigation and Remediation Strategies**
- **Industrial Stormwater Compliance**
- **CEQA Review**
- **Expert Testimony**

Professional Certifications:
California Professional Geologist, P.G.
California Certified Hydrogeologist, C.Hg.

Education:
M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Experience:
30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. Spent nine years with the U.S. EPA in the Resource Conservation Recovery Act (RCRA) and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where I identified emerging threats to groundwater. While with EPA, I served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. Led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, I developed extensive client relationships and has managed complex projects that include consultations as an expert witness and a regulatory specialist, and managing projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions held include:

Government:
Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);

Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
Geologist, U.S. Forest Service (1986 – 1998).

Educational:
Geology Instructor, Golden West College, 2010 – 2104, 2017;
Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
Instructor, College of Marin, Department of Science (1990 – 1995).

Private Sector:
Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);
Executive Director, Orange Coast Watch (2001 – 2004);
Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, responsibilities have included:

- Lead analyst and testifying expert, for both plaintiffs and defendants, in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards.
- Recommending additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce exposure to hazards from toxins.
- Stormwater analysis, sampling and best management practice evaluation, for both government agencies and corporate clients, at more than 150 industrial facilities.
- Serving as expert witness for both plaintiffs and defendants in cases including contamination of groundwater, CERCLAcompliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns, for both government agencies and corporate clients.
- Lead analyst and testifying expert in the review of environmental issues in license applicationsfor large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking

water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.
- Lead author for a multi-volume remedial investigation report for an operating school in LosAngeles that met strict Sate of California regulatory requirements.
- Development of strategic approaches for cleanup of contaminated sites in consultation withclients and regulators.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities included:

- Leading efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiating a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identifying emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. Used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. Prepared geologic reports, conducted hearings, and responded to public comments from residents who were very concerned about the impact of designation.
- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Served as a hydrogeologist with the RCRA Hazardous Waste program. Duties included:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliancewith Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S.EPA legal counsel.

- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexicoand advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation- wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served as senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advising the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinkingwater supplies.
- Shaping EPA's national response to these threats by serving on workgroups and by contributingto guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improving the technical training of EPA's scientific and engineering staff.
- Earning an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Establishing national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities included:

- Mapping geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinating research with community stakeholders who were concerned with natural resource protection.
- Characterizing the geology of an aquifer that serves as the sole source of drinking water for thecity of Medford, Oregon.

As a consultant with Dames and Moore, led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large RCRA hazardous waste site in eastern Oregon.

Duties included the following:

- Supervising year-long effort for soil and groundwater sampling.
- Conducting aquifer tests.
- Investigating active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.
- Part time geology instructor at Golden West College in Huntington Beach, California from 2010 to 2014 and in 2017.

Summary of Testimony Experience Over Past Four Years

In Re New Jersey Department of Environmental Protection et al. vs. E.I. DuPont de Nemours and Company, in the United States District Court, District of New Jersey, Civil Action No. 1:19-cv-14766-RMB-JBC. Deposition in 2025. Representing Plaintiffs in matters regarding contamination of groundwater, wastewater, soil, and air with per- and poly-fluoroalkyl substances.

In Re Edmond Asher, et al., vs. RTX Corporation (f/k/a Raytheon Technologies Corporation, et al.) in the County of Huntington Superior Court, Indiana, Cause number 35D01-2006-CT-000338. Deposition in 2024. Representing Plaintiffs in matters regarding contamination of groundwater and soil vapor with trichlorethylene.

In Re Wright vs Consolidated Rail Corporation In the Circuit Court of Cook County, Illinois, Case No: 21L3966. Deposition in 2023, Representing Plaintiff in matters involving groundwater and drinking water contamination of perchloroethylene, trichlorethylene, 1,2-dichloroethane, and carbon tetrachloride.

In Re Behr Dayton Thermal Products LLC In the United States District Court for the Southern District of Ohio Western Division at Dayton, Case No: 08-cv-326. Deposition in 2022. Representing Plaintiff in matters regarding contamination of groundwater and indoor air with perchloroethylene and trichloethelene.

Orange County Water District vs. Sabic Innovative Plastics US, LLC, et al. In the Court of Appeal, Fourth District,

Division 1, California, Case No: D070553. Deposition in 2020. Representing Plaintiff in matters involving compliance with The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
Los Angeles Waterkeeper vs. AAA Plating and Inspection, Inc. In the United States District Court for the Central District of California, Case No: No. CV 18-5916 PA (GJSx). Deposition in 2019. Expert witness representing Plaintiff in matters involving contaminated stormwater runoff at an industrial facility in Compton, California.

Californians for Alternatives to Toxics vs. Schneider Dock and Intermodal Facility. In the United States District Court for the Northern District of California, Case No: 3:17-cv-05287-JST. Deposition in 2019. Expert witness representing Plaintiff in matters involving contaminated stormwater runoff at an industrial facility in Eureka, California.

Bells et al. vs. The 3M Company et al. In the United States District Court for the District of Colorado, Case No: 1:16-CV-02531-RBJ. Deposition in 2018. Expert witness representing Plaintiff on matters regarding the general hydrogeological conditions present in an area impacted by per- and poly-fluoroalkyl substances.

Ungar vs. Foundation for Affordable Housing. In the Superior Court, State of California, Los Angeles County, Case No. BC628890 Deposition in 2017. Expert witness representing defendant on matters involving alleged drinking water contamination.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S.EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making andPublic Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins atschools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBEReleases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells.

Presentation to the Ground Water and Environmental Law Conference, National GroundwaterAssociation.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Waterin Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Waterin the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to atribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to ameeting of tribal representatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking WaterSupplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant.Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting ofthe National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to ameeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to AddressImpacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater(and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA andState Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublishedreport.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground StorageTanks.

Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal WatercraftUsage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George WrightSociety Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval AirStation, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui,October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Airand Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Basesin California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:
Selected as subject matter expert for the California Professional Geologist licensing examinations,2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE
2219 Main Street, Suite 600
Santa Monica, CA 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Rosenfeld, P.E., Spaeth, K.R., McCarthy, S.J. *et al.* Camp Lejeune Marine Cancer Risk Assessment for Exposure to Contaminated Drinking Water From 1955 to 1987. *Water Air Soil Pollut* **235**, 124 (2024). https://doi.org/10.1007/s11270-023-06863-y.

Rosenfeld P.E., Spaeth K.R., Remy L.L., Byers V., Muerth S.A., Hallman R,C., Summers-Evans J., Barker S. (2023) Perfluoroalkyl substances exposure in firefighters: Sources and implications, *Environmental Research*, Volume 220, https://doi.org/10.1016/j.envres.2022.115164.

Rosenfeld P.E. and Spaeth K.R., (2023) Authors' Response to Letter to the Editor from Bullock and Ramacciotti, *Water Air Soil Pollution* Volume 234, https://doi.org/10.1007/s11270-023-06165-3

Rosenfeld P. E., Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution.* **233,** 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. *Journal of Real Estate Research*. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.,** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Cheremisinoff, N.P., **Rosenfeld, P.E.** Davletshin, A.R. (2008). ***Responsible Care***. Gulf Publishing. Texas.

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 Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

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*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy of Odour Wheels for Odours of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme for The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004*. New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated with Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affects on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook for Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation on St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Master's thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelor's Thesis. University of California.

Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted at University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 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*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus on Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water and Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model for PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium on Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium on Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting for Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington.

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation with High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation with High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. The course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate the effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate the effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate the effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the District Court of Harris County Texas
Mt Davis Interest, Inc v Sesco Cement Corp
Cause No 2023-26512
Trial 6-6-2-25

In the United States Southern District of New York
Gallo vs Avon Products Inc., et al
Civil Action No.: 1:23-cv-2023
Deposition 4-24-2025

In Vanderburgh Superior Court 5, County of Vanderburgh, Indiana
Markello v CSX
Civil Action No 82D05-2011-CT-004962
Deposition 3-26-25

Iin the Circuit Court of Cook County Illinois
Jarosiewicz v Northeast Regional Railroad
Case No 2023 L 002290
Deposition 2-27-25

In the District Court 191st Judicial District Dallas County
Acklin v Poly America International
Cause No DC-22-08610
Deposition 1-8-2025

United States District Court, Norther District of California
Asustin Vs Monsanto
Case No 2:23-cv-272
Deposition 12-20-25

In Jefferson Circuit Court Division One, Louisville, Kentucky
Stafford vs, CSX
Case No. 18-CI-001790

Deposition: 8-27-24

In the Twenty-Second Judicial Circuit of St. Louis. State of Missouri
Patricia Godfrey vs, Amtrak
Case No. 2122-CC-00525
Deposition: 7-17-24

In the Circuit Court of Jefferson County Alabama
Linda Early Vs. CSX
Case number CV-2021-00241
Deposition 6-24-24

In the Court of Common Please Lucas County, Ohio
Brenda Conkright vs. CSX
Case No. G-4801-CI-0202102664-000
Deposition: 6-4-24

In the Commonwealth of Kentucky, Greenup Circuit Court
Patsy Sue Napier vs. CSX
Case No. 19-CI-0012
Deposition: 5-8-2-24

In United States District Court of Hawaii
Patrick Feindt, Jr. et al. vs. The United States of America
Case No. 1:22-cv-LEK-KJM
Trial 3-29-24 and 4-5-24

In the District Court of Hood County State of Texas
Artie Gray vs. Exxon Mobil
Case No. C-2018047
Rosenfeld Deposition:4-22-2024

In the Elkhart Superior Court State of Indiana
Estate of Clark Stacy vs. Penn Central Corporation
Cause No 2D01-2001-CT-00007
Rosenfeld Deposition 1-25-2024 and 3-7-2024

In the Circuit Court of Trempealeau County, State of Wisconsin
Michael J. Sylla et al. vs. High-Crush Whitehall LLC
Case No. 2019-CV-63, 2019-CV-64, 2019-CV-65, 2019-CV-66
Rosenfeld Deposition: 3-5-2024

In the Circuit Court of Trempealeau County, State of Wisconsin
Leland Drangstveit vs. High-Crush Blair LLC
Case No. 19-CV-66
Rosenfeld Deposition 3-5-2024

In the Circuit Court of Jefferson County Alabama
Donald Lee Ashworth vs. CSX Transportation Inc.
Case No CV-2021-901261
Rosenfeld Deposition 1-23-2024

In the United States District Court for the Eastern District of Wisconsin
Gary L Siepe vs. Soo Line Railroad
Case No. 2:21-cv-00919
Rosenfeld Deposition 1-19-2024

In the United States District Court for the Western District of Louisiana
Ricky Bush v. Clean Harbors Colfax LLC
Case No. 1:22-cv-02026-DDD-JPM
Rosenfeld Deposition 12-18-2023 and 1-15-2024

In United States District Court of Hawaii
Patrick Feindt, Jr. et al. vs. The United States of America
Case No. 1:22-cv-LEK-KJM
Rosenfeld Deposition 11-29-2023

In the Circuit Court for the Twentieth Judicial Circuit St. Clair County, Illinois
Timothy Gray vs. Rural King et al.
Case No 2022-LA-355
Rosenfeld Deposition 9-26-2023

In United States District Court Eastern District of Wisconsin
Gary L. Siepe vs. Soo Line Railroad Company
Case No. 2:21-cv-00919
Rosenfeld Deposition 9-15-2023

In the Circuit Court of Cook County Illinois
Donald Fox vs. BNSF
Case No. 2021 L12
Rosenfeld Deposition 9-12-2023

In the Court of Common Please Cuyahoga County, Ohio
Thomas Schleich vs. Penn Central Corporation
Lead Case No. CV-20-939184
Rosenfeld Deposition 8-27-2023

In the Circuit Court of Jackson County Missouri at Kansas City
Timothy Dalsing vs. BNSF
Case No. No. 2216-cv06539
Rosenfeld Deposition 7-28-2023

In the United States District Court for the Southern District of Texas Houston Division
International Terminals Company LLC Deer Park Fire Litigation
Lead Case No. 4:19-cv-01460
Rosenfeld Deposition 7-25-2023

In the Circuit Court of Livingston County Missouri
Shirley Ralls vs. Canadian Pacific Railway and Soo Lind Railroad
Case No. 28LV-CV0020
Rosenfeld Daubert Hearing 7-18-2023 Trial Testimony 7-19-2023

In the Circuit Court of Cook County Illinois
Brenda Wright vs. Penn Central and Conrail
Case No. No. 2032L003966
Rosenfeld Deposition 6-13-2023

In the Circuit Court Common Please Philadelphia of Jefferson County Alabama
Frank Belle vs. Birmingham Southern Railroad Company et al.
Case No. 01-cv-2021-900901.00
Rosenfeld Deposition 4-6-2023

In the Circuit Court of Jefferson County Alabama
Linda De Gregorio vs. Penn Central
Case No. 002278
Rosenfeld Deposition 3-27-20203

In the United States District Court Eastern District of New York
Rosalie Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-16-2023

In the Superior Court of Washington, Spokane County
Judy Cundy vs. BNSF
Case No. 21-2-03718-32
Rosenfeld Deposition 3-9-2023

In The Court of Common Pleas of Philadelphia County, PA Civil Trial Division
Feaster v Conrail
Case No. 001075
Rosenfeld Deposition 2-1-2023

In United States District Court for the Central District of Illinois
Sherman vs. BNSF
Case No. 3:17-cv-01192
Rosenfeld Deposition 1-18-2023

In United States District Court District of Colorado
Gonzales vs. BNSF
Case No. 1:21-cv-01690
Rosenfeld Deposition 1-17-2023

In United States District Court District of Colorado
Abeyta vs. BNSF
Case No. 1:21-cv-01689-KMT
Rosenfeld Deposition 1-3-2023

In United States District Court For The Easter District of Louisiana
Nathaniel Smith vs. Illinois Central Railroad
Case No. 2:21-cv-01235
Rosenfeld Deposition 11-30-2022

In the Superior Court of the State of California, County of San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division

Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022, Trial 1-10-2023

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation

Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al. vs Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

In the United States District Court For the Northern District of Illinois

Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail
Case No. 17-cv-8517
Rosenfeld Deposition 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case No. CV20127-094749
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al vs. CNA Insurance Company et al.
Case No. 1:17-cv-000508
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.
Case No. 1716-CV10006
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.
Case No. 2:17-cv-01624-ES-SCM
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" Defendant.
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No. BC615636
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No. BC646857
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants
Case No. 1:16-cv-02531-RBJ
Rosenfeld Deposition 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants

Cause No. 1923
Rosenfeld Deposition 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintifs vs. Chevron Corporation, et al., Defendants
Cause No. C12-01481
Rosenfeld Deposition 11-20-2017

In The Circuit Court of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case No. 1:19-cv-00315-RHW
Rosenfeld Deposition 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No. LC102019 (c/w BC582154)
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., Plaintifs, vs. Meritor Inc., et al., Defendants
Case No. 4:16-cv-52-DMB-JVM
Rosenfeld Deposition July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No. RG14711115
Rosenfeld Deposition September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No. LALA002187
Rosenfeld Deposition August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. vs. Antero, et al.
Civil Action No. 14-C-30000
Rosenfeld Deposition June 2015

In The Iowa District Court for Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No. 4980
Rosenfeld Deposition May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.

Case No. CACE07030358 (26)
Rosenfeld Deposition December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, vs. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the County of Kern, Unlimited Jurisdiction
Rose Propagation Services vs. Heppe Enterprises
Case No. S-1500-CV-278190, LHB
Rosenfeld Deposition: May 2014

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

In the Court of Galveston County, Texas 56th Judicial District
MDL Litigation Regarding Texas City Refinery Ultracracker Emission Event Litigation
Cause No. 10-UC-0001
Rosenfeld Deposition: March 2013
Rosenfeld Trial: September 2013

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the United States District court of Southern District of California
United States of America, Plaintiff vs. 2,560 Acres of Land, more or less, located in Imperial County, State of California; and Donald L. Crawford, et. al.
Civil No. 3:11-cv-02258-IEG-RBB
Rosenfeld Deposition: December 2012, January 2013

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., Plaintiffs, vs. Republic Services, Inc., et al., Defendants
Case No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition October 2012

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., Plaintiffs, vs. International Paper Company, Defendant.

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Gary Ho
Blum, Collins & Ho LLP
10250 Constellation Boulevard
Suite 2300
Los Angeles, CA 90067
(213) 572-0400

7 April 2026

RE: Airport Commerce Center Industrial Project

Dear Mr. Ho,

I write to comment on potential impacts to biological resources that would result from development of the proposed Airport Commerce Center Industrial Project. The project would construct 1,505,440 sf of (4) warehouse buildings and 9,410 sf of (2) quick-serve restaurants and 2,910 parking spaces on 110 acres at the northwest corner of Merle Haggard Dr and Airport Dr in Bakersfield, California. My comments that follow address my concerns that the Draft Environmental Impact Report (DEIR) supported by Dudek (2025), mischaracterizes the existing environmental setting, and that its impacts analysis is flawed and its mitigation measures are inadequate.

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 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.

12-A cont'd

THE WILDLIFE COMMUNITY AS A BIOLOGICAL RESOURCE

Most environmental reviews pursuant to the California Environmental Quality Act (CEQA) focus on special-status species because CEQA's Checklist Evaluation of Environmental Impacts Question IV(a) asks specifically whether the project would adversely affect special-status species. However, this narrowly focused question is part of a larger policy goal of CEQA, which is "to prevent the elimination of fish or wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history."

Pub. Res. Code § 21001(c). This policy is not restricted to special-status species; it also applies to wildlife populations and plant and animal communities, as it must, because special-status species are inter-dependent members of ecological communities. The CEQA Guidelines Section 21155.1 defines wildlife habitat as "the ecological communities upon which wild animals, birds, plants, fish, amphibians, and invertebrates depend for their conservation and protection." This definition is consistent with the scientific definition of habitat, which is that portion of the environment that is used by members of a species for survival and reproduction (Hall et al. 1997). An essential portion of the environment used by any special-status species is composed of the collection of other species of plants and wildlife, because these species provide for special-status species their forage, refugia and nest substrates, and some serve as ecological mutualists. The CEQA Checklist Evaluation assigns priority to special-status species to balance information and cost, but it does not exclude the need to evaluate environmental impacts to other species, which, after all, are members of the very communities within which special-status species inter-depend for survival and reproduction.

The species I consider to be special-status species are those listed in California's Special Animals List inclusive of threatened and endangered species under the California and federal Endangered Species Acts, candidates for listing under CESA and FESA, California's Fully Protected Species, California species of special concern, and California's Taxa to Watch List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406), continental and region-specific US Fish and Wildlife Service Birds of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf), and naturally rare species such as raptors protected by California's Birds of Prey laws, Fish and Game Code Sections 3503, 3503.5, 3505 and 3513 (see https://wildlife.ca.gov/Conservation/ Birds/Raptors). 12-A cont'd

What follows is a summary of a site visit to detect as many of the species of wildlife as possible within the short time available. The visit was also intended to detect as many of the special-status species as possible, but with the understanding that most special-status species are less readily detectable due to rarity and crypticity. Nonetheless, the species detected can indicate the ecological integrity of the site and thus the likelihood of occurrence of special-status species not yet detected.

SITE VISIT

On my behalf, Noriko Smallwood, a wildlife biologist with a Master of Science Degree from California State University Los Angeles, visited the site of the proposed project for 1.92 hours of diurnal survey from 17:26 to 19:21 hours, and for 2.75 hours of nocturnal survey from 19:21 to 22:06 hours on 30 March 2026, and for 2.85 hours of diurnal survey from 06:35 to 09:26 hours on 31 March 2026. During daylight, Noriko walked the site where accessible, stopping to scan for wildlife with use of binoculars. At night, Noriko affixed a Pettersson M500 acoustic bat detector to a 15-foot pole, and cabled the detector to her computer, which ran SonoBat Live. SonoBat Live identifies bats to species based on the bats' sonograms that are detected by the M500. She also scanned for nocturnal wildlife using a Pulsar Telos LRF XG50 5.5-14x 50 mm thermal-imaging monocular. Noriko recorded all species of vertebrate wildlife she detected, including

those whose members flew over the site or were seen just off the site. Animals of uncertain species identity were either recorded to the Genus or higher taxonomic level.

On 30 March 2026, conditions were cloudy with 8 MPH northwest wind and temperatures of 83-69° F. On 31 March 2026, conditions were cloudy with 8 MPH north wind and temperatures of 62-67° F. The site is primarily annual grassland with some shrubs along a drainage (Photos 1-3).







Photos 1, 2, and 3. *Views of the project site, 31 March 2026. Photos by Noriko Smallwood.*

12-A cont'd

Noriko saw San Joaquin kit fox (Photo 4), Swainson's hawk and American kestrel (Photos 5 and 6), red-tailed hawk and common raven (Photos 7-11), western kingbird (Photos 11-13), horned lark (Photo 13), loggerhead shrike and Anna's hummingbird (Photos 14 and 15), mourning dove (Photo 16), barn swallow and cliff swallow (Photos 17 and 18), white-crowned sparrow and savannah sparrow (Photos 19 and 20), lesser goldfinch and western meadowlark (Photos 21 and 22), California ground squirrel (Photo 23), among the other species listed in Table 1. Noriko detected 30 species of vertebrate wildlife at or adjacent to the project site, including five species with special status (Table 1).

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

Noriko Smallwood



Photo 4. *San Joaquin kit fox about 250 m from the project site, 31 March 2026. Photo by Noriko Smallwood.*

12-A cont'd



Photos 5 and 6. *Swainson's hawk (left), and American kestrel (right) on the project site, 31 March 2026. Photos by Noriko Smallwood.*



Photos 7 and 8. *Common raven harassing a red-tailed hawk just off the project site (left), and common raven nest on the project site (right), 31 March 2026. Photos by Noriko Smallwood.*

12-A
cont'd



Photos 9 and 10. *Common raven bringing nest material to its nest (left), and common raven sitting on its nest (right) just off the project site, 30 and 31 March 2026. Photos by Noriko Smallwood.*



Photo 11. *Western kingbird harassing a common raven just off the project site, 31 March 2026. Photo by Noriko Smallwood.*

12-A
cont'd



Photos 12 and 13. *Western kingbird (left), and horned lark (right) just off the project site, 31 March 2026. Photos by Noriko Smallwood.*



Photos 14 and 15. *Loggerhead shrike (left), and Anna's hummingbird (right) just off the project site, 30 March 2026. Photos by Noriko Smallwood.*

12-A
cont'd



Photo 16. *Mourning doves just off the project site, 31 March 2026. Photo by Noriko Smallwood.*

12-A
cont'd



Photos 17 and 18. *Barn swallow (left), and cliff swallow (right) on the project site, 30 and 31 March 2026. Photos by Noriko Smallwood.*



Photos 19 and 20. *White-crowned sparrow (left), and Savannah sparrow (right) on the project site, 31 March 2026. Photos by Noriko Smallwood.*



Photos 21 and 22. *Lesser goldfinch (left), and western meadowlark (right) on the project site, 31 March 2026. Photos by Noriko Smallwood.*

12-A
cont'd



Photo 23. *California ground squirrel that's likely pregnant on the project site, 30 March 2026. Photo by Noriko Smallwood.*

Table 1. *Species of wildlife Noriko observed at the project site in 1.92 hours of diurnal survey and 2.75 hours of nocturnal survey on 30 March 2026, and in 2.85 hours of diurnal survey on 31 March 2026.*

12-A cont'd

Common name	***Species name***	**Status[1]**	**Notes**
Mallard	*Anas platyrhynchos*		Flew over
Rock pigeon	*Columba livia*	Non-native	
Eurasian collared-dove	*Streptopelia decaocto*	Non-native	
Mourning dove	*Zenaida macroura*		
Anna's hummingbird	*Calypte anna*		
Killdeer	*Charadrius vociferus*		
Swainson's hawk	*Buteo swainsoni*	CT, BOP	Circled over site
Red-tailed hawk	*Buteo jamaicensis*	BOP	Harassed by WEKI and CORA
American kestrel	*Falco sparverius*	BOP	Hunted on site
Western kingbird	*Tyrannus verticalis*		Harassed RTHA and CORA, foraged
Loggerhead shrike	*Lanius ludovicianus*	SSC2	Just off site
Common raven	*Corvus corax*		Nest on site, another 3 nests just off site
Horned lark	*Eremophila alpestris*		
Barn swallow	*Hirundo rustica*		Foraged

Common name	*Species name*	Status[1]	Notes
Cliff swallow	*Petrochelidon pyrrhonota*		Foraged
Northern mockingbird	*Mimus polyglottos*		Just off site
European starling	*Sturnus vulgaris*	Non-native	
American pipit	*Anthus rubescens*		Many, foraged
House finch	*Haemorphous mexicanus*		
Lesser goldfinch	*Spinus psaltria*		Foraged
White-crowned sparrow	*Zonotrichia leucophrys*		Foraged
Savannah sparrow	*Passerculus sandwichensis*		Foraged
Western meadowlark	*Sturnella neglecta*		
Brewer's blackbird	*Euphagus cyanocephalus*		Flew over
Yellow-rumped warbler	*Setophaga coronata*		
Desert cottontail	*Sylvilagus audubonii*		Just off site
Coyote	*Canis latrans*		Called in area
San Joaquin kit fox	*Vulpes macrotis mutica*	FE, CT	One observed about 250 m from site; tracks on site
California ground squirrel	*Otospermophilus beecheyi*		Likely pregnant
Botta's pocket gopher	*Thomomys bottae*		Burrows

[1] Listed on CDFW's Special Animals List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406) as FT or FE = federal threatened or endangered; FC = federal candidate for listing; CT or CE = California threatened or endangered; CCT or CCE = Candidate California threatened or endangered; SSC_i = California Species of Special Concern with i = priorities 1, 2 and 3; WL = CDFW's Taxa to Watch List; BCC = U.S. Fish and Wildlife Service's Bird of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf); and BOP = protected by Birds of Prey (California Fish and Game Code 3503.5, see https://wildlife.ca.gov/Conservation/Birds/Raptors).

12-A cont'd

ANALYSIS OF RECONNAISSANCE SURVEY DATA

Noriko detected 30 species of vertebrate wildlife, which totaled a large number for the brevity of her survey effort. All the species in Table 1 and all six of the additional species I detected would lose habitat as the result of the project and its replacement of vegetated ground covers with arrays of solar panels. Smallwood and Smallwood (2023) confirmed this habitat loss by measuring the impacts of development projects on species richness and the abundances of wildlife. Smallwood and Smallwood (2023) directly compared the species and the numbers of animals observed prior to development to the those observed after development, while they did the same at control sites. The measured losses of these species resulting from development is indicative of habitat loss, because habitat is defined as that portion of the environment that is used for survival and reproduction by members of a species (Hall et al. 1997), and this use is inferred by observations of the presence of a species (Smallwood 2002).

However, the species of wildlife Noriko detected at the project site were not the only species that were present during her surveys, as there are always species that evade detection. To demonstrate that reconnaissance surveys cannot detect all species that use

a given site, I fit nonlinear regression models to Noriko's accumulations of first detections of vertebrate wildlife species with time into her daytime surveys to predict the numbers of species that she would have detected with longer surveys or perhaps with additional biologists available to assist her. The type of model I used is a logistic growth model, which reaches an asymptote that corresponds with the theoretical maximum number of vertebrate wildlife species that could have been detected during the survey. The model I fit to Noriko's survey data from the morning of 31 March 2026 predicts 34 species of vertebrate wildlife should have been detectable after five hours of survey, or 9 more species than she detected that morning (Figure 1). No reconnaissance survey is going to detect all the species that occur on a given site. Note also that Noriko's species detections were within the bounds of the 95% confidence interval estimated from many surveys we have completed in the south Central Valley.

Unknown are the identities of species Noriko missed, but the species that Noriko did and did not detect 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, some require more survey effort because they are highly cryptic, and the members of other species would visit the site only periodically while patrolling large home ranges. Surveys on only two days cannot possibly detect all of the species of the local wildlife community.

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 two surveys. 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. This analytical bridge draws inference from the pattern of species detections more than it does from the research site, and I note that the pattern, i.e., rate, of species detections is consistent from site to site.

12-A cont'd

As part of my research, I completed a much larger survey effort across 167 km² 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.

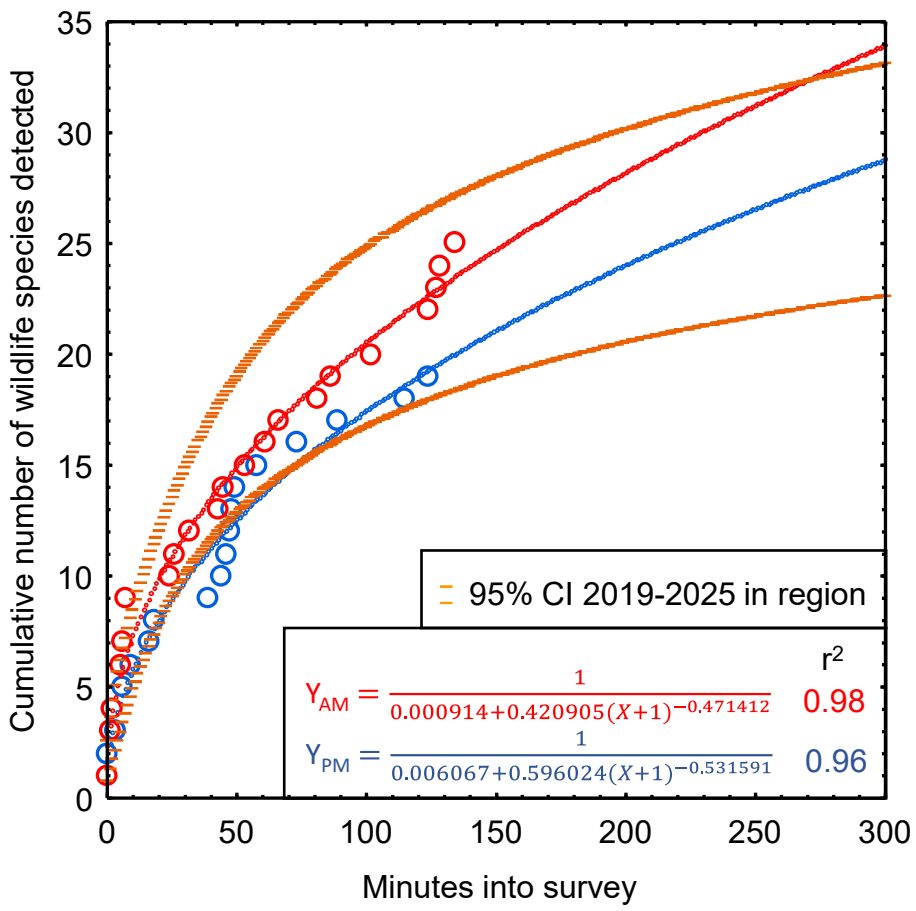


Figure 1. *Actual and predicted relationships between the numbers of vertebrate wildlife species detected and the elapsed survey time based on Noriko's visual-scan surveys at the project area on 30 (blue) and 31 (red) March 2026. Note the confidence interval (orange) applies only to the morning survey (red).*

12-A cont'd

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 16.85 species over my first 4.77 hours of diurnal surveys at my research site in the Altamont Pass (4.77 hours to match the 4.77 hours Noriko surveyed during daylight hours at the project site), which composed 29.2% of the predicted total number of species I would detect with a much larger survey effort at the research site. Given the example illustrated in Figure 2, the 28 species Noriko detected after her 4.77 hours of daylight survey at the project site likely represented 29.2% 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, Noriko would likely detect $^{28}/_{0.292} = 96$ species of vertebrate wildlife detectable by daylight surveys at the site. Assuming Noriko's ratio of special-status to non-special-status species was to hold through the detections of all 96 predicted species, then continued daytime surveys would eventually detect 17 special-status species of vertebrate wildlife that are detectable in daylight surveys.

Because my prediction of 97 species of vertebrate wildlife, including 17 special-status species, 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. Noriko's reconnaissance surveys should serve only as a starting point toward characterization of the site's wildlife community, but they certainly cannot alone inform of the inventory of species that use the site. More surveys are needed than her two surveys to produce an inventory the project site's wildlife community. Nevertheless, the large number of species I predict at the project site is indicative of a relatively species-rich wildlife community that warrants a serious survey effort.

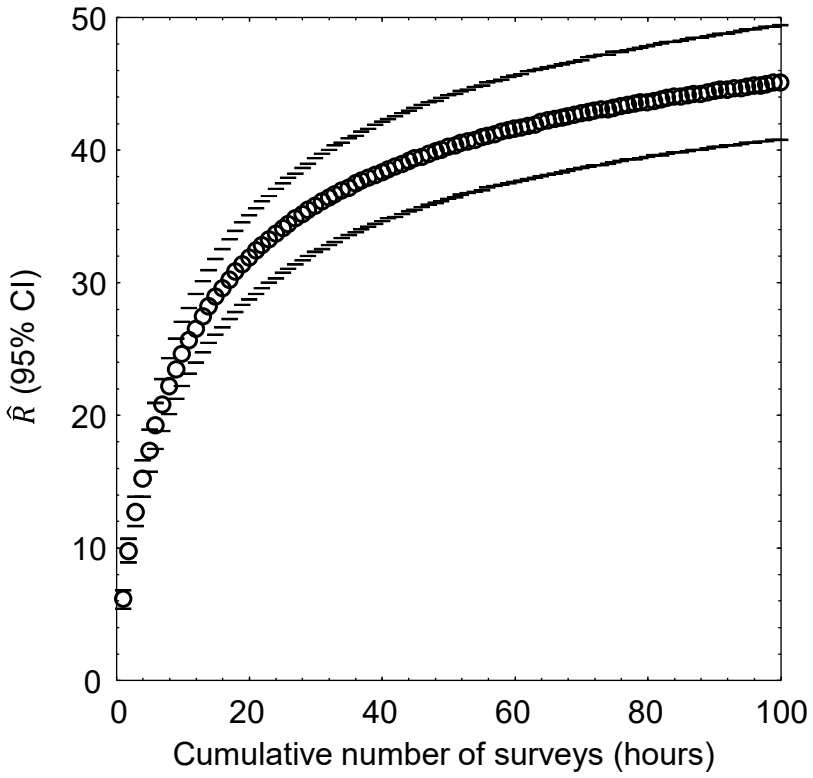


Figure 2. *Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019. Note that the location of the study is largely 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.*

12-A cont'd

EXISTING ENVIRONMENTAL SETTING

CEQA's primary objectives should guide the design and conduct of CEQA review. Four of CEQA's primary objectives are to (1) accurately characterize the existing environmental setting, (2) disclose potential project impacts to the public and decision-makers, (3) foster public participation with decision-making over proposed projects, and (4) identify issues and feasible alternative mitigation measures to minimize environmental impacts. The first objective is essential to the other three, because an accurate understanding of the existing environmental setting is needed to predict impacts, provide the public with the means to meaningfully participate with issues of importance, and effectively strategize mitigation and project alternatives (Figure 3). For biological resources, essential information includes the species composition of the plant and wildlife communities, key ecological interactions, identification of ecological keystone species, determining the presence of special-status species or their habitats, and identifying risk factors that could result in significant direct, indirect and cumulative impacts should the project go forward.

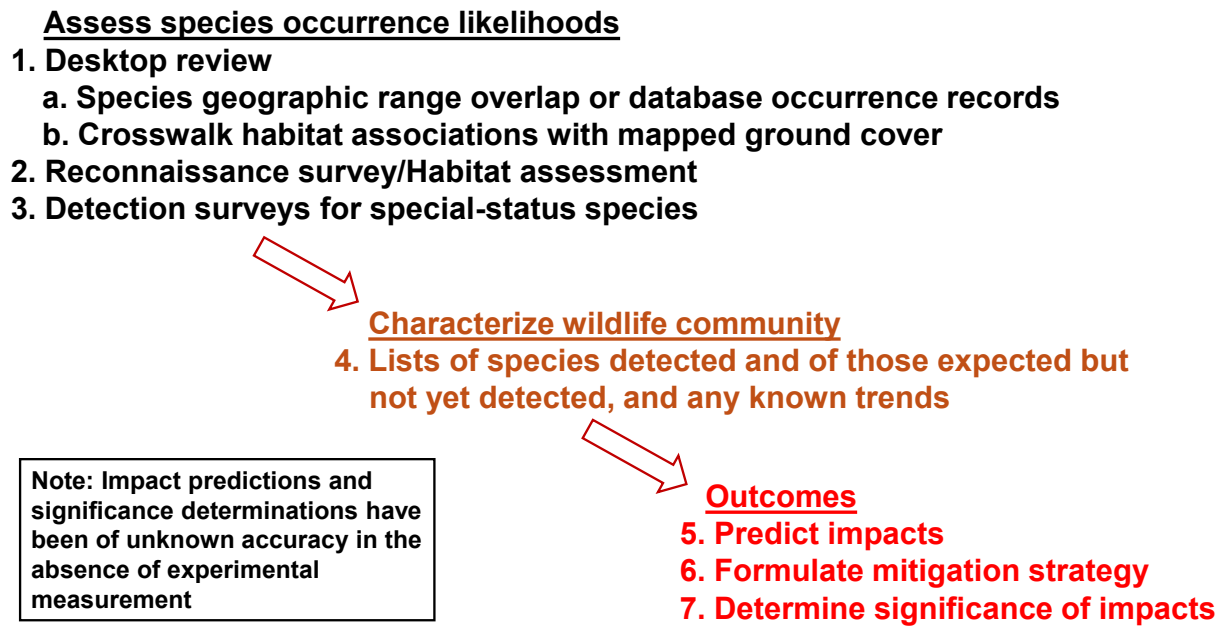


Figure 3. *General flow of information from its gathering through characterizing the existing environment to predicting impacts and their significance.*

The public and decision-makers need to know which species are susceptible to harm potentially caused by the project and its associated activities, and which are known to be vulnerable to harm once exposed to the environmental changes brought by the project. For these reasons, field studies are needed to identify as many of the species that occur on the project site as reasonably feasible, and to otherwise examine the environmental conditions for their likelihood to support species that are not detected, otherwise known as "habitat assessment." A review of species occurrence records – also known as "desktop review" – is needed to identify the other species that potentially occur on the site – a process that is also referred to as "habitat assessment." Because habitat assessments that are based on either or both field study and desktop review are prone to uncertainty, emphasis needs to be directed to adequate field study to reduce the pool of species subjected to habitat assessment, thereby weighing the review more towards certainty. Appropriately weighted reviews are less susceptible to speculation over species occurrence likelihoods. For this reason, protocol-level detection surveys have been formulated for numerous special-status species of plants and wildlife, and otherwise best scientific practices are needed to provide a reasonable likelihood of detection of species that truly occur on the project site. The negative findings of a properly conducted detection survey are the only findings that can support a determination of species absence.

12-A cont'd

Even among reviews founded on the best of field studies, there is always uncertainty over some of the determinations of species occurrences. The uncertainties of habitat assessments need to be managed to achieve CEQA's primary objectives. This means that the methodological details of both the field studies and desktop review need to be carefully and thoroughly reported, and it means that results need to be reported in context of their uncertainties. For example, the reporting of having detected 10 species

in a reconnaissance survey is nearly meaningless without also reporting the numbers of species found in surveys of similar methods and effort levels, and the reporting of the failure to detect a given species is nearly entirely meaningless without also reporting the likelihood that species would be detected given the survey methods and effort level. The same is true of desktop review; that is, there should be some means of validating habitat assessments based on the thousands of habitat assessments that have already been conducted in support of CEQA reviews. If industry standards in environmental review are to be credible, then they must include the use of the comparative method.

In the case of this project, South (2025:7) characterizes its reconnaissance survey in a subtitle: "Plant and Animal Inventories." However, a single reconnaissance survey cannot produce an inventory of the plant or animal species that compose the ecological community. A much larger survey effort would be needed to obtain a species inventory.

Environmental Setting informed by Field Surveys

South (2025:6) conducted a reconnaissance survey on 10 November 2023 "to record plants and animals observed on the project site, map plant communities, and identify other locally significant resources including native and protected trees, and water resources." The stated objectives are appropriate for achieving CEQA's primary objectives, but South (2025) fails to report much of the information that is essential for providing interpretive context to the survey findings. South (2025) reports no survey start time, no survey duration, and no description of the survey methodology. Nor does South (2025) report any comparative analysis of its findings, such as to survey findings based on similar methods at other locations.

12-A cont'd

Without contextualizing the survey findings to survey effort and to what one should expect to have been found, it is difficult for members of the public or the decision-makers to understand what Dudek's survey findings represent. For example, while South (2025:20) reports "No special-status species were documented during the survey," South fails to report that Swainson's hawks would not have been available for documentation on the project site because they had already migrated to Mexico by the date of the survey. South fails to report that in November burrowing owls are less visible, and therefore less detectable, because without the need for breeding adult males to guard nest sites, there is no reason for burrowing owls to show themselves during daylight. Similarly, no special-status species of bats would have been detectable without having conducted a directed bat survey, and no special-status species of small mammals would have been detectable without having conducted the appropriate live-trapping to detect them. The likelihood of detecting special-status species greatly diminishes without implementing the appropriate surveys, survey timing, and survey effort, but neither South (2025) nor the DEIR discusses this.

In comparison to South's eight species of vertebrate wildlife, Noriko detected 30 species of vertebrate wildlife within the project area. In only 7.5 hours of survey, Noriko detected 3.75 times more vertebrate wildlife species than did South, and she detected 5 times the number of special-status species of vertebrate wildlife. Due to South's (2025) insufficient reporting, I cannot conclude that the difference in survey outcomes resulted

from a difference in survey effort, but an explanation is needed. All I can say is that while South detected only 0.63 times the average number of vertebrate species detected by consulting biologists in desert environments, Noriko detected 1.67 times the average number we find in desert environments (Figure 3), and while South found half the average number of special-status species of vertebrate wildlife detected by consulting biologists in desert environments, Noriko detected 1.36 times our average number (Figure 4).

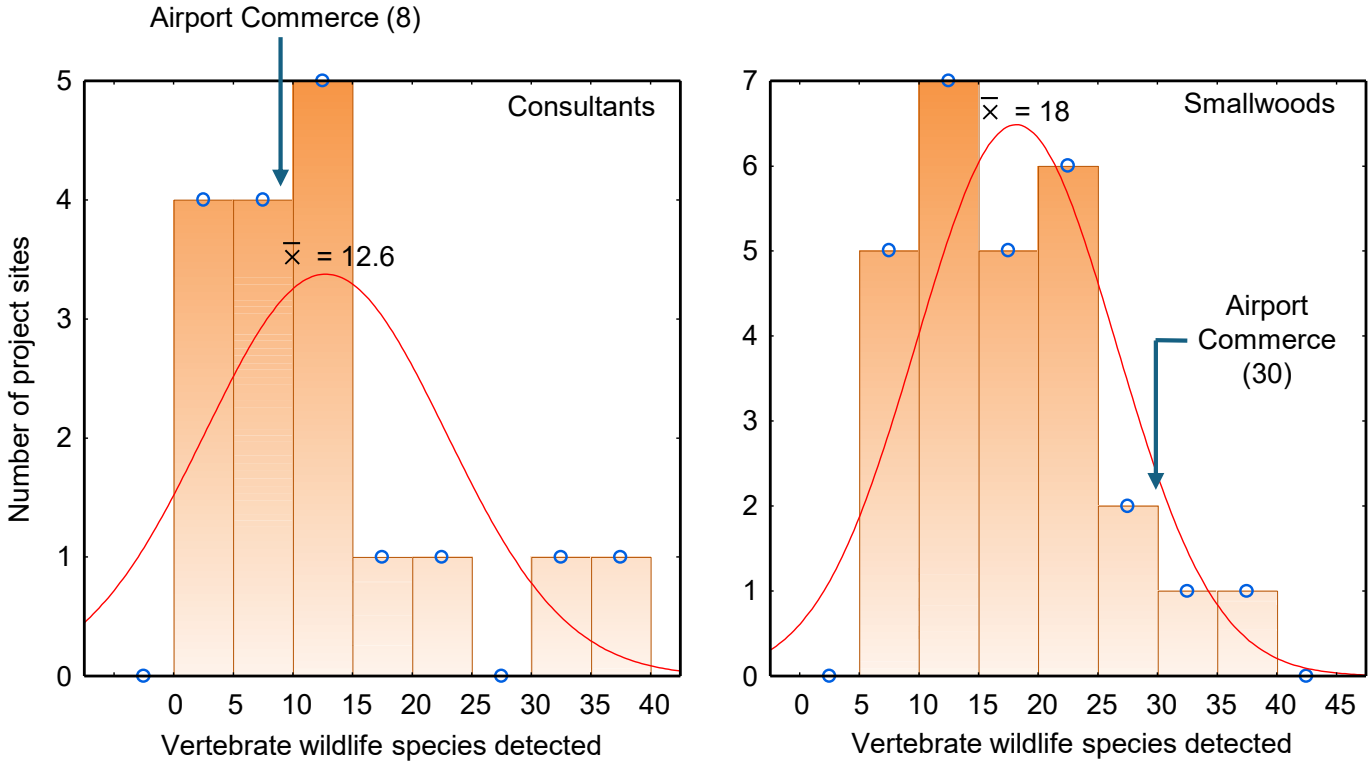
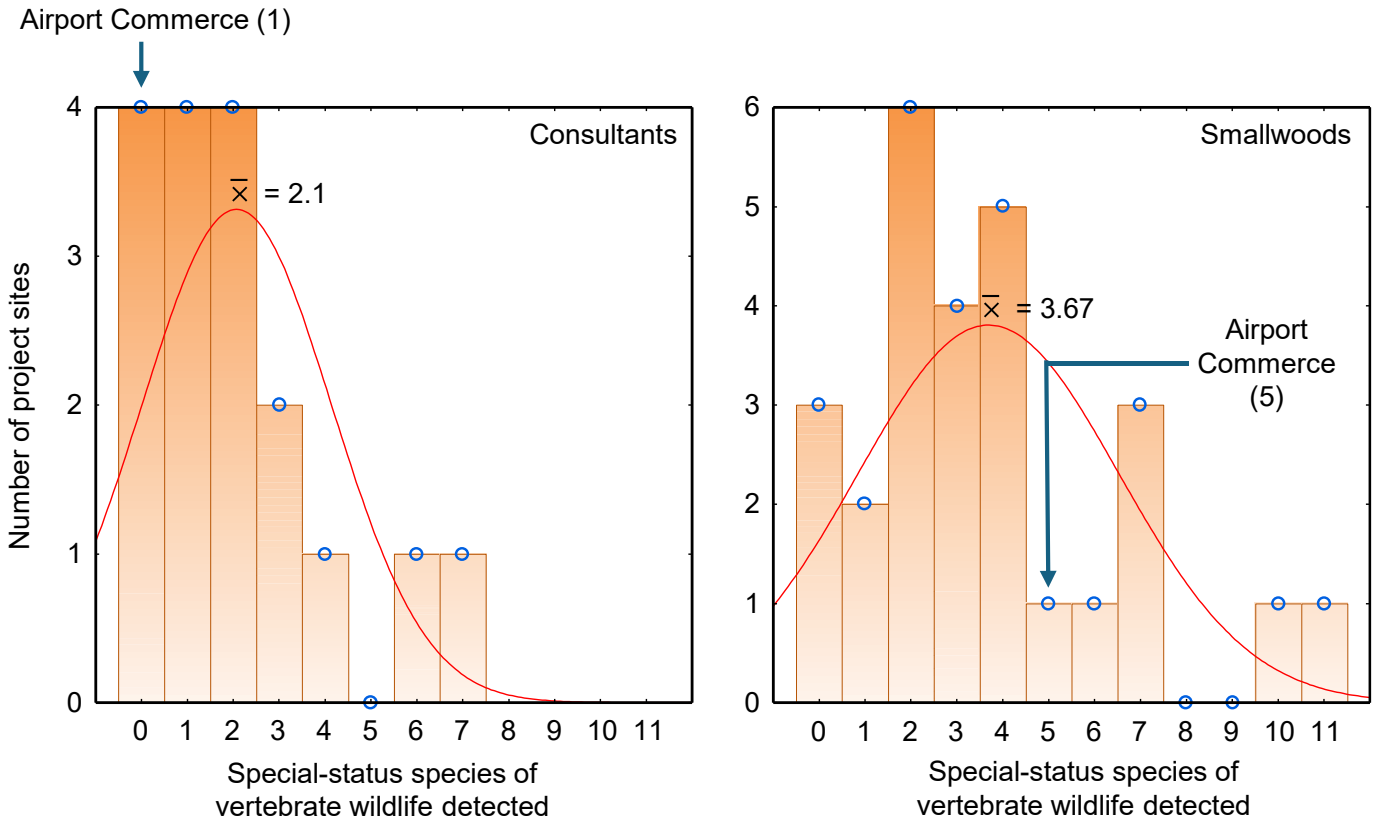


Figure 3. *Frequency distribution of the number of vertebrate wildlife species detected by consulting biologists (left graph) and by me and Noriko (right graph) among project sites surveyed in support of environmental reviews in California deserts.*

Two comparative contexts are needed to fully disclose the meanings of survey findings in the DEIR. The first is to contextualize the survey findings relative to the survey effort, because otherwise it is misleading to insinuate that the species detected were definitive of the wildlife community. As Figures 1 and 2 demonstrate, additional surveys contribute to an increasingly more accurate characterization of the wildlife community, but eventually to a point at which the species inventory would be obtained. Quicker progress toward an accurate characterization of the wildlife community can be achieved by adding nocturnal surveys as well as specialized surveys for detecting bats, small mammals, reptiles and amphibians. However the surveys are done, it is imperative to compare survey findings to the findings from other surveys and their associated survey attributes to provide interpretive context such as to quantify the uncertainty of the findings, or alternatively to understand whether the findings fall within the expected

12-A cont'd

range of findings given the survey methods and level of effort. If no such comparison is possible, then the lack of comparability should be discussed as a survey limitation.



12-A cont'd

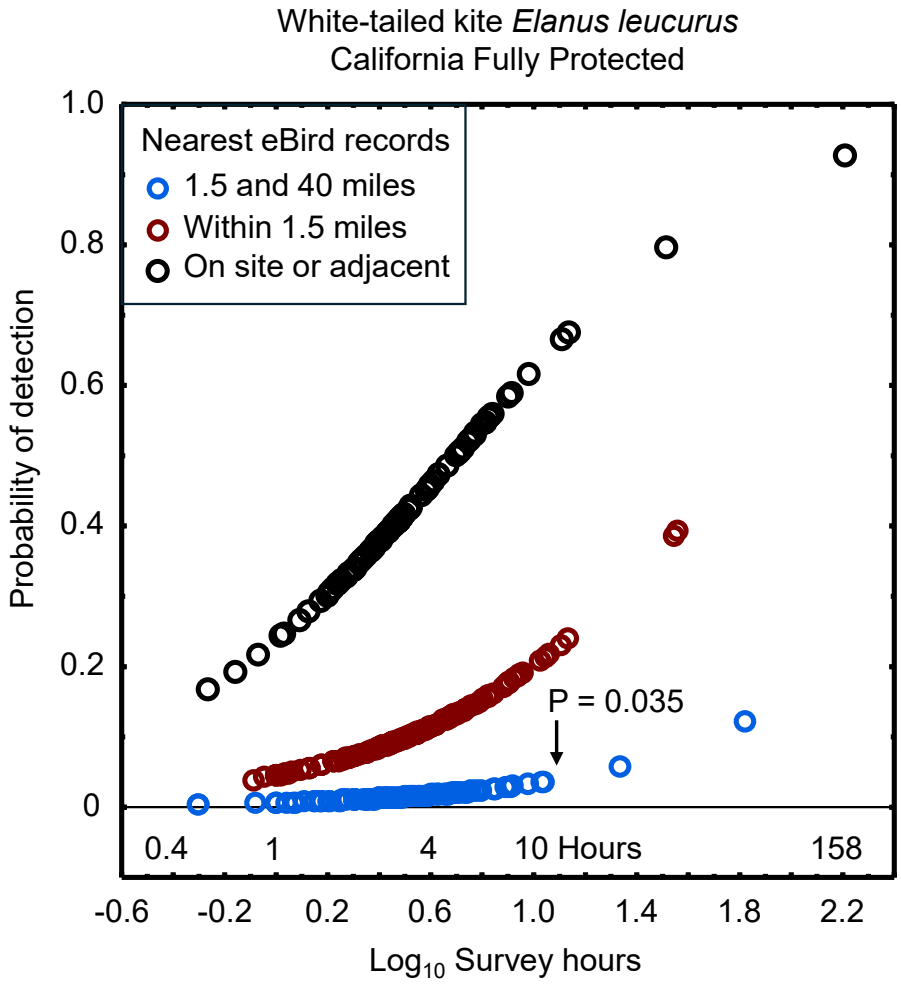
Figure 4. *Frequency distribution of the number of special-status species of wildlife detected by consulting biologists (left graph) and by me and Noriko (right graph) among project sites surveyed in support of environmental reviews in deserts.*

The second comparative context is to assess the probabilities of detection considering the survey effort of each special-status species, whether detected or not. South (2025) reports having failed to any special-status species of wildlife, but failures to detect special-status species can mean that the survey was inadequate. Each species presents survey personnel with a unique range of detection probabilities based on the species' natural history, its behavior patterns, survey effort, the study area's distance from known activity areas of the species, and the levels of skill of survey personnel. Many animals maintain home ranges that are larger than most project sites, and they periodically shift their foraging activities to various parts of their home range, hence occurring on a particular site only periodically. To detect these species, survey personnel must be at the site on the same date and time as the one or more members of the species. The probability of detection of any given species during any given survey is less than 100%, and for many species that truly occur on a given site, it is closer to 0%.

For example, South (2025) failed to detect white-tailed kite, and it further determines that white-tailed kite has no likelihood of occurring on the project site because, according to South, the project site lacks habitat. However, Noriko and I have found

white-tailed kites in environments similar to the project site. Based on hundreds of surveys within the geographic range of white-tailed kite, Noriko's 4.77 hours of daylight survey combined with the knowledge that white-tailed kite has been documented between 1.5 and 40 miles from the project site afforded Noriko a 3.5% likelihood of detection of white-tailed kite (Figure 6). Noriko would have needed to conduct many more surveys to accumulate a reasonable likelihood of detecting white-tailed kite, but the patterns of our findings from hundreds of surveys depicted in Figure 6 reveal that it is unlikely that the white-tailed kite is absent from the project site.

Figure 6.
Probability of detection of white-tailed kite as a function of survey effort and proximity of occurrence records to a project site, based on hundreds of reconnaissance surveys we completed 2019–2024.



This third comparative context is very important because it is the basis for the formulation of detection survey protocols. Experienced biologists are aware of survey limitations due to ranges of variation in the activity periods, levels of crypticity, and periodic movement patterns of wildlife species, and due to variation in the skill and commitment of survey personnel. This third comparative context acknowledges that the occurrence likelihood of a species on a particular site is rarely if ever zero, so long as the site is within the species' geographic range and it provides habitat. This third comparative context reveals that a determination of zero likelihood of occurrence is typically indicative of insufficient survey effort. A common goal of detection survey protocols is to support absence determinations with a survey effort that should have

12-A cont'd

resulted in a detection if the species had been present at the time of the surveys, but it does not prove that the species is always absent from the site. This third comparative context and its implications should not be neglected in CEQA review, but it is neglected in the case of the DEIR prepared for this project.

Protocol-level detection surveys should have been implemented for multiple special-status species of wildlife and for rare species of plants. A protocol is available for burrowing owl (CDFW 2012), and another is available for San Joaquin kit fox (USFWS 1999). A survey protocol is available for special-status species of bumble bees (CDFW 2023) and for rare plants (CDFW 2018). Considering that South (2025:13) determines a "Moderate to high potential for Bakersfield Cactus," the CDFW (2018 rare plant survey guidelines need to be implemented. Unless a compelling argument can be made for a site's lack of habitat, no special-status species whose geographic range overlaps the project site should be determined as absent.

An alternative to implementing protocol-level detection surveys is to simply conduct enough reconnaissance surveys to either detect a given special-status species or to provide reasonable confidence that the species is absent. At a nearby site in northern Bakersfield, I did not detect San Joaquin kit fox until my 17th survey of the site when I used a thermal-imaging camera for only my second time on the site. Simply walking out onto a project site in the middle of the day, which is what South's biologist might have done (the survey time is not reported), would unlikely result in the detection of San Joaquin kit fox. Noriko photographed (Photo 4) a kit fox next to the project site in the low light of early morning (07:00 hours) which is a more likely time to see San Joaquin kit fox than in the middle of the day. Noriko also found tracks of San Joaquin kit fox on the project site, but perhaps South's biologist is unfamiliar with San Joaquin kit fox tracks or just happened to survey on a date when San Joaquin kit fox had not visited over the previous few days. Again, the conduct of multiple surveys vastly increases the likelihood of a special-status species.

12-A cont'd

In another example, South (2025) failed to detect Swainson's hawk, whereas Noriko did (Photo 5). However, South surveyed while Swainson's hawks were in Mexico on winter migration, and Noriko surveyed soon after Swainson's hawks returned from Mexico to breed in California. Multiple surveys can span the times when a migratory special-status species is present.

In yet another example, South (2025) failed to detect loggerhead shrike, whereas Noriko did (Photo 14). Noriko and I know from experience that any given loggerhead shrike is not always detectable, because they patrol large territories and they often conceal themselves in dense vegetation. We surveyed a study area many times before satisfying ourselves that we had found all nest sites of loggerhead shrikes (Smallwood and Smallwood 2021). A single survey of a site should not be expected to detect the presence of loggerhead shrike.

In summary, South (2025) reports having detected few species of wildlife, whereas Noriko found many more in only a short time. It is deficient of South (2025) to have reported its findings without any comparative context to aid in interpretation. The DEIR

should be withdrawn from public circulation until either a sufficient survey effort is completed or the results in hand are appropriately interpreted and reported in support of a more accurate characterization of the project site's wildlife community.

Environmental Setting informed by Desktop Review

South (2025) relies heavily on occurrence records in the California Natural Diversity Data Base (CNDDB) to establish its pool of special-status species for assessing occurrence likelihoods, otherwise referred to as habitat assessments. South (2025) queried the CNDDB for occurrence records of special-status species within none USGS 7.5' Quadrangles inclusive of the project site. Special-status species represented by occurrence records in these Quads were moved forward in the habitat assessment, but species lacking records were screened out of further analysis. However, the CNDDB is a volunteer, positive-sightings database, and as such it is useful for confirming presence but not for confirming absence of species because such databases are not designed for this purpose. As noted by the CNDDB, "*The CNDDB is a positive sighting database. It does not predict where something may be found. We map occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present*." South (2025) and hence the DEIR misuse the CNDDB.

The CNDDB relies entirely on volunteer reporting from biologists who were allowed access to whatever properties they report from. Many properties have never been surveyed by biologists. Many properties have been surveyed, but the survey outcomes never reported to the CNDDB. Many properties have been surveyed multiple times, but not all survey outcomes reported to the CNDDB. Furthermore, the CNDDB is interested only in the findings of special-status species, which means that species more recently assigned special status will have been reported many fewer times to the CNDDB than were species assigned special status since the inception of the CNDDB. Therefore, occurrence records in the CNDDB are most abundant for species assigned special status decades ago, but fewest for species only recently assigned special status. And because negative findings are not reported to the CNDDB, the CNDDB is also inappropriate as a basis for weighting occurrence likelihoods such as absent, not expected, unlikely, low, moderate or high. Whereas the CNDDB can be confirmatory of species presence, it cannot support absence determinations or assignments of low likelihood of occurrence. And again, the screening out of a species due to lack of occurrence records in the CNDDB is the same as an absence determination, but without the support of the detection surveys that have been formulated for this purpose.

12-A cont'd

As suggested above, South (2025) also weighs the likelihoods of occurrence of those species that passed the initial screening for inclusion. South assigns occurrence likelihood categories of None, Low, Moderate, and High. As noted above, however, the absence of occurrence records is not evidence of absence, nor is it evidence of any likelihood of occurrence. At best, CNDDB records can serve as evidence of the likelihood of detection of a species, but again, this likelihood does not parallel the likelihood of occurrence because species often occur where never detected by biologists.

In my assessment based on a database review and site visits, 109 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 2). Not all these species should be expected to occur at the project site, but each of them should be given a closer look to determine occurrence likelihoods and whether additional surveys are needed, or implementation of detection surveys, or whether it would be reasonable to assume presence. Of these 109 species, 6 were recorded on or just off the project site, and another 9 (8%) species have been documented within 1.5 miles of the site (Very close), another 40 (33%) between 1.5 and 4 miles (Nearby), and another 39 (37%) between 4 to 30 miles (In region). Half of the species in Table 2 have been reportedly seen within 4 miles of the project site. The site therefore supports at least six special-status species of wildlife, and it carries the potential for supporting many more special-status species of wildlife based on the proximities of recorded occurrences. Evidence certainly suggests that habitat assessments are needed for these species.

South (2025) considers the occurrence likelihoods of only 21 (19%) of the special-status species listed in Table 2. Most (15) of the 21 species moved forward in the analysis are determined to have no chance of occurrence, though Noriko detected one (Swainson's hawk) on the project site, and four others have been detected between 1.5 and 4 miles from the site, including Monarch which I detected and photographed nearby. Seven more of the special-status species that South determines have no chance of occurrence have actually been detected between 4 and 40 miles from the site. The highest likelihood that South determines for any of the 21 species is moderate, and it – San Joaquin kit fox – was detected on the project site by Noriko. All considered, the accuracy of South's determinations of occurrence likelihoods is poor, especially considering that the appropriate determinations of the occurrence likelihoods of special-status species should err on the side of caution, consistent with the Precautionary Principle in risk analysis involving rare or precious resources (National Research Council 1986).

12-A cont'd

South (2025) fails to consider the occurrence likelihoods of 88 (81%) of the special-status species in Table 2, after South screened then out of the analysis in the first step of its desktop review. Of the special-status species South screened out of the analysis, 4 have been documented on or adjacent to the project site, 9 have been documented within 1.5 miles, 35 have been documented between 1.5 and 4 miles from the site, and 28 have been documented between 4 miles and 50 miles from the sites. Forty-eight (55%) of the 88 special-status species not analyzed by South have been documented within 4 miles of the project sites. South's and hence the DEIR's analysis of occurrence likelihoods is incomplete.

In place of sound evidence to support habitat assessments, South (2025) relies on speculation. For example, South (2025:20) concludes the project site "has a low value as plant and wildlife habitat." This conclusion could only have been speculated because a single survey that detected only 26% of the vertebrate species that Noriko detected over her brief survey could not have supported it. Based on my analytical bridging of Noriko's survey findings to my findings in hundreds of surveys at a research site (see Figure 2), 97 species of vertebrate wildlife should be detectable over a year or longer of diurnal

surveys, so South (2025) detected 8% of these species. Speculation is a poor basis for characterizing the wildlife community.

Similarly, South (2025:13) concludes, “The plant community is highly altered, and the presence of non-native and invasive plants reduces the quality of habitat for native wildlife, and as a result, only species adapted to ruderal and disturbed areas are expected to occur.” South did not measure habitat quality, as this attribute is measured by such productivity metrics as nest success, fecundity, and survivorship. None of these metrics are measured for any species. Furthermore, South cites no scientific source that relates habitat quality to invasive plants in any way. Moreover, Noriko detected multiple species that are not simply adapted to ruderal and disturbed areas. The loggerhead shrike is one of these species, and so is horned lark, savannah sparrow, and western meadowlark, and I would argue that Swainson’s hawk and San Joaquin kit fox best thrive in areas that are closer to pristine. Plant communities all over California have been altered in various ways, so it is not compelling to simply argue that a disturbed plant community reduces habitat qualify of wildlife species.

South (2025:14) claims. “Though the study area does not possess high quality native habitat [for San Joaquin kit fox and burrowing owl], the records of special status species nearby indicate that both burrowing owl and San Joaquin kit fox could utilize the project site as both species have the potential to occur in disturbed areas.” Again, South cannot know whether the project site lacks high quality habitat without measuring habitat quality in some way. South made no such measurements.

Lastly, South (2025:14) implies that each species live within two distinct types of habitat – one for breeding and one for foraging: “Though Swainson’s hawk are not expected to nest on the project site, the project site supports suitable foraging habitat, and adjacent lands within disturbance distance (0.5 mile) of the project site could support nesting by Swainson’s hawk.” In fact, Swainson’s hawks that cannot find sufficient forage cannot successfully breed, which is a solid clue that the habitat distinction made by South does not exist. Habitat is habitat, and it includes, by definition, all the species foraging and breeding needs. Further complicating South’s characterization of habitat, South (2025: App. C) concludes that the occurrence potential of Swainson’s hawk is “None,” because “The Study Area lacks habitat for this species.” South concludes there is habitat but later concludes there is no habitat. In fact, Noriko saw and photographed Swainson’s hawk on the project site, so the project site serves as habitat for the Swainson’s hawk.

12-A cont'd

Mischaracterization of the Wildlife Community

The DEIR’s characterization of the plant and wildlife community is based on a survey of unreported methods, and which obviously detected too few of the species that occur on the project site. The DEIR characterizes the few species detected as the wildlife community, which is obviously inaccurate. The desktop review further mischaracterizes the wildlife community by improperly using the CNDDB to screen out from further habitat assessment most of the special-status species that could occur on the site, and it relies too much on speculation to determine that all but a few special-status species have potential to occur. No protocol-level detection surveys were implemented.

Table 2. *Occurrence likelihoods of special-status species of wildlife at or near the project site, according to South (2025), eBird* or *iNaturalist records (https://eBird.org, https://www.inaturalist.org), and survey findings On site, Very close (≤1.5 miles of the site), Nearby (1.5 – 4 miles), In region (4 – 30 miles), and In range, i.e., the species' geographic range overlaps the site. Entries in bold font identify species that Noriko detected during her site visit or that one of us detected at a nearby site.*

Common name	***Species name***	**Status**[1]	**Occurrence potential**	
			South 2025	**Records, Surveys**
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT		In region
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	None	In range
Monarch	*Danaus plexippus*	FC	None	**Nearby**
Crotch's bumble bee	*Bombus crotchii*	CCE	None	Nearby
Western spadefoot	*Spea hammondii*	FC, SSC	None	In region
Northwestern pond turtle	*Actinemys marmorata*	FC, SSC	None	In region
Blunt-nosed leopard lizard	*Gambelia sila*	FE, CE, CFP	None	In region
Coast horned lizard	*Phrynosoma blainvillii*	SSC	None	In region
Bakersfield legless lizard	*Anniella grinnelli*	SSC	None	In region
California glossy snake	*Arizona elegans occidentalis*	SSC	Low	In region
San Joaquin coachwhip	*Masticophis flagellum ruddocki*	SSC	Low	In region
Brant	*Branta bernicla*	SSC2		In region
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL		In region
Redhead	*Aythya americana*	SSC2		Nearby
Western grebe	*Aechmophorus occidentalis*	BCC		Nearby
Clark's grebe	*Aechmophorus clarkii*	BCC		In region
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE		In range
Black swift	*Cypseloides niger*	SSC3, BCC		In range
Vaux's swift	*Chaetura vauxi*	SSC2		Nearby
Calliope hummingbird	*Selasphorus calliope*	BCC		In region
Rufous hummingbird	*Selasphorus rufus*	BCC		Nearby
Mountain plover	*Charadrius montanus*	SSC2, BCC		In region
Long-billed curlew	*Numenius americanus*	WL		In region
Marbled godwit	*Limosa fedoa*	BCC		In region

12-A cont'd

Common name	*Species name*	Status[1]	Occurrence potential	
			South 2025	**Records, Surveys**
Pectoral sandpiper	*Calidris melanotos*	BCC		In region
Short-billed dowitcher	*Limnodromus griseus*	BCC		In region
Lesser yellowlegs	*Tringa flavipes*	BCC		Nearby
Willet	*Tringa semipalmata*	BCC		In region
Franklin's gull	*Leucophaeus pipixcan*	BCC		In region
Western gull	*Larus occidentalis*	BCC		In region
California gull	*Larus californicus*	BCC, WL		**Nearby**
Black tern	*Chlidonias niger*	SSC2, BCC		In region
Common loon	*Gavia immer*	SSC		In region
Double-crested cormorant	*Phalacrocorax auritus*	WL		Very close
American white pelican	*Pelacanus erythrorhynchos*	SSC1		Nearby
Least bittern	*Ixobrychus exilis*	SSC2		In region
White-faced ibis	*Plegadis chihi*	WL		**Nearby**
California condor	*Gymnogyps californianus*	FE, CE, CFP		In region
Turkey vulture	*Cathartes aura*	BOP		On site
Osprey	*Pandion haliaetus*	WL, BOP		**Nearby**
White-tailed kite	*Elanus luecurus*	CFP, BOP	None	Nearby
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP, WL		Nearby
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP		Nearby
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP		Very close
Cooper's hawk	*Accipiter cooperii*	WL, BOP		**Very close**
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, BOP		Nearby
Red-shouldered hawk	*Buteo lineatus*	BOP		Very close
Swainson's hawk	*Buteo swainsoni*	CT, BOP	None/Moderate	Nearby/**On site**
Red-tailed hawk	*Buteo jamaicensis*	BOP		Very close/**On site**
Ferruginous hawk	*Buteo regalis*	WL, BOP		Nearby
Rough-legged hawk	*Buteo lagopus*	BOP		In region
American barn owl	*Tyto furcata*	BOP		Very close
Western screech-owl	*Megascops kennicotti*	BOP		Nearby
Great horned owl	*Bubo virginianus*	BOP		Nearby
Burrowing owl	*Athene cunicularia*	BCC, CCE, SSC2, BOP	High	**Nearby**

12-A cont'd

Common name	*Species name*	Status[1]	Occurrence potential	
			South 2025	**Records, Surveys**
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		Nearby
Nuttall's woodpecker	*Picoides nuttallii*	BCC		Nearby
American kestrel	*Falco sparverius*	BOP		On site/**On site**
Merlin	*Falco columbarius*	WL, BOP		**Nearby**
Peregrine falcon	*Falco peregrinus*	BOP		**Nearby**
Prairie falcon	*Falco mexicanus*	WL, BOP		Very close
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2		Nearby
Willow flycatcher	*Empidonax trailii*	CE		Nearby
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE		In range
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2		Nearby
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE		In range
Loggerhead shrike	*Lanius ludovicianus*	SSC2		**Very close/Fringing**
Oak titmouse	*Baeolophus inornatus*	BCC		Nearby
Bank swallow	*Riparia riparia*	CT		Nearby
Purple martin	*Progne subis*	SSC2		In region
Wrentit	*Chamaea fasciata*	BCC		Nearby
California thrasher	*Toxostoma redivivum*	BCC		Nearby
Cassin's finch	*Haemorhous cassinii*	BCC		Nearby
Lawrence's goldfinch	*Spinus lawrencei*	BCC		Very close
Grasshopper sparrow	*Ammodramus savannarum*	SSC2		In region
Black-chinned sparrow	*Spizella atrogularis*	BCC		In region
Gray-headed junco	*Junco hyemalis caniceps*	WL		Nearby
Bell's sparrow	*Amphispiza b. belli*	WL		In region
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2		In range
Yellow-breasted chat	*Icteria virens*	SSC3		Very close
Yellow-headed blackbird	*X. xanthocephalus*	SSC3		Nearby
Bullock's oriole	*Icterus bullockii*	BCC		Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1	None	Nearby

12-A cont'd

Common name	*Species name*	Status[1]	Occurrence potential	
			South 2025	**Records, Surveys**
Lucy's warbler	*Leiothlypis luciae*	SSC3		In region
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC		In region
Yellow warbler	*Setophaga petechia*	SSC2		Nearby
Summer tanager	*Piranga rubra*	SSC1		Nearby
Little brown bat	*Myotis lucifugus*	WBWG:M		In range
Yuma myotis	*Myotis yumanensis*	WBWG:LM		**In region**
Long-eared myotis	*Myotis evotis*	WBWG:M		In range
California myotis	*Myotis californicus*	WBWG:L		**Nearby**
Small-footed myotis	*Myotis ciliolabrum*	WBWG:M		In range
Canyon bat	*Parastrellus hesperus*	WBWG:M		In range
Big brown bat	*Episticus fuscus*	WBWG:L		In range
Silver-haired bat	*Lasionycteris noctivagans*	WBWG:M		**Nearby**
Hoary bat	*Lasiurus cinereus*	WBWG:M	None	In range
Western red bat	*Lasiurus blossevillii*	SSC, WBWG:H		**Nearby**
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H		In range
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H		In range
Mexican free-tailed bat	*Tadarida brasiliensis*	WBWG:L		**Nearby**
Western mastiff bat	*Eumops perotis*	SSC, WBWG:H	None	In range
Nelson's antelope squirrel	*Ammospermophilus nelsoni*	CT	Low	In region
Tipton kangaroo rat	*Dipodomys n. nitratoides*	FE, CE	None	In region
Giant kangaroo rat	*Dipodomys ingens*	FE, CE		In region
Tulare grasshopper mouse	*Onychomys torridus tularensis*	SSC	None	In region
American badger	*Taxidea taxus*	SSC	Low	In region
San Joaquin kit fox	*Vulpes macrotis mutica*	FE, CT	Moderate	**Nearby/On site**

12-A cont'd

[1] Listed on CDFW's Special Animals List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406) as FT or FE = federal threatened or endangered; FC = federal candidate for listing; 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_i = California Species of Special Concern with i = priorities 1, 2 and 3; WL = CDFW's Taxa to Watch List; BGEPA = Bald and Golden Eagle Protection Act; WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H); BCC = U.S. Fish and Wildlife Service's Bird of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf); and BOP = protected by Birds of Prey (California Fish and Game Code 3503.5, see https://wildlife.ca.gov/Conservation/Birds/Raptors).

The impacts analysis in CEQA review involves prediction. Impact predictions are necessary in environmental review because measuring a project's impacts directly could not happen until after the impacts occur, and the timing of this type of measurement would come too late for formulating a mitigation strategy or deciding on a project alternative. As noted earlier, the accuracy of the predictions of impacts and their significance ultimately relies on the degree of accuracy in the characterization of the existing environmental setting (Figure 3). Prediction accuracy also relies on experience, of which development projects subjected to CEQA review have been made amply available (Figure 8). CEQA prohibits the use of speculation to predict that potential project impacts would be less than significant (see CEQA Guidelines section 15145. SPECULATION), so it is experience that must be used. The type of experience proven most effective, and therefore most amenable to achieving CEQA's primary objectives, is scientific inference, as generally depicted in Figure 8. Scientific inference can be drawn from scientific studies or from the many other projects that have undergone CEQA review. The comparative method enables the use of scientific inference to predict impacts and to predict the efficacies of mitigation strategies, the latter of which should be also amply available in the record.

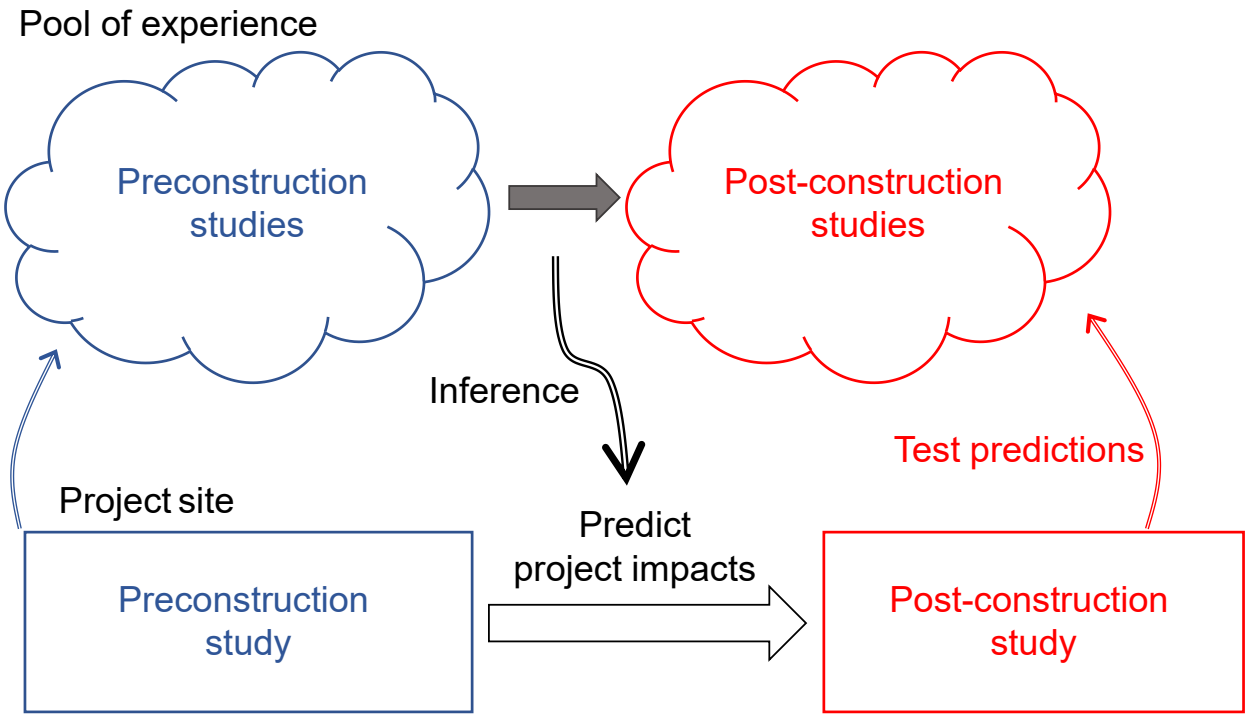


Figure 8. *A framework for arriving at predicted project impacts based on experience with other project sites. Ideally, there is a pool of similar projects in similar circumstances where predicted impacts were compared to realized impacts, and into which the proposed project can also contribute to experience.*

12-A cont'd

In the following, I analyze several types of impacts likely to result from the project, none of which are analyzed adequately in the DEIR, and some of which are not analyzed at all.

First, however, I need to comment on a mischaracterization reported by South. According to South (2025:20), "The loss of this disturbed community would be a less than significant impact according to CEQA because the community is not a sensitive natural community and because of its high level of disturbance and lack of habitat for special-status species. In the event that Bakersfield cactus, burrowing owls, or San Joaquin kit fox are present on the project site, the habitat loss for these species would be mitigated as outlined below in the Special-Status Species impacts analysis." This statement is a mischaracterization of CEQA, which does not require that the significance of the loss of an ecological community depends on whether it is regarded as a sensitive natural community. Furthermore, and regardless of the mitigation measures required in the DEIR, the applicant is not allowed to take Bakersfield cactus, burrowing owl or San Joaquin kit fox without incidental take permits issued by the regulatory agencies, and the same is true of Swainson's hawk.

REDUCED PRODUCTIVE CAPACITY FROM HABITAT LOSS

Habitat loss results in a reduced productive capacity of affected wildlife species. The site is proven to serve as habitat to at least 30 species of vertebrate wildlife which Noriko observed on or adjacent to the project site, but the number of avian nest sites remains unknown. The surveys that have been conducted on the project site were unsuitable for detecting all bird nests or estimating total nest density. South (2025) completed only one reconnaissance survey, and it was in the non-breeding season. Noriko visited the site only once, but finding nest sites requires many surveys through the breeding season. The alternative method for estimating avian productive capacity is to infer it from estimates of total nest density elsewhere. Noriko and I have been studying total avian nest density over several years, so I mostly draw from our estimates to be multiplied against 110 acres of grassland and shrub cover on the project site.

12-A cont'd

Based on total nest densities of birds in a grassland at Indian Cave State Park and Ponka State Park, Nebraska (Jorgenson et al. 2014), a grassland in the San Jacinto Wildlife Area (Noriko Smallwood 2023 unpubl. Data), two grassland sites in Murietta (Noriko Smallwood 2024 unpubl. Data), and a grassland site in eastern Yolo County (K. S. Smallwood 2024 unpubl. Data), the average total nest density is 3.3 nest sites/acre/year. This average multiplied against 110 acres predicts 363 nest sites. Assuming 1.39 broods per nest site based on a review of 322 North American bird species, which averaged 1.39 broods per year, then I estimate 505 nest attempts per year on the project site. Assuming Young's (1948) study site typifies bird productivity of 2.9 fledged birds per nest attempt, then I predict 1,465 fledglings/year at the project site.

The loss of 363 nest sites and 505 nest attempts per year would qualify as significant impacts that have not been analyzed in the DEIR. But the impacts would not end with the immediate loss of nest sites. The reproductive capacity of the site would be lost. The project would prevent the production of 1,465 fledglings per year. Assuming an average bird generation time of 4 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) = 1,647 birds per year lost to California.

The loss of 1,647 birds per year would be a loss of significant habitat value that is currently provided by the project sites. Most of these birds are protected by the federal Migratory Bird Treaty Act and by California's Migratory Bird Protection Act, both of which are intended to most strongly protect breeding migratory birds. The annual loss of 1,647 birds would easily qualify as an unmitigated significant impact.

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, this concern has not motivated any serious analysis of whether or how the project would interfere with wildlife movement in the region. South (2025) and the DEIR merely speculate that the project site is unlikely to function as a wildlife movement corridor due to its setting amid developed or disturbed properties, and due to the advanced stage of habitat fragmentation in the region. South (2025) and the DEIR further claim that the Bakersfield Cactus Ecological Reserve is also so isolated that it no longer functions as a wildlife movement corridor. All this speculation is readily refutable. Only 25% of the project site's perimeter abuts developed property, leaving 75% of it next to undeveloped open space. The Bakersfield Cactus Ecological Reserve is also mostly bounded by open space. The claims that the project site and the Bakersfield Cactus Ecological Reserve are isolated, and that they are isolated from each other, are not supported by evidence. The DEIR's Figure 3-13 depicts cumulative projects just north and a bit south of the project site, but the Figure does not disclose which projects these are, nor their status. Currently, these properties are open space.

12-A cont'd

Even if the project site was isolated – it is not, the isolation would not rule out the importance of the project site to wildlife movement in the region. In fact, as habitat fragmentation advances, the isolated fragments of habitat that remain can emerge as even more important to the ability of volant species to move across the region, as the fragments provide migrants and long-range dispersers the only opportunities for forage and refuge (Smallwood 2015).

Finally, South (2025) and the DEIR rely on the red-herring argument that the project site must act as a wildlife movement corridor before changes to it could result in significant interference with wildlife movement in the region. The premise of the argument is not true. The CEQA standard expressed in Question (d) of the CEQA's App. G Checklist applies to all types of movement and not just the movement channeled by corridors. As habitat fragmentation proceeds, the remaining patches of open space increase in their importance as stopover opportunities for wildlife on long-distance dispersal or migration.

Moreover, some of the birds Noriko observed on or adjacent to the project site are migrants. One such migrant was Swainson's hawk. Noriko also found San Joaquin kit

fox tracks on the site, which means that kit foxes are moving across the site. The site is obviously important to the movement of at least some species, but South did nothing to measure this movement. South (2025) does not even identify wildlife movement as one of its survey objectives, and it indeed implemented no study design or program of observations to characterize wildlife movement on or around the project site.

Continued habitat connectivity is of central concern to the conservation and recovery of the Endangered San Joaquin kit fox (Cypher et al. 2013; Los Padres Forest Watch and Center for Biological Diversity 2010, USFWS 2010; Nogeire-McRae et al. 2019; USFWS 2020a,b). The 2010 5-year review (USFWS 2010: 12–14) includes mapped movement corridors that connect San Joaquin kit fox Recovery Units 10 and 11, inclusive of the project site, to San Joaquin kit fox Core Areas located north and south of Bakersfield.

TRAFFIC IMPACTS ON WILDLIFE

The DEIR neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 24—27), including along roads far from the project footprint but which would nevertheless be traversed by automobiles headed to or from the project's building. 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.

12-A cont'd



Photo 24. *A desert cottontail runs across the road just in Murietta, California. Such road crossings are usually successful, but too often prove fatal to the animal.*

Photo 25. *A great-tailed grackle crosses a road in the Imperial Valley.*







Photos 26 and 27. *Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and California kingsnake killed by a vehicle on a rural road in El Dorado County in 2024.*

12-A cont'd

A useful 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 9,462 animals killed by traffic on the road. This fatality number projected over 1.25 years and 2.5 miles of road translates to 3,028 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 188,191 animals killed per 100 km of road per year, or 22 times that of Loss et al.'s (2014) upper bound estimate and 53 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, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,028 animals killed per mile along a county road in Contra Costa County. The estimated numbers of fatalities were 1.75% birds, 26.4% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 67.4% 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 4.4% 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 on wildlife

12-A cont'd

The DEIR predicts 3,476,056 VMT for construction worker and vendor trips, and it predicts 36,819,636 annual VMT generated by employees during project operations. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road in Contra Costa County 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 9,462 wildlife fatalities, or 2,351 vehicle miles per fatality. This rate of mortality multiplied against predicted project VMT predicts 1,479 wildlife fatalities would result from construction worker and vendor trips, followed by 15,661 wildlife fatalities per year due to employee traffic.

Based on my analysis, the project-generated traffic would cause significant impacts on wildlife. The DEIR 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, and that these impacts would be unmitigated.

BIRD AND BAT COLLISION MORTALITY CAUSED BY SECURITY FENCE

MM 4.3-8(b) addresses the management of a construction security fence to enable passage by terrestrial Mammalian carnivores such as American badger and San Joaquin kit fox. The EIR also mentions the intention to construct an 8-foot tall security fence on the project's perimeter, but it does not describe the fence. Assuming it is of wire cyclone construction or similar, its added presence would pose a hazard to birds and bats.

Cyclone fencing is known to kill wildlife via collision and entanglement (Photos 28 and 29), so it is important to disclose the length and type of security fencing. I estimate the length of the fence would be at least 3.17 km. Recent fatality monitoring along fences of utility-scale solar projects in California provides the basis for predicting avian mortality that would be caused by the project's fence (Smallwood 2022). The greater roadrunner experienced particularly high mortality along security fences. I also found collision mortality with fencing at solar projects to be highest for canyon bats, western meadowlarks, northern flickers, burrowing owls, yellow-headed blackbirds and northern harriers (Smallwood 2022). At the project site, Noriko detected western meadowlarks, and greater roadrunners, burrowing owls, and northern harriers are likely also present.

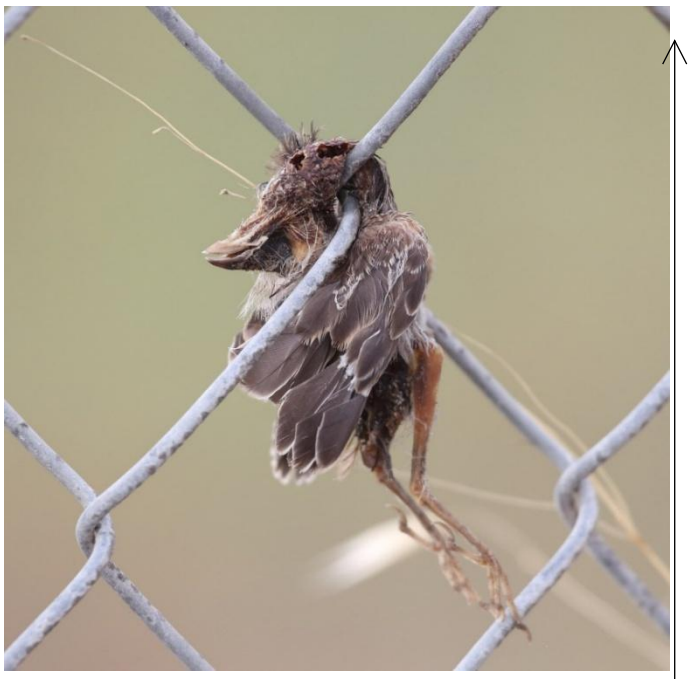
Based on a weighted mean 14.435 (95% CI: 10.880–20.339) birds and 2.56 (95% CI: 0.17–6.54) bats per km per year along fences of California's solar projects, the project's 3.17 km of fence would likely kill 46 (95% CI: 34–64) birds per year, and 8 (95% CI: 1–21) bats per year. It is my opinion that this predicted level of mortality would qualify as an unmitigated significant impact.

12-A cont'd

Photo 28. *A great-horned owl died after becoming entangled on the razor wire placed on top of this cyclone fence surrounding a substation in Alameda County. Photo by Joanne Mount.*



Photo 29. *Fledgling house finch that fatally collided with a security fence, 26 June 2022. Photo by Noriko Smallwood.*



FLAWED CUMULATIVE IMPACTS ANALYSIS

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would contribute significantly to cumulative impacts of past, present and future projects, or to multiple types of impacts that are cumulatively considerable. Unfortunately, the DEIR fails to seriously analyze the project's contribution to cumulative impacts on biological resources. The DEIR's Figure 3-13 and Table 3-7 poorly disclose the level of habitat fragmentation that would result from cumulative project buildout. Figure 3-13 hides the sizes of some of the projects by representing each with a same-sized square. Table 3-7 fails to sum the acreages at issue. In fact, the project site combined with the projects in Table 3-7 sum to 6,798 acres. Assuming that my earlier average total nest density of 3.3 nest sites/acre/year applies to all 6,798 acres in the cumulative projects list (this assumption might not be entirely correct, but I will use it here as an example of the type of analysis that is needed), then the cumulative impact to birds would be 22,433 nest sites, 31,183 nest attempts/year, and 90,429 fledglings/year. Applying these numbers and the same assumptions I used earlier to an indicator-level model in Smallwood (2022), I predict the cumulative impact would be an annual loss to California of 101,646 birds. However, this loss is predicted solely for habitat loss, and does not account for the added impact of habitat fragmentation. If the layout of all these 53 cumulative projects eliminates connectivity and further isolates the breeding areas in habitat fragments, then the net loss of birds would be even greater. Unfortunately, the DEIR does not disclose the layout of cumulative projects.

12-A cont'd

The DEIR argues that "the implementation of **Mitigation Measures MM 4.3-1** through **MM 4.3-12** and **MM 4.8-1** would reduce Project level impacts to less than significant and therefore would not contribute to a cumulative impact. Further, past, present and reasonably foreseeable future projects in the area would also be required to

implement measures, as set forth in their respective CEQA documents, consistent with federal, State, and local regulations to avoid adverse effects to existing biological resources or to mitigate for significant impacts to these resources. The types of measures required for projects impacting protected habitat, species, and regulated resources can include avoidance, project design features, regulatory approvals, best management practices, and mitigation measures. Overall, the proposed Project would not result in significant cumulative effects." As I comment below, these measures would not avoid substantial, highly significant impacts such as habitat loss, loss of wildlife productive capacity, and collision mortality with project-generated automobile traffic. Even if each of the impacts was adequately mitigated by the list of measures, this mitigation would not necessarily avoid significant cumulative impacts on wildlife. The many other projects built, approved, or under review in the region are contributing to habitat fragmentation, which is a process of habitat loss that results in a net greater loss of a species' numerical capacity than would have resulted from the same expanse of contiguous habitat having been lost (Smallwood 2015). The effects of habitat fragmentation exemplify the types of impacts that are referred to as cumulative impacts. If these types of impacts were not important, then CEQA would not require the analysis.

The DEIR's conclusion that existing policies, regulations, and project-by-project requirements of mitigation measures would avoid significant cumulative impacts lacks evidentiary support, and it is readily refutable. Noriko Smallwood and I performed an experiment to measure the efficacy of applicable laws and regulations, permitting requirements, and required mitigation measures at avoiding or minimizing project impacts including cumulative impacts. We revisited the project sites we had surveyed as experts 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 to control these sources of variation to cleanly 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 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%. We found that "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 the mitigation measures and existing policies and regulations. Experimental evidence demonstrates the need to analyze a project's potentially significant contributions to cumulative impacts on wildlife despite existing laws, policies and project-by-project requirements of mitigation. The environmental review for this project needs to include an appropriate cumulative impacts analysis.

12-A cont'd

FLAWED MITIGATION STRATEGY

The mitigation strategy needs to be based on a sound understanding of the existing wildlife community. It needs to be known which species occur or are likely to occur on the project site as well as the nature of their occurrences. It needs to be known whether each species is resident or migratory. For special-status species, detection surveys should have been completed to either detect the species or to obtain evidence of absence. Surveys should have been completed to understand how wildlife use the site in their movement patterns. And what was found of wildlife species needs to be carefully interpreted by comparing the findings to the findings from other survey efforts at other sites. Failures to detect species should be interpreted relative to the probabilities of their detections given the survey effort. The mitigation strategy needs to follow the steps under Assess species occurrence likelihoods and Characterize wildlife community, followed by Step 7: Predict impacts (Figure 3). However, the Addendum's mitigation strategy does not follow from these steps. This pointed out, my comments follow in regular font the summary of each required mitigation measure in italics.

MM4.3-1: *Prior to the issuance of grading permits, the project operator shall retain a Lead Biologist(s) who meets the qualifications of an Authorized Biologist as defined by California Department of Fish and Wildlife (CDFW) Service to oversee compliance with protection measures for all listed and other special-status species that may be affected by the construction and operation of the project. … shall be on the project site during all construction activities which include, but are not limited to, installation of perimeter fencing, clearing of vegetation, grading activities, and facility construction. …*

12-A cont'd

Should the project go forward, I concur with this measure in concept. However, based on my own experience as a Lead Biologist on a construction project, it needs to be understood that retaining a lead biologist would not avoid the loss of wildlife habitat and its loss of productive capacity, nor would it avoid the wildlife-traffic collision mortality predicted herein. The measure's conservation benefits would be *de minimis* relative to project impacts on wildlife.

MM 4.3-1 does not cite a source that explains how CDFW defines the qualifications for a lead biologist. Without more detail about how a lead biologist would be determined qualified, the measure remains short on objective criteria and is therefore unenforceable.

MM4.3-2: *Prior to the issuance of grading permits, the Lead Biologist shall develop a Worker Environmental Awareness Training Program containing life history and identification information of special-status wildlife and plant species with potential to occur on site. … A sticker shall be placed on hard hats, indicating that the worker has completed the Worker Environmental Awareness Training. …*

Should the project go forward, a Worker Environmental Awareness Training Program should be implemented, and certainly a sticker should be placed on the hard hat of each worker who has been trained. However, it needs to be understood that the conservation

benefits of the Worker Environmental Awareness Training Program would be *de minimis* relative to project impacts. This measure would not avoid the permanent loss of habitat nor the collision mortality with automobiles.

It needs to be remembered that construction workers operate heavy machinery and otherwise work around heavy machinery and moving vehicles. Workers primarily need to be aware of their construction work performance and their safety. It is misleading to imply that a Worker Environmental Awareness Training Program is going to result in increased worker vigilance for any mouse or lizard in harm's way. This is not what should be expected or desired of construction workers.

MM4.3-3: *No more than thirty (30) days prior to the start of ground disturbance activities or issuance of any grading permits, a qualified biologist knowledgeable on the identification of rare plant species shall conduct a pre-construction plant survey of areas of proposed disturbance within the project site and 100-foot buffer (where legally accessible) to determine if any special-status plant species are present. If special-status plants are identified on-site, their locations shall be mapped and the project proponent shall confer with CDFW or USFWS as required by applicable law to facilitate salvage or seed collection.*

A preconstruction survey does not carry the same likelihood of detection of rare plants as do properly implemented surveys per the CDFW (2018) rare plant survey guidelines. The appropriate survey has yet to be conducted. A preconstruction survey cannot substitute for a protocol-level detection survey, largely because the timing of the survey would be inconsistent with the timing intended by CDFW (20198): "These protocols are meant to help people meet California Environmental Quality Act (CEQA)1 requirements for adequate disclosure of potential impacts to plants and sensitive natural communities." The appropriate timing for rare plant survey is prior to the public circulation of the DEIR, not afterwards.

12-A cont'd

MM4.3-4: *During construction of the project site, the project proponent and/or contractor(s) shall implement the following general avoidance and protective measures: a. … the Lead Biologist or their designee shall perform a pre-construction visual survey of the area to ensure that no special-status species are present. … b. Within the vicinity of any construction activities, sensitive biological resources (i.e., special-status species, jurisdictional drainages, nesting birds, etc.) shall be delineated with stakes and/or flagging. c. All construction activities shall be confined within the project construction area, … d. Any spoils shall be stockpiled in disturbed areas that lack native vegetation to the maximum extent practicable. Spoils that have been stockpiled and inactive for more than 24 hours shall be inspected by a qualified biologist for signs of special-status wildlife before moving or disturbing. e. To prevent inadvertent entrapment of San Joaquin kit foxes, American badgers, or other animals during construction, all excavated steep-walled holes or trenches more than two (2) feet deep shall be covered … f. All construction pipes, culverts, or similar structures with a diameter of four (4) inches or greater that are stored at the site for more than 24 hours and without endcaps shall be thoroughly inspected by a qualified biologist prior to being moved or capped. … h. A speed limit of 15 miles per hour shall be*

enforced within the limits of the project site. If night work occurs on the project site, the speed limit will be 10 miles per hour. i. Fueling of construction equipment shall take place within existing roads or disturbed areas. … j. Trash and food items shall be contained in closed containers … k. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife. 1. No pets shall be allowed in project areas, except for trained canine animals related to security and operation of the facility. m. Intentional killing or collection of any listed plant or wildlife species shall be prohibited. n. Herbicides that may be used as vegetation control measures in project areas shall be applied in accordance with sub-measures below. …

Should the project go forward, I concur with the implementation of all Best Management Practices, but it needs to be understood that their conservation benefits would be *de minimis* relative to Project impacts. None of the identified measures would avoid habitat loss, habitat fragmentation, and wildlife-automobile collision mortality of workers and vendors traveling to and from the construction site, nor of employees commuting or traveling as per operations of the project over the years following construction.

MM4.3-5 *No more than (30) days prior to the issuance of any grading permits or the start of ground disturbance, a qualified biologist knowledgeable in the identification of all special-status wildlife species shall conduct a pre-construction survey of areas proposed for disturbance within the project site and 500-foot buffer (where legally accessible) to determine if any special-status species are present. If, as a result of this pre-construction survey it is determined that special-status wildlife species are present, the project proponent shall confer with the U.S. Fish and Wildlife Service or California Department of Fish and Wildlife, as required by applicable law, for proper avoidance measures or the need for take authorization through the acquisition of an incidental take permit, pursuant to Fish and Game Code section 2081 subdivision (d).*

12-A cont'd

This measure substitutes a preconstruction survey for the multiple special-status species detection surveys that are needed prior to the public circulation of the EIR. The timing of the preconstruction survey – because it comes after rather than before the public circulation of the EIR – cannot achieve CEQA's primary objectives of accurately characterizing the environmental setting as the foundation for predicting project impacts, of disclosure of potential impacts, and of formulating an effective mitigation strategy. Furthermore, a preconstruction survey does not carry the same likelihood of detection as do protocol-level detection surveys, so a preconstruction survey cannot substitute for a detection survey with anywhere close to the same level of efficacy. Qualifying the measure as even more divorced from sound practice, it has the lead biologist conducting a preconstruction survey for all special-status species simultaneously, whereas detection surveys are focused on one species at a time. I would concur with this measure only if the appropriate detection surveys were completed first, and by first I mean prior to the circulation of the EIR.

MM4.3-6: *Preconstruction surveys shall be conducted by a qualified biologist to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to commencement of ground-disturbing activities. Surveys need not be*

conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed.

The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife (CDFW) Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. As each burrow is investigated, surveying biologists shall also look for signs of American badger and San Joaquin kit fox. ...

If burrowing owls are detected onsite, the avoidance buffers outlined below should be established. ... CDFW' s Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist, approved by CDFW, verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Visible markers shall be placed near the identified burrow(s) to ensure that machinery does not collapse the burrow(s). ...

If burrow avoidance is infeasible ... a qualified biologist shall implement a passive relocation program in accordance with Appendix El ... of the 2012 CDFW Staff Report on Burrowing Owl Mitigation.

If passive relocation is required, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan in, accordance with the 2012 CDFW Staff Report on Burrowing Owl Mitigation, for review by CDFW .... At a minimum, the following recommendations shall be implemented: a. Temporarily disturbed habitat shall be restored, ... b. Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows and burrowing owl impacted are replaced based on a site-specific analysis and shall include permanent conservation of similar vegetation communities ... c. If compensatory mitigation is required, permanently protect mitigation land through a conservation easement, deed restriction, or similar mechanism deeded to a nonprofit conservation organization or public agency with a conservation mission. ...

12-A cont'd

Due to a rapid decline throughout California (Miller 2024), the California Fish and Game Commission voted unanimously in 2024 to designate the burrowing owl as a candidate for listing under the California Endangered Species Act. It is therefore imperative to first consult with the CDFW about whether and how to obtain an incidental take permit (ITP), and otherwise to adhere to the CDFW (2012) survey and mitigation guidelines. The DEIR indicates that there has been no consultation with CDFW, and it misrepresents CDFW's (2012) survey and mitigation guidelines by mischaracterizing breeding-season detection surveys as preconstruction take-avoidance surveys. A preconstruction take avoidance survey is different from a breeding-season survey effort, as summarized below.

For the burrowing owl, there are three types of surveys recommended and described in the CDFW's (2012) survey and mitigation guidelines: (1) Habitat assessment, (2) Detection surveys, and (3) Preconstruction survey. The habitat assessment is intended to evaluate the likelihood that the site supports burrowing owls, and to decide whether detection surveys should be performed. The detection survey, otherwise described as either or both breeding-season or non-breeding-season survey, is intended to detect whether the site truly supports burrowing owls, and if so, where and how many. The preconstruction survey, otherwise known as a take-avoidance survey, is intended to determine whether burrowing owls immigrated to the site since completion of the detection survey, or whether they returned to the site since passive or active relocations were performed as mitigation. The three types of survey carry distinct but inter-related purposes, and CDFW (2012) intends them to be completed in chronological order as numbered above.

The first two types of survey support impacts analysis, whereas the third type of survey is a mitigation measure. Burrowing owls can be determined absent at the time of the survey based on evidence derived from the habitat assessment or detection survey, but only if the surveys achieved the minimum standards of CDFW (2012). Whereas an absence determination naturally follows from the negative findings of properly performed detection surveys, the following three questions must be answered negatively to determine absence based on the habitat assessment:

A) Are there occurrence records nearby the project site?
B) Is the site's vegetation cover and height typical of where burrowing owls are found?
C) Are there fossorial mammals present which typically construct burrows useable by burrowing owls, or are there surrogate cavities that can serve as nest sites?

12-A cont'd

If the answers to these questions are compellingly negative, then detection surveys are not necessary, but they could be implemented to make certain that burrowing owls are absent on the project site. If the answers to these questions are affirmative or not compellingly negative, then it should be assumed that burrowing owl habitat exists on the site until detection surveys prove otherwise.

To question A, the nearest burrowing owl occurrence records are between 1.5 and 4 miles from the project site. In fact, I personally observed a burrowing owl only 3 miles from the site last year. Moreover, South (2025) determines burrowing owls have a High likelihood to occur on the site. The weight of the evidence easily justifies an affirmative answer to question A, and so this part of the habitat assessment warrants a detection survey effort.

To question B, the vegetation on site is typical of the area, and much of it is typical of vegetation often used by burrowing owls. The answer to question B is affirmative, and so this part of the habitat assessment warrants a detection survey effort.

To question C, ground squirrels are known to occur on the project site. Ground squirrels construct burrows used by burrowing owls, and these two species mutually alarm-call

for predators and survive better together (K. S. Smallwood, unpublished data). The answer to question C is affirmative, and so this part of the habitat assessment warrants a detection survey effort.

The answers to all three questions are affirmative. Therefore, breeding-season detection surveys are needed, and these surveys are not to be confused with preconstruction take-avoidance surveys. Breeding-season detection surveys are needed to accurately characterize the existing environmental setting and to publicly disclose potential impacts on the burrowing owl.

4.3-7: *If nighttime lighting for construction activities and operations is required and is within 50 feet of the outside edge of areas containing habitat for special-status wildlife, as determined by the qualified biologist, lighting shall be directed away from those areas that contain habitat for special-status wildlife.*

This measure belongs in MM 4.3-4 as another Best Management Practice. Its conservation benefits would be *de minimis* relative to project impacts on wildlife, because it would not avoid habitat loss, habitat fragmentation, and the collision mortality with project-generated mortality I predict herein.

4.3-8: *Prior to and during construction activities: a. If any San Joaquin kit fox dens are found during pre-construction surveys, the status of the dens shall be evaluated no more than 14 days prior to project ground disturbance. Provided that no evidence of kit fox occupation is observed, potential dens shall be marked and a 50-foot avoidance buffer delineated using stakes and flagging or other similar material to prevent inadvertent damage to the potential den. If a potential den cannot be avoided, it may be hand-excavated following United States Fish and Wildlife Service standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance by the lead biologist. If kit fox activity is observed at a den, the den status shall change to "known" per United States Fish and Wildlife Service guidelines (1999), and the buffer distance shall be increased to 100 feet. Absolutely no excavation of San Joaquin kit fox known or pupping dens shall occur without prior authorization from the United States Fish and Wildlife Service and California Department of Fish and Wildlife. b. To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site during construction, the perimeter security fence shall leave a 5-inch opening between the fence mesh and the ground … c. All pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. … d. To prevent inadvertent entrapment of San Joaquin kit foxes, badgers, or other animals during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials at the close of each working day, … e. All vertical tubes used in project construction, such as chain link fencing poles shall be temporarily or permanently capped at the time they are installed to avoid the entrapment and death of special-status birds.*

12-A cont'd

Most of this measure is redundant with Best Management Practices listed in MM 4.3-4. Only 4.3-8(a) is unique to this measure.

MM 4.3-8 inappropriately defers the detection survey to a time when it could no longer achieve four of CEQA's primary objectives to (1) accurately characterize the existing environmental setting as part of the CEQA review, (2) disclose potential project impacts to the public and decision-makers, and (3) foster public participation with decision-making over proposed projects to (4) identify issues and feasible alternative mitigation measures to minimize environmental impacts. The appropriate timing of the survey is essential, not just biologically but also in terms of achieving CEQA's objectives.

Furthermore, this measure would not avoid the permanent loss of habitat and productive capacities of any of these three species, as the measure cannot change the existing carrying capacities in the region. Its conservation benefits would therefore be *de minimis* relative to project impacts on these species.

MM 4.3-8(b) addresses the management of a security fence to enable passage of San Joaquin kit foxes during construction. The DEIR also mentions a permanent 8-foot-tall securing fence. As I commented above, if the fence is a cyclone fence or something similar in construction, it would add an unmitigated impact of collision mortality of birds and bats.

4.3-9: *If construction activities are conducted during the typical nesting bird season (February 15 through September 15), pre-construction surveys shall be conducted by a qualified biologist prior to any site preparation and/or construction activity to identify potential nesting bird activity. … Swainson's hawk protocol-level surveys shall be consistent with the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC 2000); If no active nests are found within the survey area, no further mitigation is required. If nesting activity is identified during the pre-construction survey process, the following measures will be implemented: …*

12-A cont'd

If the project goes forward, preconstruction surveys for nesting Swainson's hawks should be implemented, but this measure would not avoid the permanent loss of habitat nor the collision mortality with automobiles and project infrastructure. The project's impact on Swainson's hawk would be the permanent loss of 110 acres of habitat. MM 4.3-9 requires no compensatory mitigation for the loss of this habitat, which is a flaw of this measure. The conservation benefits of this measure would be *de minimis* compared to the project's potential impacts on breeding Swainson's hawks.

MM 4.3-10: *Pre-construction protocol-level surveys by a qualified biologist for nesting birds shall be required if construction activities are scheduled to occur during the breeding season for raptors and other migratory birds (February 1- August 31), to reduce potential impacts to nesting birds and raptors. The survey shall be conducted within 30 days of ground disturbance activities. a. If any nesting birds/raptors are observed, a qualified biologist shall determine buffer distances and/or the timing of project activities so that the proposed project does not cause nest abandonment or destruction of eggs or young. …*

If the project goes forward, preconstruction surveys for nesting birds should be implemented, but this measure would not avoid the permanent loss of habitat nor the collision mortality with automobiles and project infrastructure. Preconstruction, take-avoidance surveys should 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. To be successful, these types of observations typically require many surveys on many dates spread throughout the breeding season even for a single species. To identify and locate the birds of all species nesting on a site would require a much greater survey effort than can be accomplished in MM 4.3-10's allotted timespan. Many bird nests would be missed.

I estimate the project site supports 363 nest sites in the average year, and this number does not include those that would need to be located within the defined buffer area beyond the project site's boundary. Even assuming all these nests could be found (not likely), the mitigation measure would apply only to the breeding season of the survey. After the breeding season of the preconstruction survey, there would be no further production of birds from the project site. The project's impact on birds would be permanent and of large magnitude. The conservation benefits of this measure would be *de minimis* compared to the project's potential impacts on breeding birds.

Furthermore, the mitigation language allows a single individual to make a subjective decision, outside the public's view, to determine the buffer area and buffer timing for any given species. This measure lacks objective criteria, and it is therefore unenforceable.

12-A cont'd

Lastly, the mitigation language includes the requirement that the preconstruction nest survey shall be conducted by a qualified biologist, and this requirement carries over to determinations of the buffer areas and buffer timing to avoid take caused by construction activities. Undefined, however, is what qualifies as a "qualified biologist" in these contexts. As mentioned earlier in this letter, Noriko Smallwood and I have been conducting surveys over the past several years to estimate total nest density, which is relevant to a preconstruction, take-avoidance survey because our surveys were likewise directed to all bird species that could be concurrently nesting on a site. Searching for the nests of one species is difficult, but searching for nests of all bird species at once is vastly more difficult. For this reason, there are very few published estimates of total nest density, and there are very few wildlife biologists who have experience with surveys for the nest attempts of all bird species on a given site. A technical way to qualify a wildlife biologist for the tasks outlined in this measure would be to obtain an agency Memorandum of Understanding in which the biologist is named and said to be qualified for conducting the preconstruction survey and for determining the take-avoidance buffer area and timing. However, a more compelling means of qualifying the biologist would be to require that the biologist has achieved demonstrable experience with nest surveys and avian nesting behavior. Without a better definition of what is a qualified

biologist in the contexts of these tasks, MM 4.3-10 lacks objective criteria, and it is therefore unenforceable.

MM 4.3-11: *Prior to any vegetation removal during site preparation, the areas required for construction shall be surveyed for actively nesting birds. If any wildlife is encountered during the course of construction, the wildlife shall be allowed to leave the construction area unharmed. Should any active bird nests be identified, the vegetation shall not be removed in areas that contain actively nesting birds. A biological monitor shall survey the areas of vegetation slated for removal, a report shall be submitted to the Kern County Planning and Natural Resources Department for review prior to site preparation.*

This measure is merely a repeat of part of MM 4.3-10. See my comments on MM 4.3-10.

MM 4.3-12: *A qualified biologist shall conduct a survey for Crotch's bumble bee and their requisite habitat using the California Department of Fish and Wildlife -approved protocol during the blooming period immediately prior to project construction to detect bumble bees and potential nesting sites. The survey shall be conducted within a survey area that includes a 50-foot buffer around the Project footprint and results submitted to California Department of Fish and Wildlife at least seven {7) days prior to commencing any project activities. If Crotch's bumble bee is identified during surveys or at any time during Project construction, the project proponent shall confer with California Department of Fish and Wildlife to determine if take can be avoided. If avoidance of Crotch's bumble bee nest{s) is not feasible, take authorization prior to ground disturbing activities is warranted. Take authorization would occur through issuance of an Incidental Take Permit by California Department of Fish and Wildlife, pursuant to Fish and Game Code section 2081{b). Alternatively, in the absence of surveys, the project proponent may assume presence and apply for and acquire an Incidental Take Permit for Crotch's bumble bee prior to initiating project activities.*

12-A cont'd

MM 4.3-12 inappropriately defers the appropriate detection survey to a time when it could no longer achieve four of CEQA's primary objectives to (1) accurately characterize the existing environmental setting as part of the CEQA review, (2) disclose potential project impacts to the public and decision-makers, and (3) foster public participation with decision-making over proposed projects to (4) identify issues and feasible alternative mitigation measures to minimize environmental impacts. The appropriate timing of the survey is essential, not just biologically but also in terms of achieving CEQA's objectives. According to CDFW (2023:3), "On-site surveys provide the most valuable information for determining potential impacts of proposed projects and activities on the four candidate bumble bee species, and subsequently developing measures to avoid or minimize take of these species." This guidance obviously recognizes the need to complete the detection surveys before the public circulation of the CEQA review document; otherwise, it would not be possible to determine potential impacts or formulate appropriate mitigation.

Crotch's bumble bee is a candidate for listing under the California Endangered Species Act, and it is confirmed as present on the project site. It is therefore important to implement the appropriate detection survey, which should be consistent with CDFW (2023). The survey needs to be implemented prior to the public circulation of the DEIR.

Furthermore, I found no evidence in the DEIR that efforts have been made to obtain an ITP, nor that CDFW is inclined to issue and ITP for Crotch's bumble bee.

NEEDED MITIGATION MEASURES

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by collisions with automobiles due to 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).

12-A cont'd

Wildlife overcrossings and under-crossings have been built and tested for wildlife use. Strategic fencing and speed controls have also been implemented, as speed is an important factor to wildlife mortality (Illner 1992), and whereas a required mitigation includes an onsite speed limit, this measure would not apply to commuter traffic off the project site.

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation is needed, and it ought to also 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 during construction and by collisions with automobiles traveling to and from the project site during project operations.

Thank you for your consideration,



Shawn Smallwood, Ph.D.

LITERATURE CITED

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.

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.

CDFW (California Department of Fish and Wildlife). 2012. Staff report on burrowing owl mitigation. Sacramento, California.

CDFW (California Department of Fish and Wildlife). 2019. Approved Survey Methodology for the Blunt-Nosed Leopard Lizard, October 2019 (Revised).

CDFW (California Department of Fish and Wildlife). 2023. Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species.

Cypher, B.L., S.E. Phillips, and P.A. Kelly. 2013. Quantity and distribution of suitable habitat for endangered San Joaquin Kit Foxes: Conservation implications. Canid Biology & Conservation 16:25–31.

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.

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.

Illner, H. 1992. Road deaths of Westphalian owls: methodological problems, influence of road type and possible effects on population levels. Pp. 94-100 in C. A. Galbraith, I. R. Taylor, and S. Percival, eds. The ecology and conservation of European owls. Peterborough, Joint Nature Conservation Committee, UK Nature Conservation No. 5.

Jorgensen, J. G., L. R. Dinan, M. A. Brogie, W. R. Silcock, J. Rink, C. Klaphake, and G. Steinauer. 2014. Breeding bird diversity, abundance and density at Indian Cave and Ponca State Parks, Nebraska 2012-2014. Nongame Bird Program of the Nebraska Game and Parks Commission. Lincoln, NE.

Los Padres Forest Watch and Center for Biological Diversity. 2010. Before the Secretary of Interior Petition to Designate Critical Habitat for the Endangered San Joaquin Kit Fox (*Vulpes Macrotis Mutica*) under the Endangered Species Act. Santa Barbara.

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.

National Research Council. 1986. Ecological knowledge and environmental problem-solving: concepts and case studies. National Academy Press, Washington, D.C.

Nogeire-McRae, T., J. J. Lawler, N. H. Schumaker, B. L. Cypher, and S. E. Phillips. 2019. Land use change and rodenticide exposure trump climate change as the biggest stressors to San Joaquin kit fox. PLoS ONE 14(6): e0214297. https://doi.org/10.1371/journal.pone.0214297

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

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 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, K. S., and N. L. Smallwood. 2023. Measured effects of anthropogenic development on vertebrate wildlife diversity. Diversity 15, 1037. https://doi.org/10.3390/d15101037.

South Environmental. 2025. Final Biological Resources Assessment: Airport Commerce Center Industrial Project by ACC, Bakersfield JV, LLC in Bakersfield, California. Report to FirstCarbon Solutions.

USFWS (U.S. Fish and Wildlife Service). 1999. San Joaquin Kit Fox Survey Protocol for the Northern Range. Prepared by the Sacramento Fish and Wildlife Office, June 1999.

USFWS (U.S. Fish and Wildlife). 2010. San Joaquin Kit Fox (*Vulpes macrotis mutica*) 5-Year Review: Summary and Evaluation. Sacramento, California.

USFWS (U.S. Fish and Wildlife). 2020a. 5-Year Review San Joaquin kit fox (*Vulpes macrotis mutica)*.

USFWS (U.S. Fish and Wildlife). 2020b. Species Status Assessment Report for the San Joaquin kit fox (*Vulpes macrotis mutica*). UI.S. Department of the Interior.

Young, H. 1948. A comparative study of nesting birds in a five-acre park. The Wilson Bulletin 61:36-47.

Kenneth Shawn Smallwood
Curriculum Vitae

3108 Finch Street
Davis, CA 95616
Phone (530) 756-4598
Cell (530) 601-6857
puma@dcn.org

Born May 3, 1963 in
Sacramento, CA
Married, father of two.

Ecologist

Business **Smallwood Ecology**

- Employs Noriko Smallwood, M.S., Environmental Science with focus on wildlife

Expertise

- Finding solutions to controversial problems related to wildlife interactions with anthropogenic infrastructure and activities;
- Design of field study to detect, enumerate, or monitor wildlife and behavior patterns by visual search, GPS, thermal imaging, and acoustic bat survey;
- Using systems analysis and experimental design principles to identify meaningful ecological patterns from that can inform conservation and management of terrestrial wildlife.

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

- 1,072 professional reports, including:
- 96 peer reviewed publications
- 24 in non-reviewed proceedings
- 950 reports, declarations, posters and book reviews
- 8 in mass media outlets
- 98 public presentations of research results

Expert testimony regarding potential impacts from development projects: To check on the accuracy of the characterization of wildlife communities at sites of proposed residential, commercial and industrial projects, I perform visual-scan surveys for

wildlife, thermal-imaging at night, and acoustic detection of bats using a Petterson M500 detector and Sonobat Live to identify bats by sonograms of their calls. I predict project impacts and I compare my findings to those in the environmental review documents. I also testify on potential outcomes of water transfers and water transfer delivery systems, endangered species recovery plans, Habitat Conservation Plans, Natural Communities Conservation Programs, proposed Federal Rules and State and Federal policies and regulations affecting wildlife. I deliver oral testimony to government agencies, Tribunals, Boards of Supervisors and City Councils, and participated with press conferences and depositions. I prepare expert witness reports and court declarations, and I participate with depositions.

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 it advised the County on how to reduce wildlife collision mortality.

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 Professor Shu Geng and Dr. 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 based on 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 database 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 method for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

Projects and Studies

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 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. I also collaborated, and continue to collaborate with, Dr. Douglas Bell in a GPS telemetry study of 44 golden eagles originating from the northern Diablo Range. The goal was to quantify flight patterns for development of predictive models to more carefully site new wind turbines in repowering projects. I performed focused behavior surveys from May 2012 through 2019, and golden eagle telemetry monitoring from 2013 through the present. Collision hazard models were prepared for eight wind projects, three of which were built.

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.

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 management in 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 opportunities for research collaboration in the environmental and agricultural sectors.

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., and D. A. Bell. 2025. On the Spatial distribution of eagle carcasses around wind turbines: implications for collision mortality estimation. Diversity 2025, 17, 686. https://doi.org/10.3390/d17100686

Smallwood, K. S. 2025. Background Mortality of Wildlife on Renewable Energy Projects. Diversity 2025, 17, 628. https://doi.org/10.3390/d17090628

Smallwood, K. S. and M. L. Morrison. 2024. Burrowing owls require mutualist species and ample interior habitat space. Diversity 2024, 16, 590. https://doi.org/10.3390/d16090590

Smallwood, K. S., and N. L. Smallwood. 2023. Measured effects of anthropogenic development on vertebrate wildlife diversity. Diversity 15, 1037. https://doi.org/10.3390/d15101037.

Bell, D. A., S. A. Snyder, J. E. DiDonato, and K. S. Smallwood. 2023. Conspecific carcass removal from a wind project study plot by a great horned owl (*Bubo Virginanus*). Journal of Raptor Research 57:489-492.

Kitano, M., K. S. Smallwood, and K. Fukaya. 2022. Bird carcass detection from integrated trials at multiple wind farms. Journal of Wildlife Management: In press.

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 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, K. S. 2020. USA wind energy-caused bat fatalities increase with shorter fatality search intervals. Diversity 12(98); https://doi.org/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. 2020a. Effects of wind turbine curtailment on bird and bat fatalities. Journal of Wildlife Management 84:684-696. DOI: 10.1002/jwmg.21844

Smallwood, K. S., and D. A. Bell. 2020b. Relating bat passage rates to wind turbine fatalities. Diversity 12(84); doi:10.3390/d12020084.

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. Turbine siting for raptors: an example from Repowering of the 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.

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., A. Gonzales, T. Smith, E. West, C. Hawkins, E. Stitt, C. Keckler, C. Bailey, and K. Brown. 2000. Suggested standards for science applied to conservation issues. Transactions of the Western Section of the Wildlife Society 36:40-49.

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. 1996. 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. https://tethys.pnnl.gov/publications/range-management-practices-reduce-wind-turbine-impacts-burrowing-owls-other-raptors

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. A framework to screen wind power sites for potential impacts to birds 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.
https://www.nrel.gov/docs/fy05osti/36973.pdf

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.
https://tethys.pnnl.gov/publications/developing-methods-reduce-bird-mortality-altamont-pass-wind-resource-area

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. 2026. Burrowing Owls (*Athene cunicularia*) in the Altamont Pass Wind Resource Area. Report to East Bay Regional Park District. 218 pp.

Smallwood, K. S., L. Neher, and D. A. Bell. 2023. Golden eagle roost sites based on telemetry data. Report to Salka Energy, San Diego, California. 29 pp.

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.

Smallwood, K. S. and C. Thelander. 2006. Response to third review of Smallwood and Thelander (2004). In Terry Surles and Edward Vine, Eds., Avian/Wind Statistical Peer Review Project. Report to California Energy Commission. Contract No. 500-02-004. https://tethys.pnnl.gov/sites/default/files/publications/Surles-2006.pdf

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

Assessment of wildlife collision risk with fourth wind turbine layout of Sand Hill and Rooney Ranch Wind Farms. Report to Viracocha Wind, Bethesda Maryland, and Salka, San Diego, California. 2 pp.

Smallwood, K. S. 2025. Review of Identifying Critical Drivers of Western Snowy Plover Reproductive Success to Guide Management Toward Recovery Goals (Neuman et al. 2024). Report to Center for Biological Diversity.

Smallwood, K. S. 2024. Assessment of grading impacts on eagles at Viracocha Wind. Report to Viracocha Wind, Bethesda Maryland, and Salka, San Diego, California. 1 p.

Smallwood, K. S. 2023. Assessment of wildlife collision risk with third wind turbine layout of Sand Hill & Rooney Ranch Wind Farm. Report to Viracocha Wind, Bethesda Maryland, and Salka, San Diego, California.

Smallwood, K. S. and D. A. Bell. 2022. Ground squirrel abundance and repeat raptor surveys at Vasco Caves Regional Preserve, 2006–2019. Report to the East Contra Costa County Habitat Conservancy Science and Research Grant Program. 80 pp.

Smallwood, K. S. 2022c. Assessment of wildlife collision risk with second wind turbine layout of Sand Hill and Rooney Ranch Wind Farm. Report to Viracocha Wind LLC and Salka LLC.

Smallwood, K. S. 2022b. Assessment of wildlife collision risk with second wind turbine layout of Viracocha Wind Farm. Report to Viracocha Wind LLC and Salka LLC.

Smallwood, K. S. 2022. Survey for Burrow Systems of San Joaquin Kangaroo Rat (*Dipotomys nitratoides*) at Natural Resource Management Area 5, Naval Air Station, Lemoore. Report to U.S. Navy.

Smallwood, K. S. 2022a. Assessment of wildlife collision risk with initial wind turbine layout of Viracocha Wind Farm. Report to Viracocha Wind LLC and Salka LLC.

Smallwood, K. S. 2020. Baseline Map of California Ground Squirrel Burrow Systems on Marsh Creek Preserve. Report to East Bay Regional Park District, Oakland, California.

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 Sand Hill Repowering Project, Altamont Pass Wind Resource Area. Report to S-Power, Salt Lake City, Utah.

Smallwood, K. S., and L. Neher. 2018. Siting wind turbines to minimize raptor collisions at Rooney Ranch 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: 2013 Final Report (Inclusive of work during 2000-2013). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California.

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. Magney. 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.

Written Expert Testimony on Environmental Documents (Year; pages)

I was retained or commissioned to comment on environmental planning and review documents, including:

- Delano Pre-zoning Application No. 25-0002 Staff Report, City of Delano (2026; 20);
- PCUP24-017 Kinder Morgan Ontario Terminal Tank OT-4, Ontario International Airport (2026; 7);
- Del Puerto Canyon Reservoir PRDEIR, Del Puerto Water District (2026; 37);
- Replies to responses to comments on Bridgehead Industrial Project DEIR, City of Oakley (2026; 49);
- Pacific Palmdale DEIR, Palmdale (2026; 50);
- Village Farms Project FEIR, Davis (2026; 17);
- Village Farms Project DEIR, Davis (2025; 19);
- PS Solar Project DEIR, Twentynine Palms (2026; 52);
- Baker Street Warehouse Project DEIR, Lake Elsinore (2026; 55);
- Dexter Village IS/MND, Lake Elsinore (2026 ; 52);
- 83 Princess Street, California Design Review, City of Sausalito (2026; 39);
- Replies to responses to comments on Bridgehead Industrial Project DEIR, City of Oakley (2026; 49);
- Delta Conveyance Project Incidental Take Permit, California Department of Water Resources (2025; 37);

- Tri Pointe Homes Staff Report, City of Banning (2025; 38);
- Replies to responses to comments on Locust Gateway Development Project DEIR, City of Rialto (2025; 30);
- Meredith International Centre Specific Plan Amendment – Planning Area 3 Project FEIR Addendum, City of Ontario (2025; 44);
- Pepper 210 Commerce Center Project IS/MND, City of Rialto (2025; 35);
- Pacific Gateway Specific Plan Project DEIR, San Joaquin County (2025; 57);
- Lake Creek Logistics Center DEIR, City of Apple Valley (2025; 49);
- Replies to responses to comments on E&P Technology Way - Building A & B IS/MND, County of Napa (2025; 56);
- Menifee 27 Residential Staff Report (2025; 46);
- Shingle Springs Band of Miwok Indians 295.7-Acre Fee-to-Trust Project Environmental Assessment (2025; 17);
- Catavina Residential Project IS/MND, Palm Desert (2025; 52);
- Menifee Business Park DEIR (2025; 43);
- Replies to responses to comments on Ophir Road Warehouse Project DEIR, Oroville (2025; 19);
- Thermal Ranch Specific Plan DEIR, County of Riverside (2025; 53);
- Camino Pablo Single-Family Residential Subdivision IS/MND, Morgan Hill (2025; 44);
- Adesa Foods Project IS/MND, City of Rialto (2025; 34);
- Entrada South and Valencia Commerce Center SEIR, County of Los Angeles (2025; 61);
- Malibu Vineyards Industrial Parkway Project DREIR, City of Bakersfield (2025; 37);
- Locust Gateway Development Project DEIR, City of Rialto (2025; 41);
- FSRE Industrial Concord Project DEIR, City of Concord (2025; 34);
- Bridgehead Industrial Project DEIR, City of Oakley (2025; 40);
- San Francisco Housing Element 2022 Update FEIR Addendum (2025; 22);
- Trails at Lyons Canyon DEIR, County of Los Angeles (2025; 55);
- Replies to responses to comments on Conejo Summit Project DEIR, Thousand Oaks (2025; 30);
- Replies to responses to comments on Rome Hill Commercial IS/MND, City of Lake Elsinore (2025; 16);
- Rome Hill Commercial IS/MND, City of Lake Elsinore (2025; 34);
- Replies to responses to comments on Town & Country Village Project DEIR, County of El Dorado (2025; 46);
- Arroyo Vista Project DEIR. County of Riverside (2025; 46);
- Rubio Village Mixed-Use Project IS/MND, City of San Gabriel (2025; 64);
- Replies to responses to comments on Bickmore Warehouse IS/MND, Hesperia (2025; 4);
- Vesting Tentative Tract Map 7500 Staff Report, City of Bakersfield (2025; 10);
- Spirit Living at 55 Thomas Dr/70 Knoll Rd Design Plans, Tiburon (2025; 39);

- Cargo Solutions Truck Warehouse and Truck Stop Hesperia Project IS/MND (2025; 40);
- Fontana Master Case No. 23-0101, Conditional Use Permit No. 24-0022, and Design Review No. 23-0024 Class-32 CEQA Categorical Exemption, City of Fontana (2025; 32);
- Vesting Tentative Tract Map 7471 IS/MND, City of Bakersfield (2025; 46);
- Replies to responses to comments on Upper Westside Specific Plan DEIR, County of Sacramento (2025; 56);
- Upper Westside Specific Plan DEIR, County of Sacramento (2025; 63);
- Flat Creek Solar Project Major Renewable Energy Facility Siting Permit pursuant to Article VIII of the New York State Public Service Law, Towns of Root and Canajoharie, Montgomery County, New York (2025; 37);
- Replies to responses to comments on Dogwood Geothermal Energy Project DEIR, Imperial County (2025; 22);
- Wineville Development Project DEIR, Jurupa Valley (2025; 43);
- Desert Business Park MSD Addendum, County of Riverside (2025; 29);
- Chino Gateway Terminal Project DEIR Addendum, Chino (2025; 39);
- Mesa Verde Specific Plan DSEIR, City of Calimesa (2025; 53);
- Harvest Landing Retail Center & Business Park DEIR, City of Perris (2025; 40);
- Hive Live Project DEIR, Costa Mesa (2025; 37);
- Perris Airport Logistics Center DEIR, Perris (2025; 41);
- Vehicle-Caused Mortality of Western Snowy Plovers On Oceano Dunes State Vehicular Recreation Area (2025; 17);
- Dakota Warehouse Project IS/MND, Apple Valley (2025; 36);
- Delta Conveyance Project FEIR, CDFW ITP, California Department of Water Resources (2025; 45);
- Oceanside Transit Center EIR, Oceanside (2025; 41);
- Auburn Development, Ecosave III (LDP 23-02) IS/MND, Adelanto (2025; 39);
- Replies to responses to comments on Dogwood Geothermal and Solar DEIR, Imperial County (2025; 22);
- Pinyon Solar Project EA, BLM, Phoenix (2025; 63);
- Armorlite Lofts Project DEIR/FEIR, San Marcos (2025; 47);
- Ophir Road Warehouse Project DEIR, Oroville (2025; 47);
- Intex Corporate Office and Fulfillment Center Project, Long Beach (2025; 35);
- Sywest Industrial Building FEIR, Goleta (2025; 42);
- Vista Santa Domingo Warehouse Project rezone, Otay Mesa (2025; 28);
- Replies to responses to comments on Airport South Industrial Park and City Annexation DEIR, Sacramento (2025; 33);
- Flat Creek Solar Project 94-c Permit for Major Renewable Energy Facility, Montgomery County, New York (2025; 29);
- Bickmore Warehouse IS/MND, Hesperia (2025; 25);
- Replies to responses to comments on Brew Enterprises Warehouse, Perris (2025; 41);

- Nexus Hotel IS.MND, Palm Springs (2025; 33);
- Ranegras Plains Energy Center Project DEIS, Arizona (2025; 58);
- Riverside County General Plan Amendment for 350,000+ sf warehouse (2025; 31);
- Riverside County General Plan Amendment for 224,800 sf warehouse (2025; 29);
- Hageman Industrial Park DEIR, Bakersfield (2025; 42);
- Adelanto Warehouse CEQA Exemption (2025; 25);
- Tire Recycling Facility IS/MND, Adelanto (2025; 29);
- Replies to responses to comments on Sites Reservoir Application to California Water Board (2025; 41);
- Bakersfield General Plan Amendment/Zone Change No. 24-0372, Bakersfield (2025; 29);
- The Pointe Apartments CEQA Exemption, Oxnard (2025; 37);
- Mill Point Solar I Article VIII Permit for Major Renewable Energy Facility, Montgomery County, New York (2025; 36);
- Conejo Summit Project DEIR, Thousand Oaks (2025; 45);
- Replies to responses to comments on March Plaza IS/MND, Perris (2025; 5);
- March Plaza IS/MND, Perris (2024; 32);
- Replies to responses to comments on Arcadia Town Center IS/MND, Arcadia (2025; 3);
- Arcadia Town Center IS/MND, Arcadia (2024; 33);
- Westlanc Partners Hotel Project IS/MND, Lancaster (2025; 44);
- Temecula Resort and Spa Class 32 Exemption, Temecula (2025; 34);
- Briones Regional Park Staff Report, East Bay Regional Park District (2024; 63);
- Declaration regarding Havana Warehouse, Riverside County (2024; 6);
- 11623 Glenoaks Blvd (no CEQA review), City of Los Angeles (2024; 28);
- Five Point Community Offices SSEIR, Irvine (2024; 23);
- Replies to responses to comments on ENV-2022-6190-CE Categorical Exemption - Class 32, City of Los Angeles (2024; 17);
- ENV-2022-6190-CE Categorical Exemption - Class 32, City of Los Angeles (2024; 2);
- 380 North First Street DEIR, San Jose (2024; 21);
- Site Plan Review 23-014 IS/MND, Lancaster (2024; 29);
- Big Ranch Road Annexation Exemption, City of Napa (2024; 43);
- E&P Technology Way - Building A & B IS/MND, County of Napa (2024; 30);
- Outlaw Battery Energy Storage Project IS/MND, Kings County (2024; 26);
- Replies to responses to comments on Hills Preserve Project DEIR, Anaheim (2024; 57), and update (2024; 4);
- Replies to responses to comments on Tennessee Village Mixed-Use Project IS/MND, Redlands (2024; 26);
- Glen Annie Site (#11) in the Housing Element Update, County of Santa Barbara (2024; 61);
- Quail Meadows Apartments CEQA Exemption, Encinitas (2024; 61);
- Dogwood Geothermal and Solar DEIR, Imperial County (2024; 60);

- Hills Preserve Project DEIR, Anaheim (2024; 57), and update (2024; 14);
- Temescal Commercial Project EA/IS, County of Riverside (2024; 36);
- 11011 Torreyana Road Project SMND, Torrey Pines (2024; 42);
- Rosemount Storage Project IS/MND, Cathedral City (2024; 9);
- Town & Country Village Project DEIR, El Dorado County (2024; 40);
- Maruchan Expansion Project EIR Addendum, Irvine (2024; 30);
- American River One Project CEQA Exemption, Sacramento (2024; 35);
- Spruce & Red Oak Apartments Project Notice of Exemption Supplement Information, Rancho Cucamonga (2024; 38);
- SDG Commerce 220 Distribution Center DEIR, American Canyon (2024; 39);
- Simi Pak Industrial Project IS/MND, Simi Valley (2024; 33);
- Replies to responses to comments on 4th & Hewitt Project DEIR, Los Angeles (2024; 5);
- Replies to responses to comments on Hardt and Brier Business Park IS/MND, San Bernardino (2024;
- Riverview Development Project IS/MND, Santa Clarita (2024; 37);
- Replies to responses to comments on 1360 N. Vine Street Project DEIR, Los Angeles (2024; 5);
- 1360 N. Vine Street Project DEIR, Los Angeles (2024; 29);
- Sites Reservoir Application to California Water Board (2024; 43);
- 022-221-100 Corona Drive, Pacifica (2024: 26);
- Airport South Industrial Park and City Annexation DEIR, Sacramento (2024; 53);
- Early Times Cell Tower at 12415 Fig Road IS/MND, County of Sacramento (2024; 29);
- University Community Plan, San Diego (2024; 10);
- 2720 S Willow Industrial Project IS/MND, Rialto (2024; 31);
- Elisabeth Solar Energy Project EA, Yuma Arizona (2024; 75);
- Jove Solar Energy Project DEIS, Yuma Arizona (2024; 103);
- Tennessee Village Project IS/MND, Redlands (2024; 43);
- Declaration on Whistling Ridge Energy Project Site Certification Agreement, Washington Energy Facility Site Evaluation Council (2024; 30);
- Replies to responses to comments on Dynamo Solar IS/MND, Napa (2024; 11);
- Dynamo Solar IS/MND, Napa (2024; 37);
- Shirk & Riggin Industrial Park DEIR, Visalia (2024; 37);
- Replies to responses to comments on Cal 98 Holdings IS/MND, Imperial County (2024; 10);
- Cal 98 Holdings IS/MND, Imperial County (2024; 39);
- 2nd Replies to responses to comments on Amazing 34 Distribution Center IS/MND, San Bernardino (2024; 28);
- Western States Solar Plan DPEIS, Washington D.C. (2024; 66);
- Patterson Business Center IS/MND, Perris (2024; 30);
- Replies to responses to comments on Sunset and Everett Project SCEA, Los Angeles (2024; 24);

- Sunset and Everett Project SCEA, Los Angeles (2024; 33);
- 605-613 Bridgeway, Sausalito (2024; 28);
- PBP Industrial Project IS/MND, Palmdale (2024; 35);
- Replies to responses to comments on Lockwood III Apartments IS/MND, Oxnard (2024; 19);
- Lockwood III Apartments IS/MND, Oxnard (2024; 42);
- 1169 8th Ave. Mixed-use Development City Posting, San Diego (2024; 16);
- 2nd Brew Enterprises Warehouse IS/MND, Perris (2024; 39);
- Replies to responses to comments on Hughes SMCC Industrial Project DEIR, San Marcos (2024; 5);
- Hughes SMCC Industrial Project DEIR, San Marcos (2024; 44);
- Harvill and Water Warehouse IS/MND, County of Riverside (2024; 41);
- Brew Enterprises Warehouse IS/MND, Perris (2024; 34);
- Garden Street Hotel Staff Report, Santa Barbara (2024; 31);
- River Walk Specific Plan DEIR, Riverbank (2024; 72);
- Woodlake Holdings Industrial Park DEIR (2024; 34);
- 2nd Quail Meadows Apartments CEQA Exemption, Encinitas (2024; 60);
- Replies to responses to comments on One Hamilton Drive Affordable Housing DEIR, Mill Valley (2024; 29);
- Glen Annie Housing Element Update, County of Santa Barbara (2024; 53);
- Replies to responses to comments on 4260 Arch North Drive Class 32 Categorical Exemption, Los Angeles (2023; 10);
- 4260 Arch North Drive Class 32 Categorical Exemption, Los Angeles (2023; 27);
- 2nd Replies to responses to comments on Rubio Village IS/MND, San Gabriel (2023; 17);
- West Foothill Development IS/MND, Upland (2023; 9);
- Costco Camarillo IS/MND (2024; 37);
- Shiloh Business Park General Plan Consistency Checklist, Windsor (2023; 25);
- Assembly and Light Industrial Building IS/MND, Grand Terrace (2024; 33);
- SMP 38, SMP 39. SMP 40 DEIR, Livermore (2023; 41);
- Summit Ridge Wind Farm second visit, The Dalles (2024; 43);
- Summit Ridge Wind Farm first visit, The Dalles (2023; 31);
- 3601 E. Mission Class 32 Categorical Exemption, Los Angeles (2023; 31);
- [Redacted] Conservation Easement, Tennessee (2023; 55);
- Hardt and Brier Business Park IS/MND, San Bernardino (2023; 32);
- Sacramento Street CEQA Exemption, San Francisco (2023; 22);
- One Hamilton Drive Affordable Housing DEIR, Mill Valley (2023; 48);
- Elmore North Geothermal site visit, Salton Sea (2023; 32);
- Morton Bay Geothermal site visit, Salton Sea (2023; 53);
- Black Rock Geothermal site visit, Salton Sea (2023; 29);
- Covelop Warehouse IS/MND, Paso Robles (2023; 39);
- Walnut Creek Flow Trail IS/MND (2023; 34);

- Replies to responses to comments on Rubio Village IS/MND, San Gabriel (2023; 15);
- Ashley Warehouse Environmental Checklist, Lathrop (2023; 38);
- Replies on 6615 Pacific Coast Highway Site Plan Review, Long Beach (2023; 12)
- Science Research Park Expansion Project EIR Addendum, San Diego (2023; 40);
- Rubio Village IS/MND, San Gabriel (2023; 14);
- Havana Investment Industrial Categorical Exemption, Jurupa Valley (2023; 22);
- New Cal Centre EIR Addendum, Kern County (2023; 39);
- 4th & Hewitt Project DEIR, Los Angeles (2023; 19);
- 4260 N Arch Drive Categorical Exemption, Los Angeles (2023; 27);
- 6700 Pacific Coast Highway Site Plan Review, Long Beach (2023; 29);
- Replies to responses to comments on 6615 Pacific Coast Highway Site Plan Review, Long Beach (2023; 12);
- 6615 Pacific Coast Highway Site Plan Review, Long Beach (2023; 34);
- Moonlight Apartments biological assessment, Encinitas (2023; 46);
- Replies to responses to comments on Modera Melrose Mixed-use DEIR, Oceanside (2023; 11);
- Modera Melrose Mixed-use DEIR, Oceanside (2023; 39);
- 550 Piercy Road Industrial IS/MND, San Jose (2023; 28);
- Living Spaces Development IS/MND, Fresno (2023; 28);
- FIND Food Bank Staff Report, Indio (2023; 19);
- Replies to responses to comments on Shadowbox Studios DEIR, Santa Clarita (2023; 35);
- Shadowbox Studios DEIR, Santa Clarita (2023; 50);
- Tulare 40 Generation Facility IS/MND, Tulare County (2023; 20);
- Garden Street Hotel Staff Report, Santa Barbara (2023; 19);
- Replies to responses to comments on 975 Manhattan Apartments Discretionary Approval, Los Angeles (2023; 10);
- 975 Manhattan Apartments Discretionary Approval, Los Angeles (2023; 12);
- 67h visit Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2023; 14);
- Coachella Airport Business Park IS/MND, Coachella (2023; 31);
- 3400 Tecate Warehouse Staff Report, Camarillo (2023; 26);
- Green Valley III Apartments DEIR, Fairfield (2023; 50);
- Pacific Specific Plan DEIR, San Marcos (2023; 55);
- Amara Bay Mixed Use Staff Report, Chula Vista (2023; 46);
- Greenlaw Partners Warehouse IS, Fresno (2023; 23);
- PODS Warehouse IS/MND, Desert Hot Springs (2023; 30);
- 6th visit Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2023; 9);
- Replies on Ormat Brawley Solar Project DEIR, Brawley (2023; 80);
- One Hamilton as part of City of Mill Valley's 2023-2031 Housing Element Update DSEIR (2023; 31);

- Second letter on Shinohara Project IS/MND, Chula Vista (2023; 22);
- 3890 Depot Road Project IS/MND, Hayward (2023; 33);
- Wellprofit Wellness Mixed-use project CEQA Exemption, Temecula (2023; 31);
- Quail Meadows Apartments CEQA Exemption, Encinitas (2023; 55);
- RCCB Fresno Distribution Center Notice of Exemption, Fresno (2022; 14);
- Stoddard Wells Industrial Project IS/MND, City of Victorville (2022; 31);
- 16454 Adelanto Road Warehouse Distribution Facility Class 32 Categorical Exemption, Adelanto (2022; 17);
- Replies on Pure Water Project – Las Virgenes-Triunfo Joint Powers Authority FPEIR, Agoura (2022; 26);
- Desert Gateway MND Addendum, Desert Hot Springs (2022; 35);
- Blue Oaks Commerce Center MND Addendum, City of Roseville (2022; 12);
- Replies on Coachillin Amendment to Specific Plan, Desert Hot Springs (2022; 24);
- Island View Mixed-Use CEQA Compliance Memo, City of Rancho Cucamonga (2022; 17);
- Prairie Station Apartments IS/MND, City if Inglewood (2022; 32);
- Golden Land Warehouse CEQA Exemption, City of Rialto (2022; 12);
- South Juarez Street Design Review, Banning (2022; 17);
- Replies on Pentair Expansion Industrial Warehouse FMND, Moorpark (2022; 13);
- 2nd Replies on Greentree FEIR, Vacaville (2022; 16);
- Replies on Temporary Outdoor Vehicle Storage FEIR, Port of Hueneme (2022; 21);
- National City-Bayfront, San Diego DEIR (2022; 56);
- Goshen Community Plan General Plan Amendment & Addendum (2022, 6);
- Primrose and Adelanto warehouse Categorical Exemption, Adelanto (2022, 14);
- TenTen Hollywood Categorical Exclusion (2022, 17);
- Waste to Hydrogen project IS/MND, Lancaster (2022, 36);
- Las Virgenes-Triunfo Pure Water Project <Agoura Hills, (2022; 43);
- Shinohara Project IS/MND, Chula Vista (2022; 30);
- Marlborough-Northgate Warehouse IS/MND, Riverside (2022; 33);
- Meyers Ave, Warehouse IS/MND, Escondido IS/MND (2022; 27);
- Northgate Industrial Park IS/MND, Sacramento (2022; 28);
- Ramona-Indian Warehouse IS/MND, Perris (2022; 44);
- Norwalk Entertainment District EIR (2022; 29);
- Breeze Luxury Apartments IS/MND, Oceanside (2022; 40);
- Paso Commons Golden Hills Commerce Center IS/MND, Paso Robles (2022; 35);
- YS Industrial Park Application, Visalia (2022; 20);
- Pentair Expansion Industrial Warehouse IS/MND, Moorpark (2022; 28);
- Salvador Solar IS/MND, Riverside (2022; 27);
- Fresno General Plan Amendment 555 IS/MND (2022; 21);
- 570 Crespi Drive IS/MND, Pacifica (2022; 40);
- Renaissance Ranch Commerce Center DEIR, Temescal Valley (2022; 53);
- Replies on Glen Ivy Senior Living IS/MND, Temescal Valley (2022; 24);

- Glen Ivy Senior Living IS/MND, Temescal Valley (2022; 46);
- FedEx Distribution Warehouse IS, Lancaster (2022; 35);
- Urban Villages EIR Addendum, San Marcos (2022; 32);
- NextEra San Ardos Solar IS/ND, San Ardo (2022; 20);
- Summit Avenue Warehouse IS/MND, Fontana (2022; 28);
- Gateway at the Oaks DEIR, Thousand Oaks (2022; 30);
- Primrose and Adelanto Warehouse CEQA Exemption, Adelanto (2022; 11);
- Fore Apartments Staff Report, Oxnard (2022; 29);
- 975 Manhattan Rd. discretionary approval, Los Angeles (2022; 12);
- Coachillin DEIR, North Palm Springs (2022; 30);
- 2740 W. Nielsen Ave Warehouse IS/MND, Fresno (2022; 25);
- Golf Center Warehouse Staff Report, Indio (2022; 26);
- Desert Peak Energy IS/MND, Palm Springs (2022; 26);
- Replies on Greentree FEIR, Vacaville (2022; 13);
- Greentree DEIR, Vacaville (2022; 31);
- Town Center DEIR, Laguna Niguel (2022; 16);
- 2nd Replies on Freedom Circle Focus Area and Greystar General Plan Amendment Project FEIR, San Jose (2022; 3);
- Corydon III CEQA Categorical Exemption, Lake Elsinore (2022; 11);
- Park Edge Apartments IS/MND, Santa Maria (2022; 30);
- Replies on UCSF New Hospital FEIR at Parnassus Heights FEIR. San Francisco (2022; 13);
- Replies on North Central Valley BESS Project IS/MND, Stockton (2022; 21);
- 9248 Holly Road Cannabis CEQA Exemption, Adelanto (2022; 12);
- Replies on Amazing 34 Distribution Center IS/MND, San Bernardino (2022; 10);
- Amazing 34 Distribution Center IS/MND, San Bernardino (2022; 28);
- Replies on Freedom Circle Focus Area and Greystar General Plan Amendment Project FEIR, San Jose (2022; 5);
- Replies on Alviso Hotel Project IS/MND, San Jose (2022; 49);
- Bussetto Foods IS/ND, Fresno (2022; 34);
- Spruce Ave Commerce Center, Rialto (2022;);
- 5006 and 5010 Mission Boulevard Warehouse IS/MND, Montclair (2022; 18);
- Conejo Summit IS/MND, Thousand Oaks (2022; 28);
- Sixth visit, Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2022; 4);
- TC NO. CAL. Development Warehousing and Distribution Facility Project DEIR, Stockton (2022; 33);
- Replies on Davidon Homes FEIR, Petaluma (2022; 49);
- Rural preservation and net conservation benefit coalition reply to post hearing briefs, Garnet Solar (2022; 24);
- Garnet Solar direct testimony, New York (2022; 17);
- Fifth visit, Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2022; 11);

- Shirk & Riggin Industrial Park Application, Visalia (2022; 22);
- Duarte Industrial Application, Visalia (2022; 17);
- Amond World Cold Storage Warehouse IS/MND, Madera (2022; 23);
- Replies on Schulte Logistics Centre EIR, Tracy (2022; 28);
- Alta Cuvee Mixed Use Project Recirculated IS/MND, Ranch Cucamonga (2022; 8);
- Fourth visit, Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2022; 9);
- Replies on 1242 20th Street Wellness Center Project FEIR, Santa Monica (2022; 5);
- 656 South San Vicente Medical Office Project EIR, Los Angeles (2022; 21);
- UCSF New Hospital at Parnassus Heights DEIR. San Francisco (2022; 40);
- DPR-21-021Warehouse IS, Modesto (2022; 19);
- Ormat Brawley Solar Project DEIR, Brawley (2022; 37);
- Site visits to Heber 1 Geothermal Repower Project IS/MND (2022; 31);
- Heritage Industrial Center Design Review, Chula Vista (2022; 13);
- Temporary Outdoor Vehicle Storage DEIR, Port of Hueneme (2022; 31);
- CNU Medical Center and Innovation Park DEIR, Natomas (2022; 35);
- Beverly Boulevard Warehouse IS/MND, Pico Rivera (2021; 28);
- Hagemon Properties IS/MND Amendment, Bakersfield (2022; 23);
- Airport Distribution Center IS/MND, Redding (2021; 22);
- Orchard on Nevada Warehouse Staff Report, Redlands (2021; 24);
- Landings Logistics Center Exemption, Bakersfield (2021; 19);
- Replies on Hearn Veterans Village IS/MND, Santa Rosa (2021; 22);
- North Central Valley BESS Project IS/MND, Stockton (2021; 39);
- 2nd Replies on Heber 1 Geothermal Repower Project IS/MND (2022; 21);
- Stagecoach Solar DEIR, Barstow (2021; 24);
- Updated Sun Lakes Village North EIR Amendment 5, Banning, Riverside County (2021; 35);
- Freedom Circle Focus Area and Greystar General Plan Amendment Project EIR, San Jose (2021; 43);
- Operon HKI Warehouse IS/MND, Perris (2021; 26);
- Fairway Business Park Phase III IS/MND, Lake Elsinore (2021; 23);
- South Stockton Commerce Center IS/MND, Stockton (2021; 31);
- Starpoint Warehouse IS/MND, San Bernardino (2021; 24);
- Replies on Heber 1 Geothermal Repower Project IS/MND (2021; 15);
- Heber 1 Geothermal Repower Project IS/MND (2021; 11);
- Alviso Hotel Project IS/MND, San Jose (2021; 43);
- Replies on Easton Research Park West IS/MND, Rancho Cordova (2021; 3);
- Easton Research Park West IS/MND, Rancho Cordova (2021; 31);
- US Cold Storage DEIR, Hesperia (2021; 30);
- 1242 20th Street Wellness Center Project FEIR, Santa Monica (2021; 23);
- Third visit, Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2021; 10);
- Roseland Creek Community Park Project IS/MND, Santa Rosa (2021; 23);

- Vista Mar Declaration of Irreparable Harm, Pacifica (2021; 3);
- LogistiCenter at Fairfield IS/MND (2021; 25);
- Alta Cuvee Mixed Use Project IS/MND, Ranch Cucamonga (2021; 29);
- Caligrows Architectural and Site Plan Review, Patterson (2021; 21);
- 1055 E. Sandhill Avenue Warehouse IS/MND, Carson (2021; 10);
- Chestnut & Tenth Street Commercial Project IS/MND, Gilroy (2021; 27);
- Libitzky Management Warehouse IS/MND, Modesto (2021; 20);
- 3rd Replies on Heber 2 Geothermal Repower Project IS/MND, El Centro (2021; 10);
- Medical Office Building DEIR, Santa Cruz (2021; 30);
- Scannell Warehouse DEIR, Richmond (2021; 24);
- Diamond Heights Application, San Francisco (2021; 24);
- Costa Azul Mixed-Use EIR Addendum, San Diego (2021; 25);
- Woodland Research Park DEIR (2021; 45);
- 2nd Replies on Diamond Street Industrial IS/MND, San Marcos (2021; 9);
- Replies on Diamond Street Industrial IS/MND, San Marcos (2021; 3);
- Diamond Street Industrial IS/MND, San Marcos (2021; 28);
- DHS 109 Industrial Park IS/MND, Desert Hot Springs (2021; 33);
- Jersey Industrial Complex Rancho Cucamonga (2022; 22);
- 1188 Champions Drive Parking Garage Staff Report, San Jose (2021; 5);
- San Pedro Mountain, Pacifica (2021; 22);
- Pixior Warehouse IS/MND, Hesperia (2021; 29);
- 2nd Replies on Heber 2 Geothermal Repower Project IS/MND, El Centro (2021; 9);
- Hearn Veterans Village IS/MND, Santa Rosa (2021; 23);
- Second visit, Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2021; 11);
- Replies on Station East Residential/Mixed Use EIR, Union City (2021; 26);
- Schulte Logistics Centre EIR, Tracy (2021; 30);
- 4150 Point Eden Way Industrial Development EIR, Hayward (2021; 13);
- Airport Business Centre IS/MND, Manteca (2021; 27);
- Dual-branded Hotel IS/MND, Santa Clara (2021; 26);
- Legacy Highlands Specific Plan EIR, Beaumont (2021; 47);
- UC Berkeley LRDP and Housing Projects #1 and #2 EIR (2021; 27);
- Santa Maria Airport Business Park EIR, Santa Maria (2021; 27);
- Replies on Coachella Valley Arena EIR Addendum, Thousand Palms (2021; 20);
- Coachella Valley Arena EIR Addendum, Thousand Palms (2021; 35);
- Inland Harbor Warehouse NOD, Ontario (2021; 8);
- Alvarado Specific Plan DEIR, La Mesa (2021; 35);
- Harvill Avenue and Rider Street Terminal Project MND, Riverside (2021; 23);
- Gillespie Field EIR Addendum, El Cajon (2021; 28);
- Heritage Wind Energy Project section 94-c siting process, New York (2021: 99);
- Commercial Street Hotels project Site Plans, Oakland (2021; 19);

- Heber 1 Geothermal Repower Project MND, El Centro (2021; 11);
- Citrus-Slover Warehouse Project MND, Fontana (2021; 20);
- Scott Ranch Project RDEIR (Davidon Homes), Petaluma (2021; 31);
- Replies on StratosFuel Renewable H2 Project MND, Victorville (2021; 5);
- StratosFuel Renewable H2 Project MND, Victorville (2021; 25);
- Replies on PARS Global Storage MND, Murietta (2021; 22);
- Baldwin-Zacharias Master Plans EIR, Patterson (2021; 38);
- 1000 Gibraltar Drive EIR, Milpitas (2021; 20);
- Mango Avenue Industrial Warehouse Project, Fontana, MND (2021; 20);
- Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2021; 25);
- 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 to comments on responses on Casmalia and Linden Warehouse, Rialto (2020; 15);
- Clover Project MND, Petaluma (2020; 27);
- Ruby Street Apartments Project Env. Checklist, Hayward (2020; 20);
- Replies to responses to comments on 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 to comments on 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 to comments on 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 to comments on responses on Dove Hill Road Assisted Living Project MND (2018; 11);
- Replies to responses to comments on 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 to comments on 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 to comments on 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 to comments on 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);
- 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 IS/MND 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 to comments on 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);

Volunteer 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

Smallwood, N., and S. Smallwood. 2025. Improving methods in environmental review Part 1: Habitat assessment of wildlife species with potential to occur on a project site. The Wildlife Society – Western Section, Visalia, California, 5 February 2025.

Smallwood, S., and N. Smallwood. 2025. Improving methods in environmental review part 2: reconnaissance surveys for characterizing the wildlife community. The Wildlife Society – Western Section, Visalia, California, 5 February 2025.

Eagle mortality at wind turbines. Wings over the Columbia Gorge. Friends of the Columbia Gorge, 4 January 2024.

Ecology and recent population trend of burrowing owls in the Altamont Pass Wind Resource Area. The Wildlife Society – Western Section Burrowing Owl Symposium, Riverside, California, 6 February 2023.

Renewable energy impacts to burrowing owls. The Wildlife Society – Western Section Burrowing Owl Symposium, Riverside, California, 7 February 2023.

Smallwood, K.S. and D.A. Bell. Long-Term Population Trend of Burrowing Owls in Vasco Caves. Via Zoom to Audubon Society, 21 October 2021.

Long-Term Population Trend of Burrowing Owls in the Altamont. Golden Gate Audubon, 21 October 2020.

Long-Term Population Trend of Burrowing Owls in the Altamont. East Bay Regional Park District 2020 Stewardship Seminar, Oakland, California, 18 November 2020.

Smallwood, K.S., D.A. Bell, and S, Standish. Dogs detect larger wind energy effects on bats and birds. The Wildlife Society, 28 September 2020.

Smallwood, K.S. and D.A. Bell. Effects of wind turbine curtailment on bird and bat fatalities in the Altamont Pass Wind Resource Area. The Wildlife Society, 28 September 2020.

Smallwood, K.S., D.A. Bell, and S, Standish. Dogs detect larger wind energy effects on bats and birds. The Wildlife Survey, 7 February 2020.

Smallwood, K.S. and D.A. Bell. Effects of wind turbine curtailment on bird and bat fatalities in the Altamont Pass Wind Resource Area. The Wildlife Survey, 7 February 2020.

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 (Some 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
Western Birds	Journal of Caribbean Ornithology
Ecosystem Health	The Prairie Naturalist
Environmental Conservation	Restoration Ecology
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
Conservation Biology	Biology Open
Western Wildlife	PLOS One
Heliyon	Global Ecology and Conservation
Wildlife Monographs	Journal for Nature Conservation
Biological Control	Ecological Solutions and Evidence
Wind Energy	Environmental and Ecological Statistics
The Condor	Ecosphere
Diversity	Renewable and Sustainable Energy Reviews
Northeastern Naturalist	

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

Response to Comment Letter 12: Golden State Environmental Justice Alliance (GSEJA) (April 9, 2026)

Response 12-A

The Golden State Environmental Justice Alliance (GSEJA) provided the County with two comment letters on the Draft EIR. The first letter is dated April 9, 2026, and the second letter is dated April 12, 2026. Upon review of the two letters, it has been determined that they are duplicate letters with the same text and comments in each letter. As such, the County has responded to the letter dated April 12, 2026. The responses for this letter are the same and can be found in the Response to Comment 13.

Comment Letter 13: Golden State Environmental Justice Alliance (GSEJA) (April 12, 2026)

BLUM, COLLINS & HO LLP
ATTORNEYS AT LAW
10250 CONSTELLATION BOULEVARD
SUITE 2300
LOS ANGELES, CALIFORNIA 90067
(213) 572-0400

April 12, 2026

Nicole Menchaca
Advanced Planning Division Chief
Kern County Planning and Natural Resources Department
Public Services Building
2700 M Street, Suite100
Bakersfield, CA 93301

Via Email to:
HuiskenN@kerncounty.com

Subject: Comments on Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC. EIR (SCH NO. 2025030498)

Dear Ms. Menchaca,

Thank you for the opportunity to comment on the Environmental Impact Report (EIR) for the proposed Airport Commerce Center Industrial Project by ACC Bakersfield JV, LLC Project. Please accept and consider these comments on behalf of Golden State Environmental Justice Alliance. Also, Golden State Environmental Justice Alliance formally requests to be added to the public interest list regarding any subsequent environmental documents, public notices, public hearings, and notices of determination for this Project. Send all communications to Golden State Environmental Justice Alliance, P.O. Box 79222, Corona, CA 92877. 13-A

1.0 Summary

The Project proposes the construction and operation of an industrial warehouse Project with two quick-service restaurant pad buildings on an approximately 110-acre site. The industrial portion of the Project includes the development of four (4) industrial warehouse buildings totaling approximately 1,505,440 square feet, consisting of 625,446 square feet for warehousing, 393,624 square feet for cold storage, 335,826 square feet for industrial manufacturing or assembly for a food/beverage company, and 150,544 square feet for office space. The two (2) associated quick-serve restaurant pad buildings total approximately 9,410 square feet. 13-B

Specific characteristics for each proposed building are as follows:

1. Industrial Warehouse Building 1. 257,580 square feet building footprint with 231,822 square feet of warehouse and 25,758 square feet of office space, 43 dock-high doors, two grade-level doors, 242 passenger car parking stalls, and 25 truck/trailer parking stalls.
2. Industrial Warehouse Building 2. 192,780 square feet building footprint with 173,502 square feet of industrial manufacturing or assembly (food or beverage products) and 19,278 square feet of office space, 11 dock-high doors, 32 knock-out doors, two grade-level doors, 427 passenger car parking stalls, and 0 truck/trailer parking stalls.
3. Industrial Warehouse Building 3. 180,360 square feet building footprint with 162,324 square feet of industrial manufacturing or assembly (food or beverage products) and 18,036 square feet of office space, 10 dock-high doors, 8 knock-out doors, two grade-level doors, 400 passenger car parking stalls, and 8 truck/trailer parking stalls.
4. Industrial Warehouse Building 4. Designed as a cross-dock sort fulfillment center; 874,720 square feet building footprint with 393,624 square feet of warehouse, 393,624 square feet of cold storage, and 87,472 square feet of office space, 151 dock-high doors, 797 passenger car parking stalls, and 368 truck/trailer parking stalls.
5. Quick Serve Restaurant Pad with Drive Thru 1. 5,570 square foot building footprint and 75 passenger vehicle parking stalls.
6. Quick Serve Restaurant Pad with Drive Thru 2. 3,840 square foot building footprint and 60 passenger vehicle parking stalls.

13-B cont.

The site provides a total of 2,001 passenger car parking stalls, 401 truck/trailer parking stalls, 265 truck/trailer loading docks, 40 truck/trailer knock-out doors (truck/trailer loading dock doors that can be activated at any time ("knocked out") by employees), and 10 grade-level truck/trailer loading doors. The industrial/warehouse building heights are described as "reaching up to 60 feet." The industrial/warehouse uses are proposed to include outdoor storage, manufacturing processes for food or beverage products, and cold storage facilities (quantities of each are not expressly provided). Since the future tenants are stated to be unknown, the EIR assumes the warehouse buildings will operate 24 hours a day, 365 days a year, with multiple shift rotations and approximately 532 employees, and the quick-serve restaurant pads will operate 24 hours a day with approximately 40 employees.

The following discretionary actions are required to implement the proposed Project:

1. General Plan Amendment No. 5, Map 81-35 of the Metropolitan Bakersfield General Plan Land Use Element from Map Code GC (General Commercial) to SI (Service Industrial) on an approximate 13.76-acre parcel of the 110-acre proposed Project site.
2. Zone Classification Change No. 46, Map 81-35 from M-1 PD H (Light Industrial – Precise Development Combining-Airport Approach Height Combining) to M-2 PD H (Medium Industrial - Precise Development Combining - Airport Approach Height Combining), or a more restrictive district, on an approximate 13.76-acre portion and from FPP (Floodplain Primary) to M-2 PD H (Medium Industrial - Precise Development Combining - Airport Approach Height Combining), or a more restrictive district, on an approximate 8.56-acre portion of the 110-acre proposed Project site.
3. Precise Development Plan No. 36, Map 81-35 for the development of four (4) industrial warehouse buildings totaling approximately 1,505,440 square-feet consisting of 625,446 square-feet for warehousing, 393,624 square-feet for cold storage, 335,826 square feet for industrial manufacturing or assembly for a food/beverage company, 150,544 square feet for office space, and two (2) associated quick-serve restaurants totaling approximately 9,410 square-feet on approximately 110 acres pursuant to Sections 19.38.020.D.1, 19.38.020.D.4, and 19.38.020.E.2 of the Kern County Zoning Ordinance.
4. Nonsummary Vacation, Map 81-35 to vacate two (2) drainage easements on the proposed Project site totaling approximately 10.24 acres.

13-B cont.

4.2 Air Quality, 4.5 Energy, and 4.7 Greenhouse Gas Emissions

The EIR does not include relevant environmental justice issues for analysis in reviewing potential impacts, including cumulative impacts from the proposed Project. This conflicts with CEQA Guidelines Section 15131 (c), which requires that "Economic, social, and particularly housing factors shall be considered by public agencies together with technological and environmental factors in deciding whether changes in a Project are feasible to reduce or avoid the significant effects on the environment identified in the EIR. If information on these factors is not contained in the EIR, the information must be added to the record in some other manner to allow the agency to consider the factors in reaching a decision on the Project." This is especially significant as the surrounding community is highly burdened by pollution. According to CalEnviroScreen 4.0[1], CalEPA's screening tool that ranks each census tract in the state for pollution and socioeconomic vulnerability. The proposed Project's census tract (6029000101) is ranked in the 94th percentile for overall pollution burden, meaning the surrounding community bears the impact of multiple sources of pollution and is more polluted than average on several

13-C

[1] CalEnviroScreen 4.0 https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

pollution indicators measured by CalEnviroScreen. For example, the Project census tract ranks in the 91st percentile for ozone burden and 99th percentile for particulate matter (PM) 2.5 burden. These environmental factors are typically attributed to heavy car and truck activity in the area. While California has strict vehicle-emissions standards, exhaust from cars and trucks is the main source of air pollution in much of the state[2]. Ozone can cause lung irritation, inflammation, and worsening of existing chronic health conditions, even at low levels of exposure[3]. Fine particle pollution has been shown to cause many serious health effects, including heart and lung disease, and exposure to PM 2.5 contributes to deaths across California[4]. See also the attached air quality comments and analysis from SWAPE.

13-C cont.

The census tract ranks among the most severely impacted in several areas that impact water quality. The census tract ranks in the 83rd percentile for groundwater threats. People who live near contaminated groundwater may be exposed to chemicals moving from the soil into the air inside their homes[5]. Accordingly, the census tract ranks in the 96th percentile for drinking water impacts, which indicates that it ranks with the worst quality drinking water in the state. Poor communities and people in rural areas are exposed to contaminants in their drinking water more often than people in other parts of the state[6].

13-D

The census tract also ranks in the 59th percentile for solid waste facility impacts and 95th percentile for hazardous waste facility impacts. Solid waste facilities can expose people to hazardous chemicals, release toxic gases into the air (even after these facilities are closed), and chemicals can leach into soil around the facility and pose a health risk to nearby populations[7]. Hazardous waste generators and facilities contribute to the contamination of air, water, and soil near waste generators and facilities can harm the environment as well as people[8].

13-E

Further, the census tract is a diverse community including 27% Hispanic, 1% African-American, and 1% Native American residents, who are especially vulnerable to the impacts of pollution. The community has a high rate of low educational attainment, meaning 41% of the census tract over age 25 has not attained a high school diploma, which is an indication that they may lack

13-F

[2] OEHHA Traffic https://oehha.ca.gov/calenviroscreen/indicator/traffic-density
[3] OEHHA Ozone Burden https://oehha.ca.gov/calenviroscreen/indicator/air-quality-ozone
[4] OEHHA Air Quality: PM 2.5 https://oehha.ca.gov/calenviroscreen/indicator/air-quality-pm25
[5] OEHHA Groundwater Threats https://oehha.ca.gov/calenviroscreen/indicator/groundwater-threats
[6] OEHHA Drinking Water https://oehha.ca.gov/calenviroscreen/drinking-water
[7] OEHHA Solid Waste Facilities https://oehha.ca.gov/calenviroscreen/indicator/solid-waste-sites-and-facilities
[8] OEHHA Hazardous Waste Generators and Facilities https://oehha.ca.gov/calenviroscreen/indicator/hazardous-waste-generators-and-facilities

health insurance or access to medical care. The community also has a high rate of poverty, meaning 73% of the households in the census tract have a total income before taxes that is less than the poverty level. Income can affect health when people cannot afford healthy living and working conditions, nutritious food, and necessary medical care[9]. Poor communities are often located in areas with high levels of pollution[10]. Poverty can cause stress that weakens the immune system and causes people to become ill from pollution[11]. Living in poverty is an indication that residents may lack health insurance or access to medical care. Medical care is vital for this census tract as it ranks in the 82nd percentile for incidence of asthma and 89th percentile for incidence of cardiovascular disease.

13-F cont.

Additionally, the Project census tract (6029000101) and the census tracts adjacent to the Project site (6029000102 (east), 6029005103 (north/northeast), 6029000200 (south), and 6029003900 (west) are identified as SB 535 Disadvantaged Communities[12]. This indicates that the cumulative negative impacts of development and environmental impacts in the area are disproportionately impacting these communities. The EIR does not discuss that the surrounding area is a disadvantaged community and does not utilize this information in its analysis. The EIR has not considered the Project's significant and unavoidable environmental impacts in relation to the SB 535 status of the Project census tract and the surrounding area. The negative environmental, health, and quality of life impacts of the warehousing and logistics industry in the area have become distinctly inequitable. The severity of environmental impacts, particularly on these Disadvantaged Communities, must be included for analysis as part of a revised EIR.

13-G

4.8 Hazards and Hazardous Materials

The EIR states that the Project is within Compatibility Zone C of the Meadows Field Airport per the Kern County Airport Land Use Compatibility Plan (ALUCP). The EIR concludes the Project will have less than significant impacts because, "Ultimately, due to the distance from the airport, conformance to the design and review process, and coordination with the FAA as prescribed below in Mitigation Measure MM 4.8-12 the Project would not result in the development of structures that would result in safety hazards for airport operations, aircraft flying in the vicinity, or for people residing or working in the Project area." The EIR does not provide any substantial evidence to support a less-than-significant finding. The EIR is misleading to the public and decision makers by excluding information regarding the statutorily required review by the

13-H

[9] OEHHA Poverty https://oehha.ca.gov/calenviroscreen/indicator/poverty
[10] Ibid.
[11] Ibid.
[12] OEHHA SB 535 Census Tracts https://oehha.ca.gov/calenviroscreen/sb535

ALUC. The proposed Project requires a General Plan Amendment to change the land use designation on the Project site. Prior to the amendment of a General Plan, the ALUC shall review the plan, ordinance, or regulation for consistency with the ALUCP (PUC Section 21676(b))[13]. The EIR must be revised to include a finding of significance as the Project does not comply with PUC Section 21676(b). 13-H cont.

Additionally, delaying the ALUC review until after the close of the public review period circumvents the environmental analysis requirements of CEQA. For example, Mitigation Measure 4.8-12 requires that the Project "Obtain a Federal Aviation Administration issued 'Determination of No Hazard to Air Navigation' or make the Federal Aviation Administration's recommended changes to the Project." The Project relies upon the installation of and use of solar panels to support less than significant Energy impacts, among others. The glare generated by the installation of solar panels at the Project site can be a hazard to air navigation. The EIR has not included substantial evidence to demonstrate that the Project will obtain the FAA's "Determination of No Hazard to Air Navigation" while simultaneously preserving features relied upon for mitigation. The EIR must be revised to disclose this information and include a finding of significance. 13-I

4.10 Land Use and Planning

The EIR concludes that the proposed Project is consistent with the Metropolitan Bakersfield General Plan without considering the EIR's conclusion that the Project will result in significant and unavoidable cumulatively considerable impacts to Air Quality, Greenhouse Gases, Noise, and Utilities (Water Supply). The EIR is inadequate as an informational document, and a revised EIR must be prepared with a consistency analysis that considers the Project's significant and unavoidable impacts in its analysis, including but not limited to the following goals and policies that were adopted for the purposes of avoiding or mitigating an environmental effect: 13-J

1. MBGP Land Use Element Policy 15. Allow for the development of a variety of commercial centers/corridors which are differentiated by their function, intended users, and level of intensity, including convenience centers serving local residential neighborhoods, sub-regional centers which serve groupings of neighborhoods, and major regional centers which serve the planning area and surrounding areas. (I-1).

[13] California Airport Planning Land Use Handbook Section 1.3.4. ALUC Review https://dot.ca.gov/-/media/dot-media/programs/aeronautics/documents/californiaairportlanduseplanninghandbook-a11y.pdf

2. MBGP Circulation Element Policy 8. Limit full access median breaks on arterials to a maximum of three per mile and include left-turn lanes at each (I-10, I-11).
3. MBGP Circulation Element Policy 11. Design local collector street systems to minimize through traffic movements and include short block lengths to discourage excessive speeds (I-34).
4. MBGP Circulation Element Policy 15. Prohibit trucks from non-truck routes within incorporated areas except as necessary for direct property access for pick-up and delivery (I-13).
5. MBGP Circulation Element Policy 16. Require that truck access to commercial and industrial properties be designed to minimize impacts on adjacent residential parcels (I-14).
6. MBGP Circulation Element Policy 20. Prohibit parking on new arterials in incorporated areas. In unincorporated areas, prohibit parking when traffic studies warrant elimination. Allow parking on collectors and on residential streets (I-17).
7. MBGP Circulation Element Policy 21. Route traffic around, rather than through, pedestrian-oriented areas (I-18).
8. MBGP Circulation Element Policy 36. Prevent streets and intersections from degrading below Level of Service "C" where possible due to physical constraints (as defined in a Level of Service Standard) or when the existing Level of Service is below "C" prevent where possible further degradation due to new development or expansion of existing development with a three part mitigation program: adjacent right-of-way dedication, access improvements and/or an area-wide impact fee. The areawide impact fee would be used where the physical changes for mitigation are not possible due to existing development and/or the mitigation measure is part of a larger Project, such as freeways, which will be built at a later date (I-28, I-29).
9. MBGP Circulation Element Transit Policy 2. Consider for bus turnouts along arterials and collectors where appropriate (I-1).
10. MBGP Circulation Element Transit Policy 3. Consider transit service issues in the site plan review process (I-2).
11. MBGP Circulation Element Bikeway Policy 11. Construct bike lanes in conjunction with all street improvement projects that coincide with the Bikeway Master Plan (I-3, I-10).
12. MBGP Circulation Element Parking Policy 3. Ensure that adequate on-site parking supply and parking lot circulation are provided on all site plans in accordance with the adopted parking standards (I-3).

13-J cont.

13. MBGP Conservation Element Goal 1 (Water Resources). Conserve and augment the available water resources of the planning area.
14. MBGP Conservation Element Goal 2 (Water Resources). Assure that adequate groundwater resources remain available to the planning area.
15. MBGP Conservation Element Goal 3 (Water Resources). Assure that adequate surface water supplies remain available to the planning area.
16. MBGP Conservation Element Policy 2 (Water Resources). Minimize the loss of water which could otherwise be utilized for groundwater recharge purposes and benefit the planning area groundwater aquifers from diversion to locations outside the area (I-3).
17. MBGP Conservation Element Policy 5 (Water Resources). Work towards resolving the problem of groundwater resource deficiencies in the upland portions of the planning area (I-5, I-6).
18. MBGP Conservation Element Policy 6 (Water Resources). Protect the planning area groundwater resources from further quality degradation (I-7).
19. MBGP Conservation Element Policy 8 (Water Resources). Consider each proposal for water resource usage within the context of total planning area needs and priorities--major incremental water transport, groundwater recharge, flood control, recreational needs, riparian habitat preservation, and conservation (I-9).
20. MBGP Conservation Element Goal 1 (Air Quality). Promote air quality that is compatible with health, well being, and enjoyment of life by controlling point sources and minimizing vehicular trips to reduce air pollutants.
21. MBGP Conservation Element Goal 3 (Air Quality). Reduce the amount of vehicular emissions in the planning area.
22. MBGP Conservation Element Policy 16 (Air Quality). Cooperate with Golden Empire Transit and Kern Regional Transit to provide a comprehensive mass transit system for Bakersfield; require large-scale new development to provide related improvements, such as bus stop shelters and turnouts (I-1).
23. MBGP Safety Element Policy 3 (Flooding). Prevent urban development encroachment, which would impede flood flows in the Kern River designated floodway (I-3, I-5).
24. MBGP Public Services and Facilities Element Goal 1 (Water Distribution). Ensure the provision of adequate water service to all developed and developing portions of the planning area.

13-J cont.

The EIR also provides misleading and erroneous consistency analysis with other goals and policies of the MBGP. For example, the EIR concludes that the Project is consistent with Public Services and Facilities Element Goal 3 (Water Distribution), “Require that all new development

13-K

proposals have an adequate water supply available (I-3, I-4)," and refers the reader to the analysis with Water Resources Policy 2 that states, "Section 4.9, Hydrology and Water Quality, of this Draft EIR, provides an analysis of water supplies available to serve the Project. Unmetered water wells cannot be used as a source of groundwater for the permit activity. Groundwater may only be used in a permitted activity from a water well equipped with a water meter." The EIR excludes that the Project would result in significant and unavoidable cumulatively considerable Hydrology and Utilities and Service Systems impacts, specifically Project construction and operational groundwater use, rendering the Project directly inconsistent with Public Services and Facilities Element Goal 3 (Water Distribution). The Kern County Subbasin is over drafted, and the District's GSP has been deemed inadequate, along with the other Kern subbasin plans, where other similar known and unknown projects could occur. The Project's construction and operational groundwater use will further deplete the basin and the available water supply. The EIR has not provided substantial evidence to support the conclusion that the Project is consistent with Goal 3 and must be revised to include a finding of significance.

13-K cont.

The EIR also concludes the Project is consistent with Air Quality, "Policy 2. Encourage land uses and land use practices which do not contribute significantly to air quality degradation," because "Impacts to air quality are analyzed in Section 4.2, Air Quality, in this Draft EIR. As shown in Tables 4.2-5 and 4.2-7, the proposed Project would not generate ROG emissions in excess of thresholds. The Project does not include any of the listed measures. Implementation of MM 4.2-1 would require the Project to continuously comply with applicable rules and regulations set forth by the San Joaquin Valley Air Pollution Control District." The EIR excludes that the Project would result in significant and unavoidable cumulative considerable impacts to Air Quality, rendering the Project directly inconsistent with this policy. The EIR has not provided substantial evidence to support the conclusion that the Project is consistent with this policy and must be revised to include a finding of significance.

13-L

The EIR concludes the Project is consistent with "Conservation Element Policy 4 (Air Quality). Consider air pollution impacts when evaluating discretionary land use proposals. Considerations should include: a) Alternative access routes to reduce traffic congestion; b) Development phasing to match road capacities; c) Buffers including increase vegetation to increase emission dispersion and reduce impacts of gaseous or particulate matter on sensitive uses.," because, "Impacts to air quality are analyzed in Section 4.2, Air Quality, in this Draft EIR. As shown in Tables 4.2-5 and 4.2-7, the proposed Project would not generate ROG emissions in excess of thresholds. The Project does not include any of the listed measures. Implementation of MM 4.2-1 would require the Project to continuously comply with applicable rules and regulations set forth by the San

13-M

Joaquin Valley Air Pollution Control District." The EIR excludes that the Project would result in significant and unavoidable cumulative considerable impacts to Air Quality, rendering the Project directly inconsistent with this policy. The EIR has not provided substantial evidence to support the conclusion that the project is consistent with this policy and must be revised to include a finding of significance. 13-M cont.

Further, the EIR concludes the Project is consistent with "Circulation Element Goal 3. Minimize the impact of truck traffic on circulation, and on noise sensitive land uses," and "Policy 34. Minimize the impacts of land use development on the circulation system. Review all development plans, rezoning applications, and proposed general plan amendments with respect to their impact on the transportation system, and require revisions as necessary," because "Transportation and traffic analysis is provided in Section 4.16, Transportation and Traffic, of this Draft EIR. The proposed Project includes roadway improvements and mitigation measures that will address deficiencies in the roadways and provide a safe and efficient street system that links the Project site to the rest of the area. Implementation of MM 4.16-3, and MM 4.16-4 would ensure the preparation of a Transportation Demand Management Plan and Traffic Control Plan, as well as any off-site intersection improvements required to maintain the level of service standard for the surrounding area." The EIR excludes that the Project would result in significant and unavoidable cumulative considerable impacts to Transportation (VMT), rendering the Project directly inconsistent with the MBGP goal/policy. The proposed GPA and ZC will result in increased VMT, which significantly and cumulatively negatively impacts the circulation systems. The EIR has not provided substantial evidence to support the conclusion that the Project is consistent with these MBGP goal/policy and must be revised to include a finding of significance. 13-N

The EIR summarizes that the Project previously submitted an application for Zone Variance (ZV) No. 7, Map 81-35, which requested to "allow a maximum of 60-foot-tall structures where 35-foot-tall structures are the maximum allowed height." The EIR states that, "Since the circulation of the NOP, the zone variance has since been withdrawn, and no analysis regarding the zone variance has been included in the remaining sections of this Draft EIR document." The EIR does not state the reasoning for the withdrawal of the ZV, which is notable as the Project still proposes 60 feet tall buildings, and a 35-foot-tall building height limit still applies. Kern County Zoning Ordinance (KCZO) Section 19.76.080 - Height Limits requires that, "No building, structure, plant, or tree in an H district shall exceed thirty-five (35) feet in height, except as may be approved pursuant to Sections 19.76.130 and 19.76.140 of this chapter. However, in no case shall the height exceed the height allowed by the base zone with which the 13-O

H combining district is combined. KCZO Section 19.76.140 (E) requires that, "For any proposed structure or vegetation that will exceed a height of thirty-five (35) feet, a letter from the Federal Aviation Administration which shall state that the proposed development does not constitute a hazard to air traffic and does not violate any federal regulations. The letter shall also include any special conditions imposed by the Federal Aviation Administration." Section 19.76.146 also requires that, "Prior to the consideration of a development plan pursuant to this section, the development plan shall be submitted to the Kern County airports department and any applicable airport district or operator of a public use airport for review and comment."

13-O cont.

The proposed industrial/warehouse buildings are 60 feet tall. It is clear that the Project has not been reviewed by the Federal Aviation Administration (FAA) as Mitigation Measure 4.8-12 requires that the Project, "Obtain a Federal Aviation Administration issued 'Determination of No Hazard to Air Navigation' or make the Federal Aviation Administration's recommended changes to the Project." The application for the proposed Project does not include "a letter from the Federal Aviation Administration which shall state that the proposed development does not constitute a hazard to air traffic and does not violate any federal regulations. The letter shall also include any special conditions imposed by the Federal Aviation Administration," as required by KCZO Section 19.76.140 (E). Further, KCZO Section 19.76.140 requires that, "Prior to the consideration of a development plan pursuant to this section, the development plan shall be submitted to the Kern County airports department and any applicable airport district or operator of a public use airport for review and comment," and the EIR does not include substantial evidence that the Project was submitted. The Project application is incomplete, and the county's processing of the application should not have proceeded until all required application items were submitted. The Project does not comply with Kern County Zoning Ordinance Sections 19.76.080 and 19.76.140. The EIR must be revised to include a finding of significance due to these conflicts with regulations adopted for the purposes of mitigating or avoiding an environmental effect (aviation safety and compatibility).

13-P

Additionally, the EIR does not provide an accurate consistency analysis with Kern COG'S 2022 Regional Transportation Plan (RTP)[14]. The EIR concludes that since the Project is located in an area that RTP/SCS identifies as "an area designated for strategic employment," it is fully consistent with the RTP/SCS, including the goals listed below. Due to errors in modeling, modeling without supporting evidence, and the EIR's determination that the Project will have significant and unavoidable cumulatively considerable impacts to Air Quality, Greenhouse Gas

13-Q

[14] Kern COG 2022 RTP https://www.kerncog.org/category/docs/rtp/

Emissions, Hydrology and Water Quality, Transportation (VMT), and Utilities and Service Systems (water supply), the proposed Project is directly inconsistent with Goal 1 to improve the mobility of people and freight, Goal 3 to improve the reliability and safety of the transportation system, Goal 5 to promote livable communities and satisfaction of consumers with the transportation system, and Goal 6 to minimize effects on the environment. The EIR also excludes the Project, which requires a GPA and ZC to proceed, which indicates that the Project was not accounted for in the RTP/SCS and its PEIR analysis. The EIR has not included substantial evidence to support a less-than-significant finding and must be revised to include a finding of significance due to inconsistency with the 2022 RTP document.

13-Q cont.

Further, it must be noted that the horizon year of the Metropolitan Bakersfield General Plan (MBGP) is 2020. Any development beyond 2020 is not accounted for or analyzed by the MBGP and its EIR. The Project is proposed six years after the horizon year of the MBGP and therefore is not accounted for in its growth projections or environmental analysis. The EIR is inadequate as an informational document since the horizon year of the MBGP has passed, and it has not provided a cumulative analysis of all industrial projects approved since the adoption of the MBGP to accurately quantify the existing buildout scenario of the MBGP. A revised EIR must be prepared to include this information for analysis to adequately and accurately analyze all potentially significant environmental impacts. A finding of significance must be included in a revised EIR because the Project is not accounted for in the MBGP growth projections and is beyond the 2020 horizon year analyzed in the MBGP EIR.

13-R

4.13 Population and Housing

The EIR attempts to support its less-than-significant finding by stating that, "By 2050, the unincorporated areas will have an estimated 129,818 jobs available, Metropolitan Bakersfield Area will have 269,961 jobs available, for a Countywide total of 430,044 jobs." Kern COG adopted 2035 growth projections as part of the 2022 RTP/SCS. Specifically, Table 3-2: Growth Trends for Kern County and Selected Communities within the RTP/SCS[15] notes that Metro Bakersfield will add 18,065 jobs between 2020 and 2035, with the 2020 baseline employment at 211,235 jobs and the 2035 forecast at 229,300 jobs. Utilizing the EIR's calculation of 572 operational employees, the Project represents 3.1% of Metro Bakersfield's employment growth from 2020 to 2035. A single Project accounting for this quantity of the projected employment growth within Metro Bakersfield over 15 years represents a significant amount of growth. The

13-S

[15] Kern COG 2022 RTP Planning Assumptions https://www.kerncog.org/wp-content/uploads/2022/04/CHAPTER-3-PLANNING-ASSUMPTIONS-2022-RTP-1.pdf

EIR must be revised to include this analysis, and also provide a cumulative analysis discussion of projects approved since 2020 and projects "in the pipeline" to evaluate the County's progress towards these forecasts.

13-S cont.

For example, other recent industrial projects known as Majestic Gateway Bakersfield[16] required a GPA to the MBGP from General Commercial (GC) to Light Industrial (LI) and was anticipated to generate 1,512 employees; Westside Industrial Project[17] required a GPA to the MBGP from RIA (Intensive Agriculture) to Light Industrial (LI) and was anticipated to generate 1,830 employees; Malibu Vineyards Industrial required a GPA to the MBGP from R-IA to SI (Service Industrial) and was anticipated to generate 6,000 employees[18]; IPG Industrial Project was anticipated to generate 596 employees[19]. When considered with the proposed Project, they will cumulatively generate 10,483 employees, which is 58% of Metro Bakersfield's employment growth forecast over 15 years, accounted for by only five recent industrial projects (most of which required changes in land use designations to proceed). This total increases exponentially when other industrial and commercial development activity is added to the calculation. A revised EIR must be prepared to include this information for analysis, and also provide a cumulative analysis discussion of projects approved since RTP adoption and projects "in the pipeline" to evaluate the County's progress towards these forecasts. Additionally, it must be noted that the proposed Project (and the cumulative projects listed here) were all proposed after 2020, indicating that they are beyond the growth assumptions and forecasts of the MBGP and its associated EIR from which the proposed Project tiers. This necessitates a finding of significance as part of a revised EIR.

13-T

The EIR relies upon the MBGP's concept of "centers" to conclude that the Project will result in less than a significant impact. The EIR states that, "While the Project would encourage job growth in the vicinity of the Project, this growth is encouraged and planned for, per the MBGP's' centers' concept.

13-U

The MBGP has designated zones within the planning area to facilitate growth within these identified centers. The Project site is located within an area designated as an "Intensified Activity Center" as shown in Figure II-2 of the MBGP."

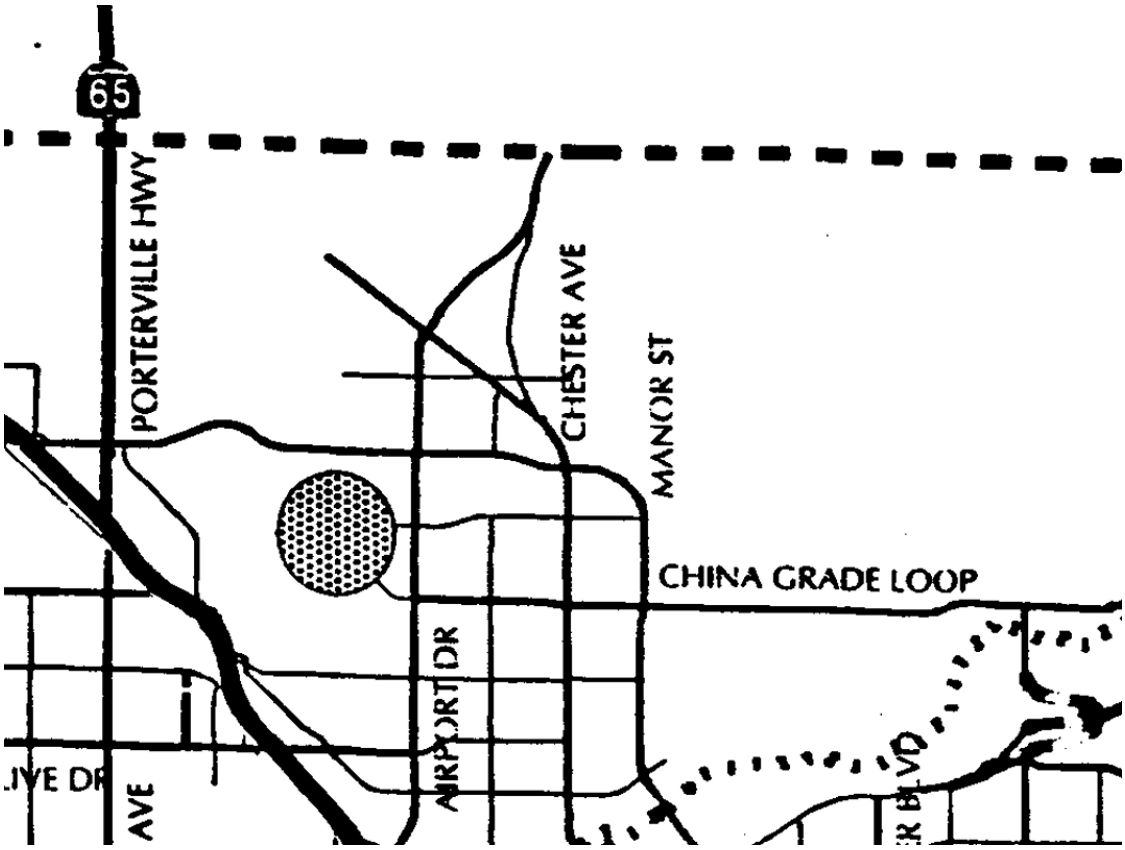
[16] Majestic Gateway Bakersfield https://ceqanet.opr.ca.gov/2022030196/2
[17] Westside Industrial Project https://ceqanet.opr.ca.gov/Project/2023100467
[18] Malibu Vineyards Industrial https://ceqanet.opr.ca.gov/2022080056/2
[19] IPG Industrial Project https://ceqanet.lci.ca.gov/Project/2023110442

However, the EIR excludes that the MBGP's "centers" concept is focused on mixed-use commercial and high-density residential development as "centers" of economic and community vitality. The MBGP Land Use chapter states that, "Figure II-2 conceptually illustrates these land use principles. The 'centers' concept provides for a land use pattern consisting of several concentrated mixed-use commercial and high-density residential centers surrounded by medium-density residential uses. Centers may be differentiated by functional activity, density/intensity, and physical character. Single-family residential uses are located between these mixed-use commercial/residential centers primarily…." and that, "The plan encourages that each center: (a) focus on a major open space amenity, such as a park or water body; (b) link land uses to the Kern River where possible; and (c) exhibit pedestrian sensitivity with appropriate design applied to encourage pedestrian activity. In addition to these centers, peripheral development will be focused in smaller community centers, such as in the Greenfield and Lamont areas, with local-serving commercial services and residential uses."

13-U cont.

Notably, the Project site is not depicted within an "Intensified Activity Center" in Figure II-2 within the MBGP, which directly contrasts the EIR's claim that it is within this area. The Intensified Activity Center is the Meadows Field Airport, as shown below.

13-V



The MBGP also states that, "In addition to promoting the formation of several large concentrated mixed-use centers, the plan also attempts to consolidate smaller, neighborhood-serving commercial development by prescribing minimum distances between commercial parcels and by discouraging strip commercial development." The MBGP "centers" concept focuses on the connection between commercial and residential uses, which is not an objective or primary use proposed within the Project. The MBGP's "center" concept does not apply to the Project site and cannot be utilized as justification for a less than significant finding. 13-V cont.

The EIR also utilizes uncertain and misleading language in stating that the Project would generate, "up to 100" jobs during construction phase, and that, "Construction workers are *likely* to commute to the Project site from various local communities and not relocate to the area given the temporary timeframe for construction and that various trades would be at the Project site during specific phases of the construction." The EIR states construction would proceed for 29 months, which is more than two years; this vastly exceeds a temporary commitment. The EIR also states that, "Additionally, Mitigation Measure MM 4.14-2, as included in Section 4.14, Public Services, would *encourage* a 50% local workforce for construction, reducing the number of workers commuting into the area for work. If temporary housing should be necessary, it is *expected* that accommodations would be available in *the nearby hotels*. Given that the increase in employment during the construction phase of the project is temporary, the short-term employment of construction workers on-site would not result in the building of new residences and would not result in unplanned population growth. The geographic distance of "nearby hotels" is undefined. Regarding the Project's operational jobs, the EIR states that, "given the relatively higher housing vacancy rate and unemployment rate compared to the State, the additional new jobs as a result of the Project would *likely* be filled by the local labor market. As a result, the increase in new jobs would not induce substantial population growth." The EIR has not provided substantial evidence to support these claims, such as the unemployed workforce's interest in or qualifications for work in the construction or industrial sectors. Relying on the workforce population of the entire Kern County and adjacent regions will increase Project related VMT that already generates a cumulatively considerable, significant, and unavoidable impact. The EIR has not provided substantial evidence to support a less-than-significant finding and must be revised to include a finding of significance. 13-W

4.16 Transportation and Traffic

The VMT analysis has underestimated the significance of the proposed Project's VMT generation. The EIR has not analyzed the Project's truck/trailer/delivery van activity. A revised EIR must be prepared to include all truck/trailer/delivery van activity for quantified VMT 13-X

analysis. The operational nature of distribution centers involves high rates of truck/trailer/delivery van VMT due to traveling from large import hubs to regional distribution centers to their final delivery destinations. Once employees arrive at the proposed Project for work, they will conduct their jobs by driving trucks/trailer/delivery vans across the region as part of the daily operations as a distribution center, which will drastically increase Project-generated VMT. The Project's truck/trailer and delivery van activity is unable to utilize public transit or active transportation, and it is misleading to the public and decision makers to exclude this activity from VMT analysis. A revised EIR must be prepared to reflect a quantified VMT analysis that includes all truck/trailer and delivery van activity. 13-X cont.

The EIR has not adequately analyzed the Project's potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses, or the Project's potential to result in inadequate emergency access. The EIR has excluded any specific truck/trailer turning exhibits from public review. There are no exhibits adequately depicting the available maneuvering and queueing space for trucks/trailers at the intersection of the Project driveways and the adjacent streets. There are also no exhibits adequately depicting the onsite turning radius available for trucks maneuvering throughout the site. Section 2.2 of the EIR states that the EIR is a Project-level analysis; pursuant to CEQA Section 15146, the EIR must be more detailed in its analysis of all portions of the development. However, it does not provide Project-specific analysis of the Project's potential to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses, or the Project's potential to result in inadequate emergency access. The EIR must be revised to include a finding of significance, as it has not provided any meaningful evidence or analysis to support a less-than-significant finding. 13-Y

The EIR includes broad, blanket statements that "The proposed Project would not include a design feature or utilize vehicles with incompatible uses that would create a hazard on the roadways surrounding the Project site. Consistent with applicable County Code requirements, all internal drive aisles and Project driveways would be designed to allow for truck turning movement. The proposed Project would not include the development of sharp curves, dangerous intersections, or other hazardous design features." These statements are not supported by substantial evidence. This does not comply with CEQA's requirements for adequate informational documents and meaningful disclosure (CEQA Guidelines Section 15121 and Public Resources Code Section 21003(b)). The EIR has not provided any details regarding the County requirements for Project access and/or street design or meaningful analysis of the Project's compliance or noncompliance with these requirements Deferring this environmental 13-Z

analysis required by CEQA to the construction permitting phase is improper mitigation and does not comply with CEQA's requirement for meaningful disclosure and adequate informational documents, as well as the EIR's status as a Project EIR that must provide a Project-level analysis in all areas of environmental analysis. A revised EIR must be prepared to include a finding of significance, as the EIR has not provided any meaningful evidence to support a less-than-significant finding.

13-Z cont.

The EIR states regarding emergency access that, "Project driveways would be designed to provide adequate and safe access to and from the Project site and would provide several routes for emergency responders to access different portions of the Project site and surrounding areas. The County's development and permitting review process would ensure that all access and circulation to and through the site would meet California Fire Code requirements. Further, consistent with County Code requirements, all internal drive aisles and Project driveways would be designed to allow for truck turning movements. In addition, all drive aisles would accommodate standard fire lane turning radii and hammerhead turnaround maneuvers to allow access for emergency vehicles."

13-AA

The EIR has not provided any meaningful information, such as a list of the County's Code requirements/California Fire Code requirements and how the Project does or does not comply with the requirements, to support a less-than-significant finding. This does not comply with CEQA's requirements for adequate informational documents and meaningful disclosure (CEQA Guidelines Section 15121 and Public Resources Code Section 21003(b)). Deferring this environmental analysis required by CEQA to the construction permitting phase is improper mitigation and does not comply with CEQA's requirement for meaningful disclosure and adequate informational documents. A revised EIR must be prepared to include a finding of significance, as the EIR has not provided any meaningful evidence to support a less-than-significant finding.

13-BB

Additionally, the EIR has not provided any analysis of the available horizontal and vertical sight distance at the intersection of the Project driveways and adjacent streets. Sight distance is the continuous length of street ahead visible to the driver. At unsignalized intersections, corner sight distance must provide a substantially clear line of sight between the driver of the vehicle waiting on the minor road (driveway) and the driver of an approaching vehicle. A revised EIR must be prepared with this analysis based on the American Association of State Highway and Transportation Officials (AASHTO) Stopping Sight Distance requirements.

13-CC

5.3 Irreversible Impacts

The EIR has not adequately analyzed the Project's consumption of nonrenewable resources. Water in Kern County is a nonrenewable resource since it is consumed faster than it can be naturally replenished. The EIR states that if the commitment of resources, "…occur in accordance with the adopted goals, policies, and implementation measures of the Kern County General Plan, as a matter of public policy, those commitments have been determined to be acceptable. The Kern County General Plan ensures that any irreversible environmental changes associated with those commitments will be minimized." The EIR excludes that the Project would result in significant and unavoidable cumulative considerable Hydrology and Utilities and Service Systems impacts, specifically Project construction and operational groundwater use. The Kern County Subbasin is over drafted, and the District's GSP has been deemed inadequate, along with the other Kern subbasin plans, where other similar known and unknown projects could occur. The Project's construction and operational groundwater use will further deplete the basin and the available water supply. The Project is directly inconsistent with Public Services and Facilities Element Goal 3 (Water Distribution) of the MBGP. The EIR must be revised to include a finding of significance due to the Project's irreversible impact, and there is no logical justification for the Project's consumption of nonrenewable resources. 13-DD

5.4 Growth Inducement

A revised EIR must be prepared to include an accurate cumulative analysis discussion here to demonstrate the impact of the proposed Project in a cumulative setting. The EIR does not include any information regarding the buildout conditions of the MBGP in order to provide an adequate and accurate environmental analysis. It must be noted that the horizon year of the Metropolitan Bakersfield General Plan (MBGP) is 2020. Any development beyond the year 2020 is not accounted for or analyzed by the MBGP and its EIR. The Project is proposed five years after the horizon year of the MBGP and therefore is not accounted for in its growth projections or environmental analysis. The EIR is inadequate as an informational document since the horizon year of the MBGP has passed, and it has not provided a cumulative analysis of all industrial projects approved since the adoption of the MBGP to accurately quantify the existing buildout scenario of the MBGP. A revised EIR must be prepared to include this information for analysis to adequately and accurately analyze all potentially significant environmental impacts. A finding of significance must be included in a revised EIR because the Project is not accounted for in the MBGP growth projections and is beyond the 2020 horizon year analyzed in the MBGP EIR. 13-EE

Additionally, the EIR again utilizes uncertain and misleading language in stating that, "Construction workers would *primarily* be drawn from the *local* labor pool or would temporarily stay in hotels in *local* communities." The EIR does not provide the geographic distance of either "local labor pool" or "hotels in local communities," and does not provide substantial evidence that these areas can accommodate the Project construction staff. Regarding the Project's operational jobs, the EIR's assertion that operations staff, "…would most likely be drawn from the surrounding cities and unincorporated communities. These areas would include, but not be limited to, the unincorporated community of Oildale and the cities of Bakersfield, Kern City, City in the Hills, and Oil City. Given the size of the surrounding communities, the nature of the job, and the relatively high unemployment, it is not expected that the proposed Project during the operational phase would induce substantial population growth. This is not supported by substantial evidence, such as the specific quantity of unemployed people in the areas listed. It must be noted that Kern City and City in the Hills are neighborhoods within Bakersfield and not incorporated cities; Oil City is part of unincorporated Kern County, adjacent to the Kern River, and does not appear to have any population. Kern City is a retirement community[20] and it is unlikely that this area would provide any quantity of project employees. There is also no information given about the unemployed workforce's (within the vicinity of the Project site, as specified in the EIR) interest in or qualifications for work in the construction or industrial sectors. Ultimately, relying on the workforce population of the entire Kern County and adjacent regions will increase already significant Project-related VMT. The EIR has not provided any substantial evidence to support a less than significant finding and must be revised to including a finding of significance.

13-FF

The EIR has not provided an adequate or accurate cumulative analysis discussion to demonstrate the impact of the proposed Project in a cumulative setting. Kern COG adopted 2035 growth projections as part of the 2022 RTP/SCS. Specifically, Table 3-2: Growth Trends for Kern County and Selected Communities within the RTP/SCS[21] notes that Metro Bakersfield will add 18,065 jobs between 2020 and 2035, with the 2020 baseline employment at 211,235 jobs and the 2035 forecast at 229,300 jobs. Utilizing the EIR's calculation of 572 operational employees, the Project represents 3.1% of Metro Bakersfield's employment growth from 2020 to 2035. A single Project accounting for this quantity of the projected employment growth within Metro Bakersfield over 15 years represents a significant amount of growth. The EIR must be revised to include this analysis, and also provide a cumulative analysis discussion of projects approved

13-GG

[20] https://www.kerncity.org/about-us/history/
[21] Kern COG 2022 RTP Planning Assumptions https://www.kerncog.org/wp-content/uploads/2022/04/CHAPTER-3-PLANNING-ASSUMPTIONS-2022-RTP-1.pdf

since 2020 and projects "in the pipeline" to evaluate the County's progress towards these forecasts.

13-GG cont.

For example, other recent industrial projects known as Majestic Gateway Bakersfield[22] required a GPA to the MBGP from General Commercial (GC) to Light Industrial (LI) and was anticipated to generate 1,512 employees; Westside Industrial Project[23] required a GPA to the MBGP from RIA (Intensive Agriculture) to Light Industrial (LI) and was anticipated to generate 1,830 employees; Malibu Vineyards Industrial required a GPA to the MBGP from R-IA to SI (Service Industrial) and was anticipated to generate 6,000 employees[24]; IPG Industrial Project was anticipated to generate 596 employees[25]. When considered with the proposed Project, they will cumulatively generate 10,483 employees, which is 58% of Metro Bakersfield's employment growth forecast over 15 years, accounted for by only five recent industrial projects (most of which required changes in land use designations to proceed). This total increases exponentially when other industrial and commercial development activity is added to the calculation. A revised EIR must be prepared to include this information for analysis, and also provide a cumulative analysis discussion of projects approved since RTP adoption and projects "in the pipeline" to evaluate the County's progress towards these forecasts. Additionally, it must be noted that the proposed Project (and the cumulative projects listed here) were all proposed after 2020, indicating that they are beyond the growth assumptions and forecasts of the MBGP and its associated EIR from which the proposed Project tiers. This necessitates a finding of significance as part of a revised EIR.

13-HH

6.0 Alternatives

The EIR is required to evaluate a reasonable range of alternatives to the proposed Project, which will avoid or substantially lessen any of the significant effects of the Project (CEQA Guidelines Section 15126.6). The alternatives chosen for analysis include the CEQA-required "No Project" alternative and only two others - the Reduced Footprint Alternative and Eastern Kern/Mojave Specific Plan Project Alternative Site. The EIR does not evaluate a reasonable range of alternatives, as only two alternatives beyond the required No Project alternative are analyzed. The EIR does not include an alternative that meets the Project objectives and also eliminates all of the Project's significant and unavoidable impacts. The EIR must be revised to include analysis of a reasonable range of alternatives and foster informed decision making (CEQA

13-II

[22] Majestic Gateway Bakersfield https://ceqanet.opr.ca.gov/2022030196/2
[23] Westside Industrial Project https://ceqanet.opr.ca.gov/Project/2023100467
[24] Malibu Vineyards Industrial https://ceqanet.opr.ca.gov/2022080056/2
[25] IPG Industrial Project https://ceqanet.lci.ca.gov/Project/2023110442

Guidelines Section 15126.6). This must include alternatives such as development of the site with a Project that reduces all of the proposed Project's significant and unavoidable impacts to less than significant levels.

13-II cont.

Impact on Biological Resources

Please see the attached comments and analysis from Dr. Smallwood.

13-JJ

Conclusion

For the foregoing reasons, GSEJA believes the EIR is flawed, and a revised EIR must be prepared for the proposed Project and recirculated for public review. Golden State Environmental Justice Alliance requests to be added to the public interest list regarding any subsequent environmental documents, public notices, public hearings, and notices of determination for this Project. Send all communications to Golden State Environmental Justice Alliance, P.O. Box 79222, Corona, CA 92877.

13-KK

Sincerely,



Vashon Simien
Blum, Collins & Ho, LLP

Attachments:

1. SWAPE Technical Analysis
2. Shawn Smallwood, PhD Analysis Report

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2219 Main Street, Suite 600
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

April 7, 2026

Gary Ho
Blum, Collins & Ho LLP
9255 W. Sunset Boulevard, Ste. 810
Los Angeles, CA 90069

Subject: Comments on the Airport Commerce Center Industrial Project (SCH No. 2025030498)

Dear Mr. Ho,

We have reviewed the February 2026 Draft Environmental Impact Report ("DEIR") for the Airport Commerce Center Industrial Project ("Project") located in Kern County ("County"). The Project proposes to construct four industrial warehouse buildings totaling approximately 1,505,440-square-feet ("SF") on the 110-acre site.

Our review concludes that the DEIR fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas impacts. A revised Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the potential air quality, health risk, and greenhouse gas impacts that the Project may have on the environment. 13-LL

Air Quality

Failure to Implement All Feasible Mitigation to Reduce Emissions

The DEIR estimates that the Project's operational NO_X emissions would exceed the applicable San Joaquin Valley Air Pollution Control District ("SJVAPCD") threshold (p. 4.2-47, Table 4.2-7). 13-MM

Table 4.2-7: Mitigated Proposed Project Long-Term Operational Emissions

Emission Source	Annual Criteria Pollutant Emissions (tons/year)[a]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area						
Consumer Products	5.92	-	-	-	-	-
Architectural Recoating	0.35	-	-	-	-	-
Landscape Equipment	-	-	-	-	-	-
Energy						
Natural Gas	-	-	-	-	-	-
Mobile						
Trucks	0.38	26.32	4.29	0.27	4.13	1.47
TRUs[b]	0.12	0.96	0.11	0.002	0.03	0.03
Employee Passenger Vehicles	1.14	0.78	10.83	0.03	1.04	0.28
Retail Passenger Vehicles	1.14	0.63	8.44	0.02	0.70	0.19
Stationary Sources						
Six Emergency Diesel Engines (within Buildings 1 – 4)	0.24	0.89	0.62	0	0.04	0.04
Total Annual Emissions	**9.29**	**29.58**	**24.29**	**0.322**	**5.94**	**2.01**
SJVAPCD Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Exceeds Threshold?	No	**Yes**	No	No	No	No

NOTES:
[a] SJVAPCD Rule 9510 ISR requirement is to reduce a development project's operational NO_X and total PM_{10} emissions by 33.3% and 50%, respectively. The emissions estimates do not account for reductions which would occur pursuant to SJVAPCD Rule 9510.
[b] Conservatively assumes that all TRU emissions occurred within the SJVAB.
SOURCE: **Appendix B**

13-MM cont.

The DEIR concludes that the impacts associated with operation of the Project would be significant-and-unavoidable, stating:

> "As shown in Table 4.2-7: Mitigated Proposed Project Long-Term Operational Emissions, mitigation would reduce operational ROG emissions to below the SJVAPCD annual criteria threshold. However, the proposed Project would still exceed the SJVAPCD's annual criteria! threshold for NOx, resulting in a significant and unavoidable impact despite implementation of all feasible mitigation" (p. 4.2-39).

The DEIR implements Mitigation Measure ("MM") MM 4.1-3 – MM 4.2-7 (p. 1-29 – 1-33). However, while we agree that the Project would result in significant air quality impacts, the DEIR's assertion that this impact is significant-and-unavoidable is unreliable. According to CEQA Guidelines §15096(g)(2):

> "When an updated EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment."[1]

[1] "Cal. Code Regs. tit. 14 § 15096." California Legislature, available at: https://casetext.com/regulation/california-code-of-regulations/title-14-natural-resources/division-6-resources-agency/chapter-3-guidelines-for-implementation-of-the-california-environmental-quality-act/article-7-eir-process/section-15096-process-for-a-responsible-agency.

As such, the DEIR is required under CEQA to implement all feasible mitigation to reduce impacts to a less-than-significant level. To reduce the Project's air quality impacts to the maximum extent possible, additional feasible mitigation measures should be incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." The Project should not be approved until a revised EIR is prepared, incorporating all feasible mitigation to reduce emissions to the maximum extent possible.

13-MM cont.

Disproportionate Health Risk Impacts of Warehouses on Surrounding Communities

The development of the proposed Project may contribute to the disproportionate health risk impact that warehouses already pose on community members living, working, and going to school within the immediate area of the Project site. Communities of color living within a half mile of warehouses face higher health risks, including increased rates of asthma and heart attacks, along with a greater environmental burden.[2] Specifically, more than 2.4 million people live within a half-mile radius of at least one warehouse, many of which experience disproportionate levels of poverty.[3] Another study indicates that lower-income neighborhoods with higher percentages of minority groups are more likely to contain warehouse facilities, presenting a crucial environmental justice concern.[4]

13-NN

The San Joaquin Valley, which includes the proposed Project site, has some of the worst ozone and particulate matter air pollution in the nation, according to the U.S. Environmental Protection Agency.[5] When using CalEnviroScreen 4.0, the Environmental Protection Agency's ("CalEPA") screening tool that ranks each census tract in the State for pollution and socioeconomic vulnerability, we found that the Project's census tract is in the 88th percentile of most polluted census tracts in the State (see screenshot below).[6]

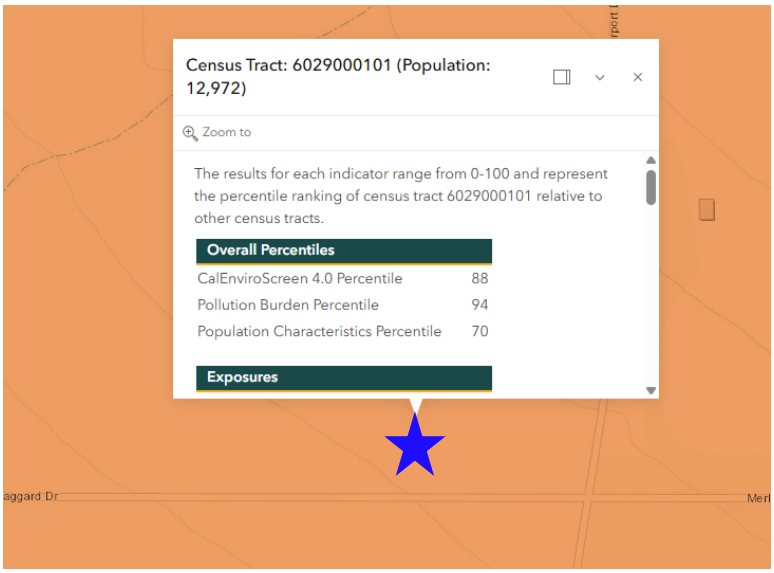
[2] "South Coast AQMD Governing Board Adopts Warehouse Indirect Source Rule." SCAQMD, May 2021, *available at:* http://www.aqmd.gov/docs/default-source/news-archive/2021/board-adopts-waisr-may7-2021.pdf?sfvrsn=9.

[3] "Southern California warehouse boom a huge source of pollution. Regulators are fighting back." Los Angeles Times, May 2021, *available at:* https://www.latimes.com/california/story/2021-05-05/air-quality-officials-target-warehouses-bid-to-curb-health-damaging-truck-pollution.

[4] "Location of warehouses and environmental justice: Evidence from four metros in California." Metro Freight Center of Excellence, January 2018, *available at:* https://www.metrans.org/assets/research/MF%201.1g_Location%20of%20warehouses%20and%20environmental%20justice_Final%20Report_021618.pdf, p. 21.

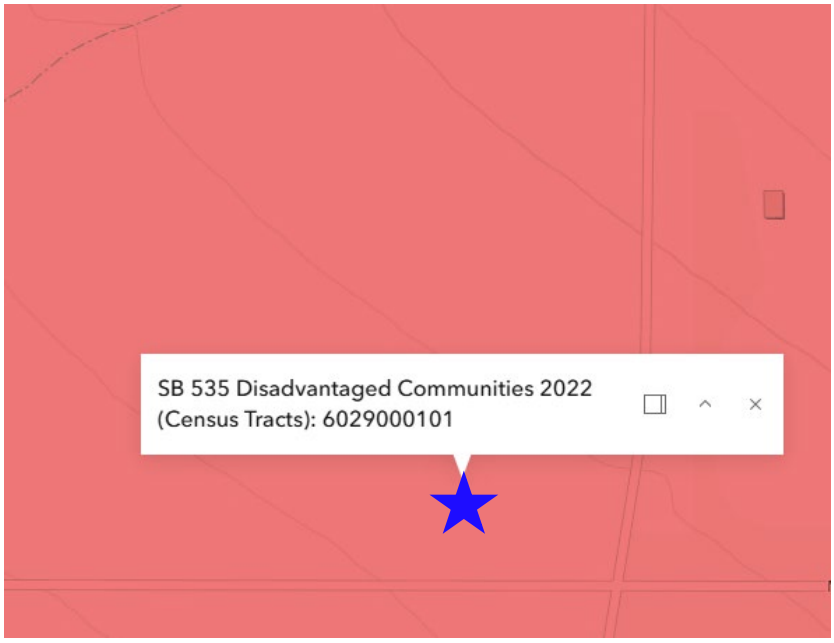
[5] "EPA Activities for Cleaner Air in the San Joaquin Valley." EPA, January 2026, available at: https://www.epa.gov/sanjoaquinvalley/air.

[6] "CalEnviroScreen 4.0." OEHHA, October 2021, *available at:* https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40.



According to CalEnviroScreen's Senate Bill ("SB") 535 Disadvantaged Communities Map, the Project site is identified as a designated disadvantaged community (see screenshot below).[7]

13-NN cont.



SB 535 provides funding for development projects that provide a benefit to disadvantaged communities. CalEPA has been given the responsibility for identifying those communities based on "geographic,

[7] "SB 535 Disadvantaged Communities (2022 Update)." California Environmental Protection Agency, *available at:* https://experience.arcgis.com/experience/1c21c53da8de48f1b946f3402fbae55c/page/SB-535-Disadvantaged-Communities/

socioeconomic, public health, and environmental hazard criteria."[8] The Project may therefore worsen disproportionate health risks for community members within the immediate area, a concern underscored by the mandates of SB 1000. SB 1000, enacted to address environmental justice concerns, requires local governments to integrate environmental justice elements into their planning processes, particularly focusing on reducing health risks for disadvantaged communities.[9] As the DEIR indicates that the proposed Project site is located approximately 400 feet, or 122 meters from a residential receptor, the Project should comply with the objectives of SB 1000 (4.2-50).

In accordance with the California Department of Justice ("CA DOJ") guidelines, the effects of air pollutants and greenhouse gas emissions from warehouses should be evaluated cumulatively. The CA DOJ states that cumulative impacts should be evaluated by considering the project's incremental effects alongside past, present, and future projects, even if the project alone does not exceed significance thresholds.[10] To more adequately assess the Project's impact on disadvantaged communities, both existing and future warehouse developments should be considered during the environmental review process.

13-NN cont.

As the Project site is in an SB 535 disadvantaged community that experiences disproportionately high levels of pollution, we recommend the DEIR reevaluate the Project's cumulative health risks to more sufficiently align with CA DOJ guidelines and SB 1000 environmental justice requirements.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Impacts

The DEIR estimates that the Project would result in mitigated net annual greenhouse gas ("GHG") emissions of 53,967-metric tons of carbon dioxide equivalents per year ("MT CO_2e/year") (p. 4.7-28, Table 4.7-3).

13-OO

[8] "Final Designation of Disadvantaged Communities." CalEPA, *available at:* https://calepa.ca.gov/wp-content/uploads/2022/05/Updated-Disadvantaged-Communities-Designation-DAC-May-2022-Eng.a.hp_-1.pdf, p. 1.

[9] "Environmental Justice in Local Land Use Planning." CA DOJ, *available at:* https://oag.ca.gov/environment/sb1000.

[10] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." CA DOJ, available at: https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/warehouse-best-practices.pdf, p. 6.

Table 4.7-3: Mitigated Operational Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons per Year)
Area	-
Energy	-
Mobile (within SJVAB)	32,534
Mobile (within SoCAB)	19,874
Transport Refrigeration Units	174
Stationary Sources	114
Waste	510
Water	485
Amortized Construction	137
Total	**53,967**

CO_2e = carbon dioxide equivalent
SOURCE: **Appendix B** of this EIR

13-OO cont.

The DEIR thus concludes that the Project would result in a significant-and-unavoidable GHG impact, stating that "despite implementation of all feasible mitigation measures, the Project would result in GHG emissions that would constitute a significant and unavoidable impact" (p. 4.7-35). The DEIR implements MM 4.2-2 — MM 4.2-5, MM 4.2-7, MM 4.5-1, MM 4.5-2, MM 4.16-1, and MM 4.16-3 (p. 1-53 – 1-84). However, while we agree that the Project would result in a significant GHG impact, the DEIR's assertion that this impact is significant-and-unavoidable is unsupported, as additional feasible mitigation is available.

As previously discussed, CEQA Guidelines § 15096(g)(2) indicates that an impact can only be labeled as significant-and-unavoidable after all available, feasible mitigation measures are considered. To reduce the Project's GHG impacts to the maximum extent possible, additional mitigation measures should be incorporated, such as those suggested in the section of this letter titled "Feasible Mitigation Measures Available to Reduce Emissions." The Project should not be approved until a revised EIR is prepared, incorporating all feasible mitigation to reduce emissions to less-than-significant levels.

Mitigation

Feasible Mitigation Measures Available to Reduce Emissions

13-PP

The DEIR is required under CEQA to implement all feasible mitigation to reduce the Project's potential impacts. As demonstrated above, the Project would result in potentially significant air quality and GHG impacts that should be mitigated further.

In order to reduce the NO_x emissions associated with Project operation, we recommend the DEIR consider incorporating several mitigation measures as listed below. The California Air Resources Board ("CARB") recommends:[11]

[11] "Recommended Air Pollution Emission Reduction Measures for Warehouses and Distribution Centers." CARB, August 2023, *available at*: https://ww2.arb.ca.gov/sites/default/files/2023-08/CARB%20Comments%20-%20NOP%20for%20the%20%20Oak%20Valley%20North%20Project%20DEIR.pdf; Attachment A, p. 5 – 8.

- Require tenants to use the cleanest technologies available, and to provide the necessary infrastructure to support zero-emission vehicles and equipment that will be operating on site.
- Requiring all service equipment (e.g., yard hostlers, yard equipment, forklifts, and pallet jacks) used within the project site to be zero-emission. This equipment is widely available and can be purchased using incentive funding from CARB's Clean Off-Road Equipment Voucher Incentive Project (CORE).
- Require future tenants to exclusively use zero-emission light and medium-duty delivery trucks and vans.
- Require all heavy-duty trucks entering or on the project site to be zero-emission vehicles, and be fully zero-emission. A list of commercially available zero-emission trucks can be obtained from the Hybrid and Zero-emission Truck and Bus Voucher Incentive Project (HVIP). Additional incentive funds can be obtained from the Carl Moyer Program and Voucher Incentive Program.
- Restrict trucks and support equipment from idling longer than two minutes while on site.

In addition to recommending similar mitigation as the above-mentioned measures from CARB, the CA DOJ suggests:[12]

- Constructing zero-emission truck charging/fueling stations proportional to the number of dock doors at the project.
- Running conduit to designated locations for future electric truck charging stations.
- Constructing and maintaining electric light-duty vehicle charging stations proportional to the number of employee parking spaces (for example, requiring at least 10% of all employee parking spaces to be equipped with electric vehicle charging stations of at least Level 2 charging performance).
- Running conduit to an additional proportion of employee parking spaces for a future increase in the number of electric light-duty charging stations.

13-PP cont.

To reduce the GHG emissions associated with the Project, we recommend several mitigation measures from the CA DOJ: [13]

- Designing all project building roofs to accommodate the maximum future coverage of solar panels and installing the maximum solar power generation capacity feasible.
- Oversizing electrical rooms by 25 percent or providing a secondary electrical room to accommodate future expansion of electric vehicle charging capability.
- Requiring all stand-by emergency generators to be powered by a non-diesel fuel.
- Requiring that every tenant train its staff in charge of keeping vehicle records in diesel technologies and compliance with CARB regulations, by attending CARB-approved courses. Also

[12] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice, September 2022, *available at*: https://oag.ca.gov/system/files/media/warehouse-best-practices.pdf, p. 8 – 10.
[13] "Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act." State of California Department of Justice, September 2022, *available at*: https://oag.ca.gov/system/files/media/warehouse-best-practices.pdf, p. 8 – 10.

require facility operators to maintain records on-site demonstrating compliance and make records available for inspection by the local jurisdiction, air district, and state upon request.

- Requiring tenants to enroll in the United States Environmental Protection Agency's SmartWay program, and requiring tenants who own, operate, or hire trucking carriers with more than 100 trucks to use carriers that are SmartWay carriers.
- Providing tenants with information on incentive programs, such as the Carl Moyer Program and Voucher Incentive Program, to upgrade their fleets.

CEQA Guidelines 15126.4 (c)(3) include "[o]ffsite measures, including offsets that are not otherwise required, to mitigate a project's emissions" as an option for GHG mitigation.[14] An example of this was in the case of the Oakland Sports and Mixed-Use Project, where off-site reduction measures in the neighboring communities were recommended.[15] We recommend consideration of local carbon offset programs to reduce the Project's GHG impacts as a measure of last result. 13-PP cont.

As demonstrated above, we have provided several mitigation measures that would reduce Project-related NO_x and GHG emissions developed from sources including CARB and the DOJ. These measures offer a cost-effective, feasible way to incorporate lower-emitting design features into the proposed Project, which subsequently reduce emissions released during Project construction and operation.

A revised EIR should be prepared that includes all feasible mitigation measures, as well as updated air quality and GHG analyses to ensure that the necessary mitigation measures are implemented to reduce emissions to the maximum extent feasible. The revised EIR should also demonstrate a commitment to the implementation of these measures prior to Project approval, to ensure that the Project's potentially significant emissions are reduced to the maximum extent possible

Disclaimer

SWAPE has received limited documentation regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or 13-QQ

[14] "Cal. Code Regs. tit. 14 § 15126.4." CEQA Guidelines, May 2024, *available at*: https://casetext.com/regulation/california-code-of-regulations/title-14-natural-resources/division-6-resources-agency/chapter-3-guidelines-for-implementation-of-the-california-environmental-quality-act/article-9-contents-of-environmental-impact-reports/section-151264-consideration-and-discussion-of-mitigation-measures-proposed-to-minimize-significant-effects.

[15] "Cal. Pub. Resources Code § 21168.6.7." 2023, *available at*: https://casetext.com/statute/california-codes/california-public-resources-code/division-13-environmental-quality/chapter-6-limitations/section-2116867-oakland-sports-and-mixed-use-project-conditions-for-approval-certification-of-project-for-streamlining.

otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

13-QQ cont.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Attachment A: Matt Hagemann CV
Attachment B: Paul Rosenfeld CV

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2219 Main Street, Suite 600
Santa Monica, CA 90405

(949) 887-9013
mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg.

- **Geologic and Hydrogeologic Characterization, Investigation and Remediation Strategies**
- **Industrial Stormwater Compliance**
- **CEQA Review**
- **Expert Testimony**

Professional Certifications:
California Professional Geologist, P.G.
California Certified Hydrogeologist, C.Hg.

Education:
M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Experience:
30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. Spent nine years with the U.S. EPA in the Resource Conservation Recovery Act (RCRA) and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where I identified emerging threats to groundwater. While with EPA, I served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. Led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, I developed extensive client relationships and has managed complex projects that include consultations as an expert witness and a regulatory specialist, and managing projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions held include:

Government:
Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);

Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
Geologist, U.S. Forest Service (1986 – 1998).

Educational:
Geology Instructor, Golden West College, 2010 – 2104, 2017;
Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
Instructor, College of Marin, Department of Science (1990 – 1995).

Private Sector:
Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);
Executive Director, Orange Coast Watch (2001 – 2004);
Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, responsibilities have included:

- Lead analyst and testifying expert, for both plaintiffs and defendants, in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards.
- Recommending additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce exposure to hazards from toxins.
- Stormwater analysis, sampling and best management practice evaluation, for both government agencies and corporate clients, at more than 150 industrial facilities.
- Serving as expert witness for both plaintiffs and defendants in cases including contamination of groundwater, CERCLAcompliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns, for both government agencies and corporate clients.
- Lead analyst and testifying expert in the review of environmental issues in license applicationsfor large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking

water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.
- Lead author for a multi-volume remedial investigation report for an operating school in LosAngeles that met strict Sate of California regulatory requirements.
- Development of strategic approaches for cleanup of contaminated sites in consultation withclients and regulators.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities included:

- Leading efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiating a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identifying emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. Used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. Prepared geologic reports, conducted hearings, and responded to public comments from residents who were very concerned about the impact of designation.
- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Served as a hydrogeologist with the RCRA Hazardous Waste program. Duties included:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliancewith Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S.EPA legal counsel.

- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexicoand advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation- wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served as senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advising the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinkingwater supplies.
- Shaping EPA's national response to these threats by serving on workgroups and by contributingto guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improving the technical training of EPA's scientific and engineering staff.
- Earning an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Establishing national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities included:

- Mapping geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinating research with community stakeholders who were concerned with natural resource protection.
- Characterizing the geology of an aquifer that serves as the sole source of drinking water for thecity of Medford, Oregon.

As a consultant with Dames and Moore, led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large RCRA hazardous waste site in eastern Oregon.

Duties included the following:

- Supervising year-long effort for soil and groundwater sampling.
- Conducting aquifer tests.
- Investigating active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.
- Part time geology instructor at Golden West College in Huntington Beach, California from 2010 to 2014 and in 2017.

Summary of Testimony Experience Over Past Four Years

In Re New Jersey Department of Environmental Protection et al. vs. E.I. DuPont de Nemours and Company, in the United States District Court, District of New Jersey, Civil Action No. 1:19-cv-14766-RMB-JBC. Deposition in 2025. Representing Plaintiffs in matters regarding contamination of groundwater, wastewater, soil, and air with per- and poly-fluoroalkyl substances.

In Re Edmond Asher, et al., vs. RTX Corporation (f/k/a Raytheon Technologies Corporation, et al.) in the County of Huntington Superior Court, Indiana, Cause number 35D01-2006-CT-000338. Deposition in 2024. Representing Plaintiffs in matters regarding contamination of groundwater and soil vapor with trichlorethylene.

In Re Wright vs Consolidated Rail Corporation In the Circuit Court of Cook County, Illinois, Case No: 21L3966. Deposition in 2023, Representing Plaintiff in matters involving groundwater and drinking water contamination of perchloroethylene, trichlorethylene, 1,2-dichloroethane, and carbon tetrachloride.

In Re Behr Dayton Thermal Products LLC In the United States District Court for the Southern District of Ohio Western Division at Dayton, Case No: 08-cv-326. Deposition in 2022. Representing Plaintiff in matters regarding contamination of groundwater and indoor air with perchloroethylene and trichloethelene.

Orange County Water District vs. Sabic Innovative Plastics US, LLC, et al. In the Court of Appeal, Fourth District,

Division 1, California, Case No: D070553. Deposition in 2020. Representing Plaintiff in matters involving compliance with The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
Los Angeles Waterkeeper vs. AAA Plating and Inspection, Inc. In the United States District Court for the Central District of California, Case No: No. CV 18-5916 PA (GJSx). Deposition in 2019. Expert witness representing Plaintiff in matters involving contaminated stormwater runoff at an industrial facility in Compton, California.

Californians for Alternatives to Toxics vs. Schneider Dock and Intermodal Facility. In the United States District Court for the Northern District of California, Case No: 3:17-cv-05287-JST. Deposition in 2019. Expert witness representing Plaintiff in matters involving contaminated stormwater runoff at an industrial facility in Eureka, California.

Bells et al. vs. The 3M Company et al. In the United States District Court for the District of Colorado, Case No: 1:16-CV-02531-RBJ. Deposition in 2018. Expert witness representing Plaintiff on matters regarding the general hydrogeological conditions present in an area impacted by per- and poly-fluoroalkyl substances.

Ungar vs. Foundation for Affordable Housing. In the Superior Court, State of California, Los Angeles County, Case No. BC628890 Deposition in 2017. Expert witness representing defendant on matters involving alleged drinking water contamination.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S.EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making andPublic Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins atschools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBEReleases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells.

Presentation to the Ground Water and Environmental Law Conference, National GroundwaterAssociation.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Waterin Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Waterin the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to atribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to ameeting of tribal representatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking WaterSupplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant.Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting ofthe National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to ameeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to AddressImpacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater(and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA andState Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublishedreport.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground StorageTanks.

Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal WatercraftUsage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George WrightSociety Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval AirStation, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui,October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Airand Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Basesin California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:
Selected as subject matter expert for the California Professional Geologist licensing examinations,2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE
2219 Main Street, Suite 600
Santa Monica, CA 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Rosenfeld, P.E., Spaeth, K.R., McCarthy, S.J. *et al.* Camp Lejeune Marine Cancer Risk Assessment for Exposure to Contaminated Drinking Water From 1955 to 1987. *Water Air Soil Pollut* **235**, 124 (2024). https://doi.org/10.1007/s11270-023-06863-y.

Rosenfeld P.E., Spaeth K.R., Remy L.L., Byers V., Muerth S.A., Hallman R,C., Summers-Evans J., Barker S. (2023) Perfluoroalkyl substances exposure in firefighters: Sources and implications, *Environmental Research*, Volume 220, https://doi.org/10.1016/j.envres.2022.115164.

Rosenfeld P.E. and Spaeth K.R., (2023) Authors' Response to Letter to the Editor from Bullock and Ramacciotti, *Water Air Soil Pollution* Volume 234, https://doi.org/10.1007/s11270-023-06165-3

Rosenfeld P. E., Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution.* **233,** 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. *Journal of Real Estate Research*. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.,** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Cheremisinoff, N.P., **Rosenfeld, P.E.** Davletshin, A.R. (2008). ***Responsible Care***. Gulf Publishing. Texas.

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 Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

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*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy of Odour Wheels for Odours of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme for The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004*. New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated with Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affects on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook for Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation on St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Master's thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelor's Thesis. University of California.

Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted at University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 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*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus on Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water and Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model for PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium on Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium on Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting for Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington.

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation with High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation with High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. The course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate the effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate the effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate the effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the District Court of Harris County Texas
Mt Davis Interest, Inc v Sesco Cement Corp
Cause No 2023-26512
Trial 6-6-2-25

In the United States Southern District of New York
Gallo vs Avon Products Inc., et al
Civil Action No.: 1:23-cv-2023
Deposition 4-24-2025

In Vanderburgh Superior Court 5, County of Vanderburgh, Indiana
Markello v CSX
Civil Action No 82D05-2011-CT-004962
Deposition 3-26-25

Iin the Circuit Court of Cook County Illinois
Jarosiewicz v Northeast Regional Railroad
Case No 2023 L 002290
Deposition 2-27-25

In the District Court 191st Judicial District Dallas County
Acklin v Poly America International
Cause No DC-22-08610
Deposition 1-8-2025

United States District Court, Norther District of California
Asustin Vs Monsanto
Case No 2:23-cv-272
Deposition 12-20-25

In Jefferson Circuit Court Division One, Louisville, Kentucky
Stafford vs, CSX
Case No. 18-CI-001790

Deposition: 8-27-24

In the Twenty-Second Judicial Circuit of St. Louis. State of Missouri
Patricia Godfrey vs, Amtrak
Case No. 2122-CC-00525
Deposition: 7-17-24

In the Circuit Court of Jefferson County Alabama
Linda Early Vs. CSX
Case number CV-2021-00241
Deposition 6-24-24

In the Court of Common Please Lucas County, Ohio
Brenda Conkright vs. CSX
Case No. G-4801-CI-0202102664-000
Deposition: 6-4-24

In the Commonwealth of Kentucky, Greenup Circuit Court
Patsy Sue Napier vs. CSX
Case No. 19-CI-0012
Deposition: 5-8-2-24

In United States District Court of Hawaii
Patrick Feindt, Jr. et al. vs. The United States of America
Case No. 1:22-cv-LEK-KJM
Trial 3-29-24 and 4-5-24

In the District Court of Hood County State of Texas
Artie Gray vs. Exxon Mobil
Case No. C-2018047
Rosenfeld Deposition:4-22-2024

In the Elkhart Superior Court State of Indiana
Estate of Clark Stacy vs. Penn Central Corporation
Cause No 2D01-2001-CT-00007
Rosenfeld Deposition 1-25-2024 and 3-7-2024

In the Circuit Court of Trempealeau County, State of Wisconsin
Michael J. Sylla et al. vs. High-Crush Whitehall LLC
Case No. 2019-CV-63, 2019-CV-64, 2019-CV-65, 2019-CV-66
Rosenfeld Deposition: 3-5-2024

In the Circuit Court of Trempealeau County, State of Wisconsin
Leland Drangstveit vs. High-Crush Blair LLC
Case No. 19-CV-66
Rosenfeld Deposition 3-5-2024

In the Circuit Court of Jefferson County Alabama
Donald Lee Ashworth vs. CSX Transportation Inc.
Case No CV-2021-901261
Rosenfeld Deposition 1-23-2024

In the United States District Court for the Eastern District of Wisconsin
Gary L Siepe vs. Soo Line Railroad
Case No. 2:21-cv-00919
Rosenfeld Deposition 1-19-2024

In the United States District Court for the Western District of Louisiana
Ricky Bush v. Clean Harbors Colfax LLC
Case No. 1:22-cv-02026-DDD-JPM
Rosenfeld Deposition 12-18-2023 and 1-15-2024

In United States District Court of Hawaii
Patrick Feindt, Jr. et al. vs. The United States of America
Case No. 1:22-cv-LEK-KJM
Rosenfeld Deposition 11-29-2023

In the Circuit Court for the Twentieth Judicial Circuit St. Clair County, Illinois
Timothy Gray vs. Rural King et al.
Case No 2022-LA-355
Rosenfeld Deposition 9-26-2023

In United States District Court Eastern District of Wisconsin
Gary L. Siepe vs. Soo Line Railroad Company
Case No. 2:21-cv-00919
Rosenfeld Deposition 9-15-2023

In the Circuit Court of Cook County Illinois
Donald Fox vs. BNSF
Case No. 2021 L12
Rosenfeld Deposition 9-12-2023

In the Court of Common Please Cuyahoga County, Ohio
Thomas Schleich vs. Penn Central Corporation
Lead Case No. CV-20-939184
Rosenfeld Deposition 8-27-2023

In the Circuit Court of Jackson County Missouri at Kansas City
Timothy Dalsing vs. BNSF
Case No. No. 2216-cv06539
Rosenfeld Deposition 7-28-2023

In the United States District Court for the Southern District of Texas Houston Division
International Terminals Company LLC Deer Park Fire Litigation
Lead Case No. 4:19-cv-01460
Rosenfeld Deposition 7-25-2023

In the Circuit Court of Livingston County Missouri
Shirley Ralls vs. Canadian Pacific Railway and Soo Lind Railroad
Case No. 28LV-CV0020
Rosenfeld Daubert Hearing 7-18-2023 Trial Testimony 7-19-2023

In the Circuit Court of Cook County Illinois
Brenda Wright vs. Penn Central and Conrail
Case No. No. 2032L003966
Rosenfeld Deposition 6-13-2023

In the Circuit Court Common Please Philadelphia of Jefferson County Alabama
Frank Belle vs. Birmingham Southern Railroad Company et al.
Case No. 01-cv-2021-900901.00
Rosenfeld Deposition 4-6-2023

In the Circuit Court of Jefferson County Alabama
Linda De Gregorio vs. Penn Central
Case No. 002278
Rosenfeld Deposition 3-27-20203

In the United States District Court Eastern District of New York
Rosalie Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-16-2023

In the Superior Court of Washington, Spokane County
Judy Cundy vs. BNSF
Case No. 21-2-03718-32
Rosenfeld Deposition 3-9-2023

In The Court of Common Pleas of Philadelphia County, PA Civil Trial Division
Feaster v Conrail
Case No. 001075
Rosenfeld Deposition 2-1-2023

In United States District Court for the Central District of Illinois
Sherman vs. BNSF
Case No. 3:17-cv-01192
Rosenfeld Deposition 1-18-2023

In United States District Court District of Colorado
Gonzales vs. BNSF
Case No. 1:21-cv-01690
Rosenfeld Deposition 1-17-2023

In United States District Court District of Colorado
Abeyta vs. BNSF
Case No. 1:21-cv-01689-KMT
Rosenfeld Deposition 1-3-2023

In United States District Court For The Easter District of Louisiana
Nathaniel Smith vs. Illinois Central Railroad
Case No. 2:21-cv-01235
Rosenfeld Deposition 11-30-2022

In the Superior Court of the State of California, County of San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division

Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022, Trial 1-10-2023

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation

Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al. vs Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

In the United States District Court For the Northern District of Illinois

Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail
Case No. 17-cv-8517
Rosenfeld Deposition 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case No. CV20127-094749
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al vs. CNA Insurance Company et al.
Case No. 1:17-cv-000508
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.
Case No. 1716-CV10006
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.
Case No. 2:17-cv-01624-ES-SCM
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" Defendant.
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No. BC615636
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No. BC646857
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants
Case No. 1:16-cv-02531-RBJ
Rosenfeld Deposition 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants

Cause No. 1923
Rosenfeld Deposition 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintifs vs. Chevron Corporation, et al., Defendants
Cause No. C12-01481
Rosenfeld Deposition 11-20-2017

In The Circuit Court of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case No. 1:19-cv-00315-RHW
Rosenfeld Deposition 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No. LC102019 (c/w BC582154)
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., Plaintifs, vs. Meritor Inc., et al., Defendants
Case No. 4:16-cv-52-DMB-JVM
Rosenfeld Deposition July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No. RG14711115
Rosenfeld Deposition September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No. LALA002187
Rosenfeld Deposition August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. vs. Antero, et al.
Civil Action No. 14-C-30000
Rosenfeld Deposition June 2015

In The Iowa District Court for Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No. 4980
Rosenfeld Deposition May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.

Case No. CACE07030358 (26)
Rosenfeld Deposition December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, vs. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the County of Kern, Unlimited Jurisdiction
Rose Propagation Services vs. Heppe Enterprises
Case No. S-1500-CV-278190, LHB
Rosenfeld Deposition: May 2014

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

In the Court of Galveston County, Texas 56th Judicial District
MDL Litigation Regarding Texas City Refinery Ultracracker Emission Event Litigation
Cause No. 10-UC-0001
Rosenfeld Deposition: March 2013
Rosenfeld Trial: September 2013

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the United States District court of Southern District of California
United States of America, Plaintiff vs. 2,560 Acres of Land, more or less, located in Imperial County, State of California; and Donald L. Crawford, et. al.
Civil No. 3:11-cv-02258-IEG-RBB
Rosenfeld Deposition: December 2012, January 2013

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., Plaintiffs, vs. Republic Services, Inc., et al., Defendants
Case No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition October 2012

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., Plaintiffs, vs. International Paper Company, Defendant.

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Gary Ho
Blum, Collins & Ho LLP
10250 Constellation Boulevard
Suite 2300
Los Angeles, CA 90067
(213) 572-0400

7 April 2026

RE: Airport Commerce Center Industrial Project

Dear Mr. Ho,

I write to comment on potential impacts to biological resources that would result from development of the proposed Airport Commerce Center Industrial Project. The project would construct 1,505,440 sf of (4) warehouse buildings and 9,410 sf of (2) quick-serve restaurants and 2,910 parking spaces on 110 acres at the northwest corner of Merle Haggard Dr and Airport Dr in Bakersfield, California. My comments that follow address my concerns that the Draft Environmental Impact Report (DEIR) supported by Dudek (2025), mischaracterizes the existing environmental setting, and that its impacts analysis is flawed and its mitigation measures are inadequate.

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 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.

13-RR

THE WILDLIFE COMMUNITY AS A BIOLOGICAL RESOURCE

Most environmental reviews pursuant to the California Environmental Quality Act (CEQA) focus on special-status species because CEQA's Checklist Evaluation of Environmental Impacts Question IV(a) asks specifically whether the project would adversely affect special-status species. However, this narrowly focused question is part of a larger policy goal of CEQA, which is "to prevent the elimination of fish or wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history."

13-SS

Pub. Res. Code § 21001(c). This policy is not restricted to special-status species; it also applies to wildlife populations and plant and animal communities, as it must, because special-status species are inter-dependent members of ecological communities. The CEQA Guidelines Section 21155.1 defines wildlife habitat as "the ecological communities upon which wild animals, birds, plants, fish, amphibians, and invertebrates depend for their conservation and protection." This definition is consistent with the scientific definition of habitat, which is that portion of the environment that is used by members of a species for survival and reproduction (Hall et al. 1997). An essential portion of the environment used by any special-status species is composed of the collection of other species of plants and wildlife, because these species provide for special-status species their forage, refugia and nest substrates, and some serve as ecological mutualists. The CEQA Checklist Evaluation assigns priority to special-status species to balance information and cost, but it does not exclude the need to evaluate environmental impacts to other species, which, after all, are members of the very communities within which special-status species inter-depend for survival and reproduction.

The species I consider to be special-status species are those listed in California's Special Animals List inclusive of threatened and endangered species under the California and federal Endangered Species Acts, candidates for listing under CESA and FESA, California's Fully Protected Species, California species of special concern, and California's Taxa to Watch List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406), continental and region-specific US Fish and Wildlife Service Birds of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf), and naturally rare species such as raptors protected by California's Birds of Prey laws, Fish and Game Code Sections 3503, 3503.5, 3505 and 3513 (see https://wildlife.ca.gov/Conservation/ Birds/Raptors). 13-SS cont.

What follows is a summary of a site visit to detect as many of the species of wildlife as possible within the short time available. The visit was also intended to detect as many of the special-status species as possible, but with the understanding that most special-status species are less readily detectable due to rarity and crypticity. Nonetheless, the species detected can indicate the ecological integrity of the site and thus the likelihood of occurrence of special-status species not yet detected.

SITE VISIT

On my behalf, Noriko Smallwood, a wildlife biologist with a Master of Science Degree from California State University Los Angeles, visited the site of the proposed project for 1.92 hours of diurnal survey from 17:26 to 19:21 hours, and for 2.75 hours of nocturnal survey from 19:21 to 22:06 hours on 30 March 2026, and for 2.85 hours of diurnal survey from 06:35 to 09:26 hours on 31 March 2026. During daylight, Noriko walked the site where accessible, stopping to scan for wildlife with use of binoculars. At night, Noriko affixed a Pettersson M500 acoustic bat detector to a 15-foot pole, and cabled the detector to her computer, which ran SonoBat Live. SonoBat Live identifies bats to species based on the bats' sonograms that are detected by the M500. She also scanned for nocturnal wildlife using a Pulsar Telos LRF XG50 5.5-14x 50 mm thermal-imaging monocular. Noriko recorded all species of vertebrate wildlife she detected, including 13-TT

those whose members flew over the site or were seen just off the site. Animals of uncertain species identity were either recorded to the Genus or higher taxonomic level.

On 30 March 2026, conditions were cloudy with 8 MPH northwest wind and temperatures of 83-69° F. On 31 March 2026, conditions were cloudy with 8 MPH north wind and temperatures of 62-67° F. The site is primarily annual grassland with some shrubs along a drainage (Photos 1-3).





13-TT cont.



Photos 1, 2, and 3. *Views of the project site, 31 March 2026. Photos by Noriko Smallwood.*

Noriko saw San Joaquin kit fox (Photo 4), Swainson's hawk and American kestrel (Photos 5 and 6), red-tailed hawk and common raven (Photos 7-11), western kingbird (Photos 11-13), horned lark (Photo 13), loggerhead shrike and Anna's hummingbird (Photos 14 and 15), mourning dove (Photo 16), barn swallow and cliff swallow (Photos 17 and 18), white-crowned sparrow and savannah sparrow (Photos 19 and 20), lesser goldfinch and western meadowlark (Photos 21 and 22), California ground squirrel (Photo 23), among the other species listed in Table 1. Noriko detected 30 species of vertebrate wildlife at or adjacent to the project site, including five species with special status (Table 1).

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

Noriko Smallwood

13-TT cont.



Photo 4. *San Joaquin kit fox about 250 m from the project site, 31 March 2026. Photo by Noriko Smallwood.*



Photos 5 and 6. *Swainson's hawk (left), and American kestrel (right) on the project site, 31 March 2026. Photos by Noriko Smallwood.*

13-TT cont.



Photos 7 and 8. *Common raven harassing a red-tailed hawk just off the project site (left), and common raven nest on the project site (right), 31 March 2026. Photos by Noriko Smallwood.*



Photos 9 and 10. *Common raven bringing nest material to its nest (left), and common raven sitting on its nest (right) just off the project site, 30 and 31 March 2026. Photos by Noriko Smallwood.*

13-TT cont.



Photo 11. *Western kingbird harassing a common raven just off the project site, 31 March 2026. Photo by Noriko Smallwood.*



Photos 12 and 13. *Western kingbird (left), and horned lark (right) just off the project site, 31 March 2026. Photos by Noriko Smallwood.*

13-TT cont.



Photos 14 and 15. *Loggerhead shrike (left), and Anna's hummingbird (right) just off the project site, 30 March 2026. Photos by Noriko Smallwood.*



Photo 16. *Mourning doves just off the project site, 31 March 2026. Photo by Noriko Smallwood.*

13-TT cont.



Photos 17 and 18. *Barn swallow (left), and cliff swallow (right) on the project site, 30 and 31 March 2026. Photos by Noriko Smallwood.*



Photos 19 and 20. *White-crowned sparrow (left), and Savannah sparrow (right) on the project site, 31 March 2026. Photos by Noriko Smallwood.*



Photos 21 and 22. *Lesser goldfinch (left), and western meadowlark (right) on the project site, 31 March 2026. Photos by Noriko Smallwood.*

13-TT cont.



Photo 23. *California ground squirrel that's likely pregnant on the project site, 30 March 2026. Photo by Noriko Smallwood.*

13-TT cont.

Table 1. *Species of wildlife Noriko observed at the project site in 1.92 hours of diurnal survey and 2.75 hours of nocturnal survey on 30 March 2026, and in 2.85 hours of diurnal survey on 31 March 2026.*

Common name	***Species name***	**Status[1]**	**Notes**
Mallard	*Anas platyrhynchos*		Flew over
Rock pigeon	*Columba livia*	Non-native	
Eurasian collared-dove	*Streptopelia decaocto*	Non-native	
Mourning dove	*Zenaida macroura*		
Anna's hummingbird	*Calypte anna*		
Killdeer	*Charadrius vociferus*		
Swainson's hawk	*Buteo swainsoni*	CT, BOP	Circled over site
Red-tailed hawk	*Buteo jamaicensis*	BOP	Harassed by WEKI and CORA
American kestrel	*Falco sparverius*	BOP	Hunted on site
Western kingbird	*Tyrannus verticalis*		Harassed RTHA and CORA, foraged
Loggerhead shrike	*Lanius ludovicianus*	SSC2	Just off site
Common raven	*Corvus corax*		Nest on site, another 3 nests just off site
Horned lark	*Eremophila alpestris*		
Barn swallow	*Hirundo rustica*		Foraged

Common name	*Species name*	Status[1]	Notes
Cliff swallow	*Petrochelidon pyrrhonota*		Foraged
Northern mockingbird	*Mimus polyglottos*		Just off site
European starling	*Sturnus vulgaris*	Non-native	
American pipit	*Anthus rubescens*		Many, foraged
House finch	*Haemorphous mexicanus*		
Lesser goldfinch	*Spinus psaltria*		Foraged
White-crowned sparrow	*Zonotrichia leucophrys*		Foraged
Savannah sparrow	*Passerculus sandwichensis*		Foraged
Western meadowlark	*Sturnella neglecta*		
Brewer's blackbird	*Euphagus cyanocephalus*		Flew over
Yellow-rumped warbler	*Setophaga coronata*		
Desert cottontail	*Sylvilagus audubonii*		Just off site
Coyote	*Canis latrans*		Called in area
San Joaquin kit fox	*Vulpes macrotis mutica*	FE, CT	One observed about 250 m from site; tracks on site
California ground squirrel	*Otospermophilus beecheyi*		Likely pregnant
Botta's pocket gopher	*Thomomys bottae*		Burrows

13-TT cont.

[1] Listed on CDFW's Special Animals List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406) as FT or FE = federal threatened or endangered; FC = federal candidate for listing; CT or CE = California threatened or endangered; CCT or CCE = Candidate California threatened or endangered; SSC_i = California Species of Special Concern with i = priorities 1, 2 and 3; WL = CDFW's Taxa to Watch List; BCC = U.S. Fish and Wildlife Service's Bird of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf); and BOP = protected by Birds of Prey (California Fish and Game Code 3503.5, see https://wildlife.ca.gov/Conservation/Birds/Raptors).

ANALYSIS OF RECONNAISSANCE SURVEY DATA

Noriko detected 30 species of vertebrate wildlife, which totaled a large number for the brevity of her survey effort. All the species in Table 1 and all six of the additional species I detected would lose habitat as the result of the project and its replacement of vegetated ground covers with arrays of solar panels. Smallwood and Smallwood (2023) confirmed this habitat loss by measuring the impacts of development projects on species richness and the abundances of wildlife. Smallwood and Smallwood (2023) directly compared the species and the numbers of animals observed prior to development to the those observed after development, while they did the same at control sites. The measured losses of these species resulting from development is indicative of habitat loss, because habitat is defined as that portion of the environment that is used for survival and reproduction by members of a species (Hall et al. 1997), and this use is inferred by observations of the presence of a species (Smallwood 2002).

13-UU

However, the species of wildlife Noriko detected at the project site were not the only species that were present during her surveys, as there are always species that evade detection. To demonstrate that reconnaissance surveys cannot detect all species that use

a given site, I fit nonlinear regression models to Noriko's accumulations of first detections of vertebrate wildlife species with time into her daytime surveys to predict the numbers of species that she would have detected with longer surveys or perhaps with additional biologists available to assist her. The type of model I used is a logistic growth model, which reaches an asymptote that corresponds with the theoretical maximum number of vertebrate wildlife species that could have been detected during the survey. The model I fit to Noriko's survey data from the morning of 31 March 2026 predicts 34 species of vertebrate wildlife should have been detectable after five hours of survey, or 9 more species than she detected that morning (Figure 1). No reconnaissance survey is going to detect all the species that occur on a given site. Note also that Noriko's species detections were within the bounds of the 95% confidence interval estimated from many surveys we have completed in the south Central Valley.

Unknown are the identities of species Noriko missed, but the species that Noriko did and did not detect 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, some require more survey effort because they are highly cryptic, and the members of other species would visit the site only periodically while patrolling large home ranges. Surveys on only two days cannot possibly detect all of the species of the local wildlife community.

13-UU cont.

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 two surveys. 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. This analytical bridge draws inference from the pattern of species detections more than it does from the research site, and I note that the pattern, i.e., rate, of species detections is consistent from site to site.

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.

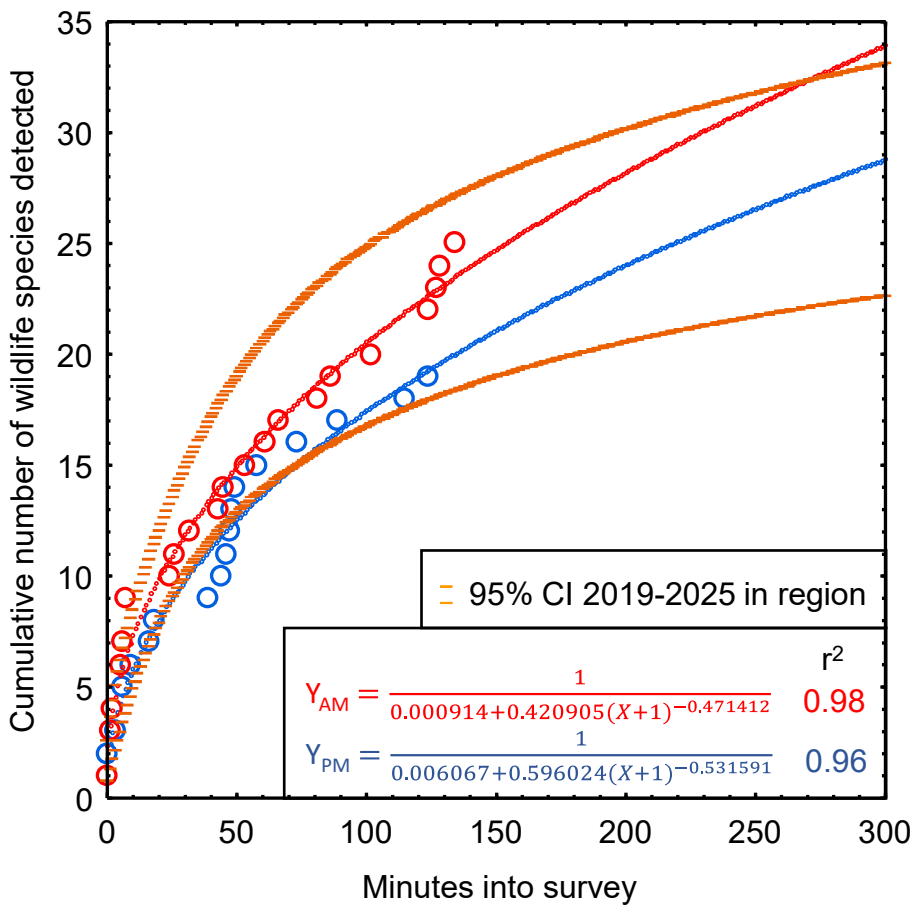


Figure 1. *Actual and predicted relationships between the numbers of vertebrate wildlife species detected and the elapsed survey time based on Noriko's visual-scan surveys at the project area on 30 (blue) and 31 (red) March 2026. Note the confidence interval (orange) applies only to the morning survey (red).*

13-UU cont.

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 16.85 species over my first 4.77 hours of diurnal surveys at my research site in the Altamont Pass (4.77 hours to match the 4.77 hours Noriko surveyed during daylight hours at the project site), which composed 29.2% of the predicted total number of species I would detect with a much larger survey effort at the research site. Given the example illustrated in Figure 2, the 28 species Noriko detected after her 4.77 hours of daylight survey at the project site likely represented 29.2% 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, Noriko would likely detect $^{28}/_{0.292} = 96$ species of vertebrate wildlife detectable by daylight surveys at the site. Assuming Noriko's ratio of special-status to non-special-status species was to hold through the detections of all 96 predicted species, then continued daytime surveys would eventually detect 17 special-status species of vertebrate wildlife that are detectable in daylight surveys.

Because my prediction of 97 species of vertebrate wildlife, including 17 special-status species, 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. Noriko's reconnaissance surveys should serve only as a starting point toward characterization of the site's wildlife community, but they certainly cannot alone inform of the inventory of species that use the site. More surveys are needed than her two surveys to produce an inventory the project site's wildlife community. Nevertheless, the large number of species I predict at the project site is indicative of a relatively species-rich wildlife community that warrants a serious survey effort.

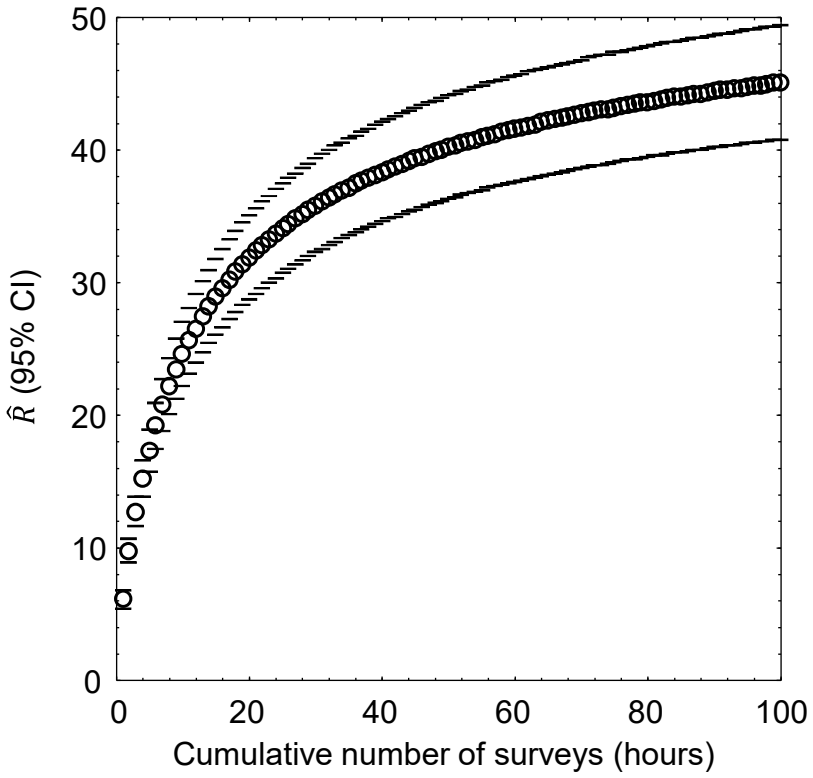


Figure 2. *Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019. Note that the location of the study is largely 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.*

13-UU cont.

EXISTING ENVIRONMENTAL SETTING

CEQA's primary objectives should guide the design and conduct of CEQA review. Four of CEQA's primary objectives are to (1) accurately characterize the existing environmental setting, (2) disclose potential project impacts to the public and decision-makers, (3) foster public participation with decision-making over proposed projects, and (4) identify issues and feasible alternative mitigation measures to minimize environmental impacts. The first objective is essential to the other three, because an accurate understanding of the existing environmental setting is needed to predict impacts, provide the public with the means to meaningfully participate with issues of importance, and effectively strategize mitigation and project alternatives (Figure 3). For biological resources, essential information includes the species composition of the plant and wildlife communities, key ecological interactions, identification of ecological keystone species, determining the presence of special-status species or their habitats, and identifying risk factors that could result in significant direct, indirect and cumulative impacts should the project go forward.

13-VV

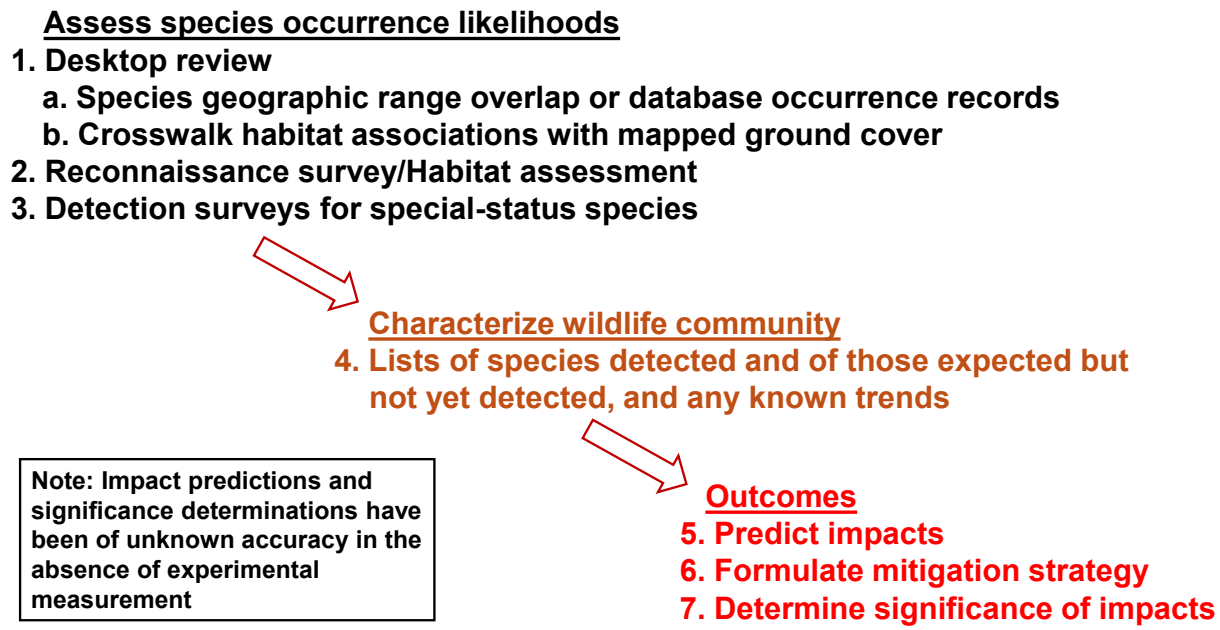


Figure 3. *General flow of information from its gathering through characterizing the existing environment to predicting impacts and their significance.*

The public and decision-makers need to know which species are susceptible to harm potentially caused by the project and its associated activities, and which are known to be vulnerable to harm once exposed to the environmental changes brought by the project. For these reasons, field studies are needed to identify as many of the species that occur on the project site as reasonably feasible, and to otherwise examine the environmental conditions for their likelihood to support species that are not detected, otherwise known as "habitat assessment." A review of species occurrence records – also known as "desktop review" – is needed to identify the other species that potentially occur on the site – a process that is also referred to as "habitat assessment." Because habitat assessments that are based on either or both field study and desktop review are prone to uncertainty, emphasis needs to be directed to adequate field study to reduce the pool of species subjected to habitat assessment, thereby weighing the review more towards certainty. Appropriately weighted reviews are less susceptible to speculation over species occurrence likelihoods. For this reason, protocol-level detection surveys have been formulated for numerous special-status species of plants and wildlife, and otherwise best scientific practices are needed to provide a reasonable likelihood of detection of species that truly occur on the project site. The negative findings of a properly conducted detection survey are the only findings that can support a determination of species absence.

13-VV cont.

Even among reviews founded on the best of field studies, there is always uncertainty over some of the determinations of species occurrences. The uncertainties of habitat assessments need to be managed to achieve CEQA's primary objectives. This means that the methodological details of both the field studies and desktop review need to be carefully and thoroughly reported, and it means that results need to be reported in context of their uncertainties. For example, the reporting of having detected 10 species

in a reconnaissance survey is nearly meaningless without also reporting the numbers of species found in surveys of similar methods and effort levels, and the reporting of the failure to detect a given species is nearly entirely meaningless without also reporting the likelihood that species would be detected given the survey methods and effort level. The same is true of desktop review; that is, there should be some means of validating habitat assessments based on the thousands of habitat assessments that have already been conducted in support of CEQA reviews. If industry standards in environmental review are to be credible, then they must include the use of the comparative method.

13-VV cont.

In the case of this project, South (2025:7) characterizes its reconnaissance survey in a subtitle: "Plant and Animal Inventories." However, a single reconnaissance survey cannot produce an inventory of the plant or animal species that compose the ecological community. A much larger survey effort would be needed to obtain a species inventory.

Environmental Setting informed by Field Surveys

South (2025:6) conducted a reconnaissance survey on 10 November 2023 "to record plants and animals observed on the project site, map plant communities, and identify other locally significant resources including native and protected trees, and water resources." The stated objectives are appropriate for achieving CEQA's primary objectives, but South (2025) fails to report much of the information that is essential for providing interpretive context to the survey findings. South (2025) reports no survey start time, no survey duration, and no description of the survey methodology. Nor does South (2025) report any comparative analysis of its findings, such as to survey findings based on similar methods at other locations.

Without contextualizing the survey findings to survey effort and to what one should expect to have been found, it is difficult for members of the public or the decision-makers to understand what Dudek's survey findings represent. For example, while South (2025:20) reports "No special-status species were documented during the survey," South fails to report that Swainson's hawks would not have been available for documentation on the project site because they had already migrated to Mexico by the date of the survey. South fails to report that in November burrowing owls are less visible, and therefore less detectable, because without the need for breeding adult males to guard nest sites, there is no reason for burrowing owls to show themselves during daylight. Similarly, no special-status species of bats would have been detectable without having conducted a directed bat survey, and no special-status species of small mammals would have been detectable without having conducted the appropriate live-trapping to detect them. The likelihood of detecting special-status species greatly diminishes without implementing the appropriate surveys, survey timing, and survey effort, but neither South (2025) nor the DEIR discusses this.

13-WW

In comparison to South's eight species of vertebrate wildlife, Noriko detected 30 species of vertebrate wildlife within the project area. In only 7.5 hours of survey, Noriko detected 3.75 times more vertebrate wildlife species than did South, and she detected 5 times the number of special-status species of vertebrate wildlife. Due to South's (2025) insufficient reporting, I cannot conclude that the difference in survey outcomes resulted

from a difference in survey effort, but an explanation is needed. All I can say is that while South detected only 0.63 times the average number of vertebrate species detected by consulting biologists in desert environments, Noriko detected 1.67 times the average number we find in desert environments (Figure 3), and while South found half the average number of special-status species of vertebrate wildlife detected by consulting biologists in desert environments, Noriko detected 1.36 times our average number (Figure 4).

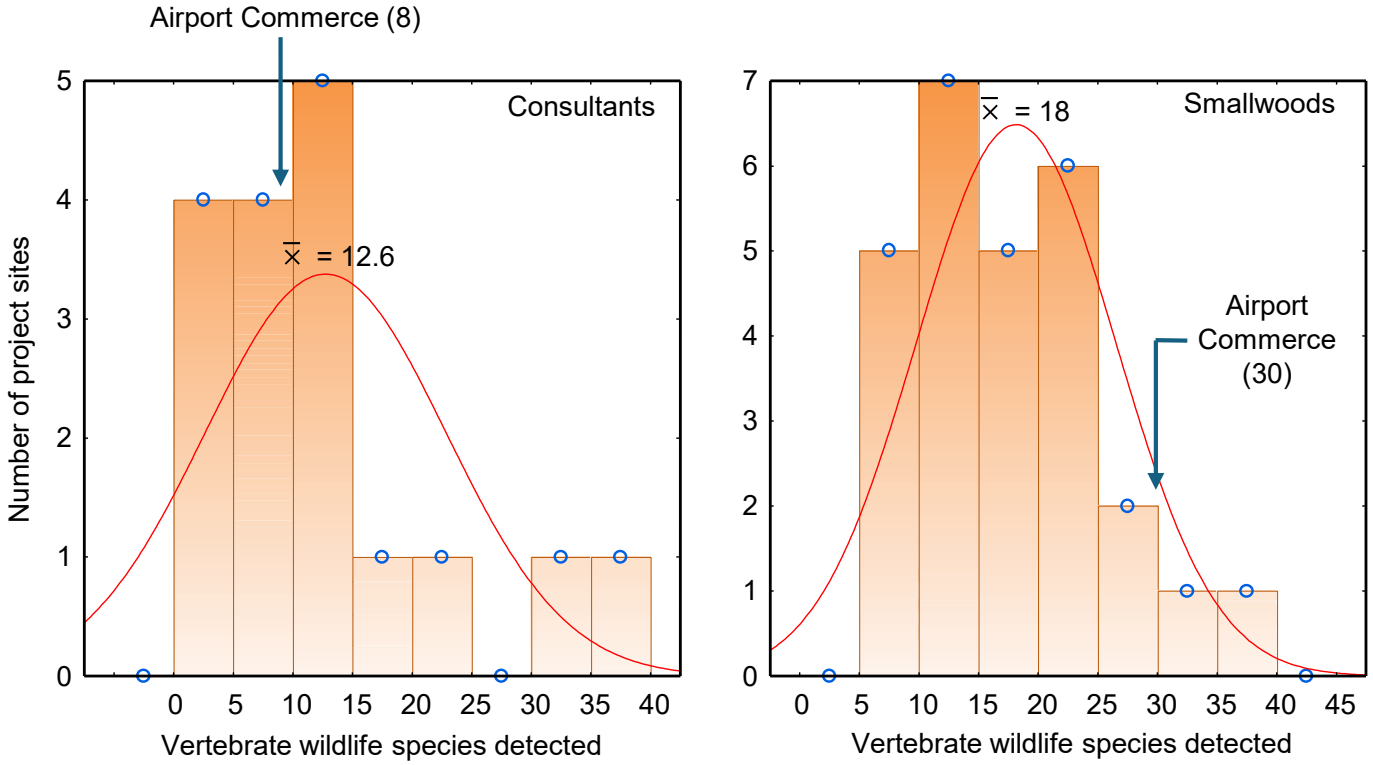
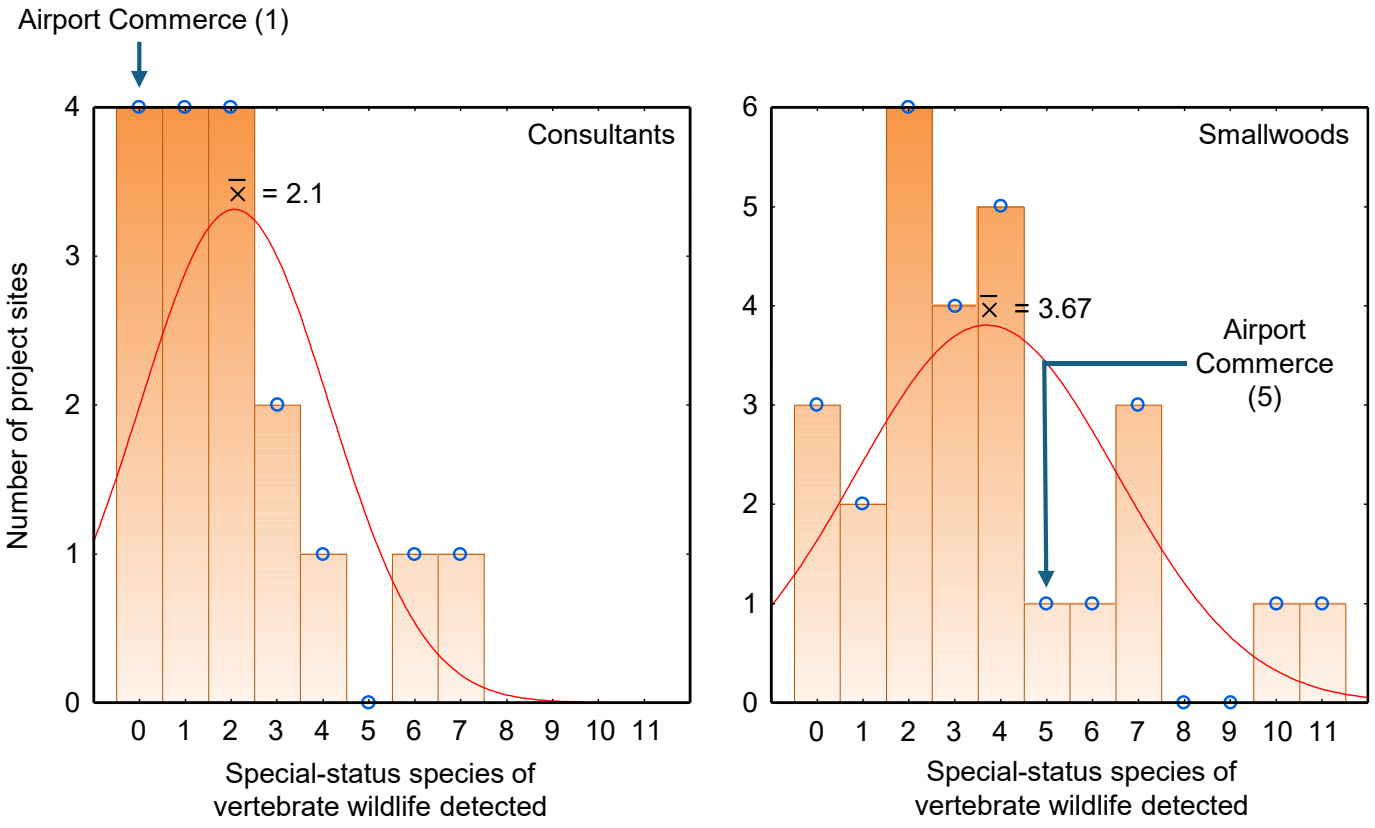


Figure 3. *Frequency distribution of the number of vertebrate wildlife species detected by consulting biologists (left graph) and by me and Noriko (right graph) among project sites surveyed in support of environmental reviews in California deserts.*

13-WW cont.

Two comparative contexts are needed to fully disclose the meanings of survey findings in the DEIR. The first is to contextualize the survey findings relative to the survey effort, because otherwise it is misleading to insinuate that the species detected were definitive of the wildlife community. As Figures 1 and 2 demonstrate, additional surveys contribute to an increasingly more accurate characterization of the wildlife community, but eventually to a point at which the species inventory would be obtained. Quicker progress toward an accurate characterization of the wildlife community can be achieved by adding nocturnal surveys as well as specialized surveys for detecting bats, small mammals, reptiles and amphibians. However the surveys are done, it is imperative to compare survey findings to the findings from other surveys and their associated survey attributes to provide interpretive context such as to quantify the uncertainty of the findings, or alternatively to understand whether the findings fall within the expected

range of findings given the survey methods and level of effort. If no such comparison is possible, then the lack of comparability should be discussed as a survey limitation.



13-WW cont.

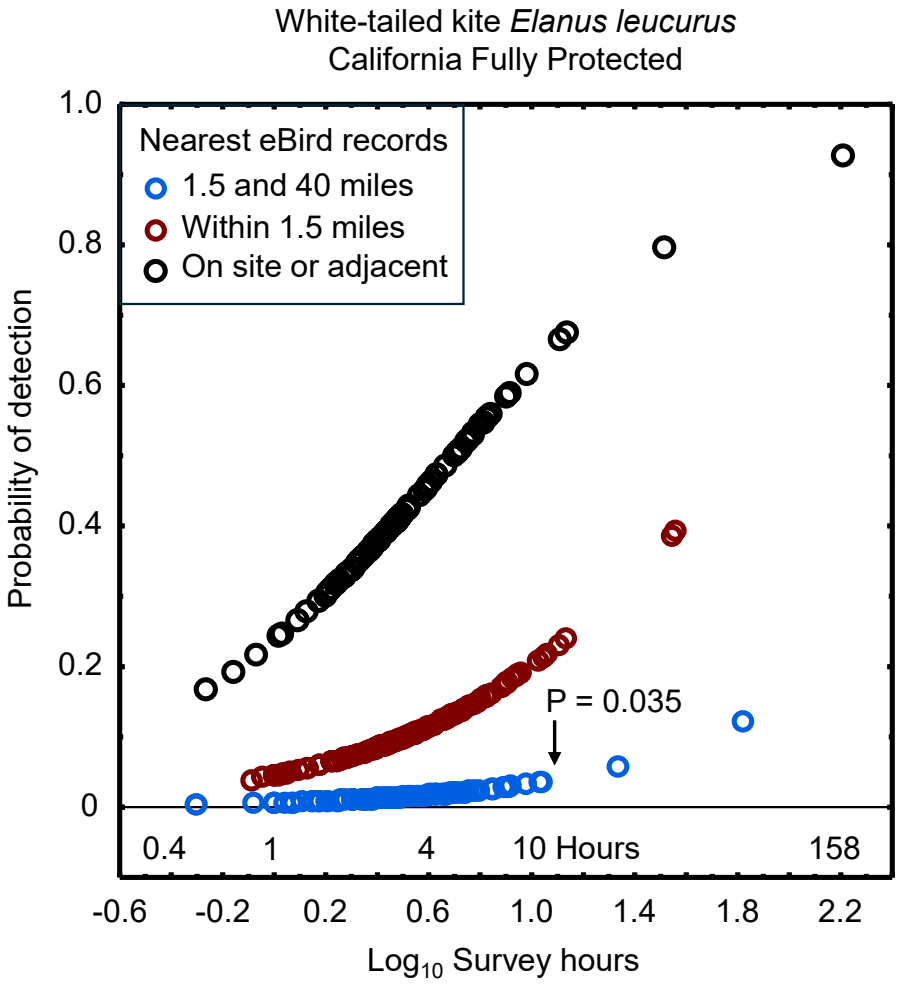
Figure 4. *Frequency distribution of the number of special-status species of wildlife detected by consulting biologists (left graph) and by me and Noriko (right graph) among project sites surveyed in support of environmental reviews in deserts.*

The second comparative context is to assess the probabilities of detection considering the survey effort of each special-status species, whether detected or not. South (2025) reports having failed to any special-status species of wildlife, but failures to detect special-status species can mean that the survey was inadequate. Each species presents survey personnel with a unique range of detection probabilities based on the species' natural history, its behavior patterns, survey effort, the study area's distance from known activity areas of the species, and the levels of skill of survey personnel. Many animals maintain home ranges that are larger than most project sites, and they periodically shift their foraging activities to various parts of their home range, hence occurring on a particular site only periodically. To detect these species, survey personnel must be at the site on the same date and time as the one or more members of the species. The probability of detection of any given species during any given survey is less than 100%, and for many species that truly occur on a given site, it is closer to 0%.

For example, South (2025) failed to detect white-tailed kite, and it further determines that white-tailed kite has no likelihood of occurring on the project site because, according to South, the project site lacks habitat. However, Noriko and I have found

white-tailed kites in environments similar to the project site. Based on hundreds of surveys within the geographic range of white-tailed kite, Noriko's 4.77 hours of daylight survey combined with the knowledge that white-tailed kite has been documented between 1.5 and 40 miles from the project site afforded Noriko a 3.5% likelihood of detection of white-tailed kite (Figure 6). Noriko would have needed to conduct many more surveys to accumulate a reasonable likelihood of detecting white-tailed kite, but the patterns of our findings from hundreds of surveys depicted in Figure 6 reveal that it is unlikely that the white-tailed kite is absent from the project site.

Figure 6.
Probability of detection of white-tailed kite as a function of survey effort and proximity of occurrence records to a project site, based on hundreds of reconnaissance surveys we completed 2019–2024.



13-WW cont.

This second comparative context is very important because it is the basis for the formulation of detection survey protocols. Experienced biologists are aware of survey limitations due to ranges of variation in the activity periods, levels of crypticity, and periodic movement patterns of wildlife species, and due to variation in the skill and commitment of survey personnel. This second comparative context acknowledges that the occurrence likelihood of a species on a particular site is rarely if ever zero, so long as the site is within the species' geographic range and it provides habitat. This second comparative context reveals that a determination of zero likelihood of occurrence is typically indicative of insufficient survey effort. A common goal of detection survey protocols is to support absence determinations with a survey effort that should have

resulted in a detection if the species had been present at the time of the surveys, but it does not prove that the species is always absent from the site. This second comparative context and its implications should not be neglected in CEQA review, but it is neglected in the case of the DEIR prepared for this project.

Protocol-level detection surveys should have been implemented for multiple special-status species of wildlife and for rare species of plants. A protocol is available for burrowing owl (CDFW 2012), and another is available for San Joaquin kit fox (USFWS 1999). A survey protocol is available for special-status species of bumble bees (CDFW 2023) and for rare plants (CDFW 2018). Considering that South (2025:13) determines a "Moderate to high potential for Bakersfield Cactus," the CDFW (2018 rare plant survey guidelines need to be implemented. Unless a compelling argument can be made for a site's lack of habitat, no special-status species whose geographic range overlaps the project site should be determined as absent.

An alternative to implementing protocol-level detection surveys is to simply conduct enough reconnaissance surveys to either detect a given special-status species or to provide reasonable confidence that the species is absent. At a nearby site in northern Bakersfield, I did not detect San Joaquin kit fox until my 17th survey of the site when I used a thermal-imaging camera for only my second time on the site. Simply walking out onto a project site in the middle of the day, which is what South's biologist might have done (the survey time is not reported), would unlikely result in the detection of San Joaquin kit fox. Noriko photographed (Photo 4) a kit fox next to the project site in the low light of early morning (07:00 hours) which is a more likely time to see San Joaquin kit fox than in the middle of the day. Noriko also found tracks of San Joaquin kit fox on the project site, but perhaps South's biologist is unfamiliar with San Joaquin kit fox tracks or just happened to survey on a date when San Joaquin kit fox had not visited over the previous few days. Again, the conduct of multiple surveys vastly increases the likelihood of a special-status species.

13-WW cont.

In another example, South (2025) failed to detect Swainson's hawk, whereas Noriko did (Photo 5). However, South surveyed while Swainson's hawks were in Mexico on winter migration, and Noriko surveyed soon after Swainson's hawks returned from Mexico to breed in California. Multiple surveys can span the times when a migratory special-status species is present.

In yet another example, South (2025) failed to detect loggerhead shrike, whereas Noriko did (Photo 14). Noriko and I know from experience that any given loggerhead shrike is not always detectable, because they patrol large territories and they often conceal themselves in dense vegetation. We surveyed a study area many times before satisfying ourselves that we had found all nest sites of loggerhead shrikes (Smallwood and Smallwood 2021). A single survey of a site should not be expected to detect the presence of loggerhead shrike.

In summary, South (2025) reports having detected few species of wildlife, whereas Noriko found many more in only a short time. It is deficient of South (2025) to have reported its findings without any comparative context to aid in interpretation. The DEIR

should be withdrawn from public circulation until either a sufficient survey effort is completed or the results in hand are appropriately interpreted and reported in support of a more accurate characterization of the project site's wildlife community.

13-WW cont.

Environmental Setting informed by Desktop Review

South (2025) relies heavily on occurrence records in the California Natural Diversity Data Base (CNDDB) to establish its pool of special-status species for assessing occurrence likelihoods, otherwise referred to as habitat assessments. South (2025) queried the CNDDB for occurrence records of special-status species within nine USGS 7.5' Quadrangles inclusive of the project site. Special-status species represented by occurrence records in these Quads were moved forward in the habitat assessment, but species lacking records were screened out of further analysis. However, the CNDDB is a volunteer, positive-sightings database, and as such it is useful for confirming presence but not for confirming absence of species because such databases are not designed for this purpose. As noted by the CNDDB, "*The CNDDB is a positive sighting database. It does not predict where something may be found. We map occurrences only where we have documentation that the species was found at the site. There are many areas of the state where no surveys have been conducted and therefore there is nothing on the map. That does not mean that there are no special status species present*." South (2025) and hence the DEIR misuse the CNDDB.

13-XX

The CNDDB relies entirely on volunteer reporting from biologists who were allowed access to whatever properties they report from. Many properties have never been surveyed by biologists. Many properties have been surveyed, but the survey outcomes never reported to the CNDDB. Many properties have been surveyed multiple times, but not all survey outcomes reported to the CNDDB. Furthermore, the CNDDB is interested only in the findings of special-status species, which means that species more recently assigned special status will have been reported many fewer times to the CNDDB than were species assigned special status since the inception of the CNDDB. Therefore, occurrence records in the CNDDB are most abundant for species assigned special status decades ago, but fewest for species only recently assigned special status. And because negative findings are not reported to the CNDDB, the CNDDB is also inappropriate as a basis for weighting occurrence likelihoods such as absent, not expected, unlikely, low, moderate or high. Whereas the CNDDB can be confirmatory of species presence, it cannot support absence determinations or assignments of low likelihood of occurrence. And again, the screening out of a species due to lack of occurrence records in the CNDDB is the same as an absence determination, but without the support of the detection surveys that have been formulated for this purpose.

As suggested above, South (2025) also weighs the likelihoods of occurrence of those species that passed the initial screening for inclusion. South assigns occurrence likelihood categories of None, Low, Moderate, and High. As noted above, however, the absence of occurrence records is not evidence of absence, nor is it evidence of any likelihood of occurrence. At best, CNDDB records can serve as evidence of the likelihood of detection of a species, but again, this likelihood does not parallel the likelihood of occurrence because species often occur where never detected by biologists.

In my assessment based on a database review and site visits, 109 special-status species of wildlife are known to occur near enough to the site to warrant analysis of occurrence potential (Table 2). Not all these species should be expected to occur at the project site, but each of them should be given a closer look to determine occurrence likelihoods and whether additional surveys are needed, or implementation of detection surveys, or whether it would be reasonable to assume presence. Of these 109 species, 6 were recorded on or just off the project site, and another 9 (8%) species have been documented within 1.5 miles of the site (Very close), another 40 (33%) between 1.5 and 4 miles (Nearby), and another 39 (37%) between 4 to 30 miles (In region). Half of the species in Table 2 have been reportedly seen within 4 miles of the project site. The site therefore supports at least six special-status species of wildlife, and it carries the potential for supporting many more special-status species of wildlife based on the proximities of recorded occurrences. Evidence certainly suggests that habitat assessments are needed for these species.

South (2025) considers the occurrence likelihoods of only 21 (19%) of the special-status species listed in Table 2. Most (15) of the 21 species moved forward in the analysis are determined to have no chance of occurrence, though Noriko detected one (Swainson's hawk) on the project site, and four others have been detected between 1.5 and 4 miles from the site, including Monarch which I detected and photographed nearby. Seven more of the special-status species that South determines have no chance of occurrence have actually been detected between 4 and 40 miles from the site. The highest likelihood that South determines for any of the 21 species is moderate, and it – San Joaquin kit fox – was detected on the project site by Noriko. All considered, the accuracy of South's determinations of occurrence likelihoods is poor, especially considering that the appropriate determinations of the occurrence likelihoods of special-status species should err on the side of caution, consistent with the Precautionary Principle in risk analysis involving rare or precious resources (National Research Council 1986).

13-XX cont.

South (2025) fails to consider the occurrence likelihoods of 88 (81%) of the special-status species in Table 2, after South screened then out of the analysis in the first step of its desktop review. Of the special-status species South screened out of the analysis, 4 have been documented on or adjacent to the project site, 9 have been documented within 1.5 miles, 35 have been documented between 1.5 and 4 miles from the site, and 28 have been documented between 4 miles and 50 miles from the sites. Forty-eight (55%) of the 88 special-status species not analyzed by South have been documented within 4 miles of the project sites. South's and hence the DEIR's analysis of occurrence likelihoods is incomplete.

In place of sound evidence to support habitat assessments, South (2025) relies on speculation. For example, South (2025:20) concludes the project site "has a low value as plant and wildlife habitat." This conclusion could only have been speculated because a single survey that detected only 26% of the vertebrate species that Noriko detected over her brief survey could not have supported it. Based on my analytical bridging of Noriko's survey findings to my findings in hundreds of surveys at a research site (see Figure 2), 97 species of vertebrate wildlife should be detectable over a year or longer of diurnal

surveys, so South (2025) detected 8% of these species. Speculation is a poor basis for characterizing the wildlife community.

Similarly, South (2025:13) concludes, "The plant community is highly altered, and the presence of non-native and invasive plants reduces the quality of habitat for native wildlife, and as a result, only species adapted to ruderal and disturbed areas are expected to occur." South did not measure habitat quality, as this attribute is measured by such productivity metrics as nest success, fecundity, and survivorship. None of these metrics are measured for any species. Furthermore, South cites no scientific source that relates habitat quality to invasive plants in any way. Moreover, Noriko detected multiple species that are not simply adapted to ruderal and disturbed areas. The loggerhead shrike is one of these species, and so is horned lark, savannah sparrow, and western meadowlark, and I would argue that Swainson's hawk and San Joaquin kit fox best thrive in areas that are closer to pristine. Plant communities all over California have been altered in various ways, so it is not compelling to simply argue that a disturbed plant community reduces habitat qualify of wildlife species.

South (2025:14) claims. "Though the study area does not possess high quality native habitat [for San Joaquin kit fox and burrowing owl], the records of special status species nearby indicate that both burrowing owl and San Joaquin kit fox could utilize the project site as both species have the potential to occur in disturbed areas." Again, South cannot know whether the project site lacks high quality habitat without measuring habitat quality in some way. South made no such measurements.

13-XX cont.

Lastly, South (2025:14) implies that each species live within two distinct types of habitat – one for breeding and one for foraging: "Though Swainson's hawk are not expected to nest on the project site, the project site supports suitable foraging habitat, and adjacent lands within disturbance distance (0.5 mile) of the project site could support nesting by Swainson's hawk." In fact, Swainson's hawks that cannot find sufficient forage cannot successfully breed, which is a solid clue that the habitat distinction made by South does not exist. Habitat is habitat, and it includes, by definition, all the species foraging and breeding needs. Further complicating South's characterization of habitat, South (2025: App. C) concludes that the occurrence potential of Swainson's hawk is "None," because "The Study Area lacks habitat for this species." South concludes there is habitat but later concludes there is no habitat. In fact, Noriko saw and photographed Swainson's hawk on the project site, so the project site serves as habitat for the Swainson's hawk.

Mischaracterization of the Wildlife Community

The DEIR's characterization of the plant and wildlife community is based on a survey of unreported methods, and which obviously detected too few of the species that occur on the project site. The DEIR characterizes the few species detected as the wildlife community, which is obviously inaccurate. The desktop review further mischaracterizes the wildlife community by improperly using the CNDDB to screen out from further habitat assessment most of the special-status species that could occur on the site, and it relies too much on speculation to determine that all but a few special-status species have potential to occur. No protocol-level detection surveys were implemented.

13-YY

Table 2. *Occurrence likelihoods of special-status species of wildlife at or near the project site, according to South (2025), eBird* or *iNaturalist records (https://eBird.org, https://www.inaturalist.org), and survey findings On site, Very close (≤1.5 miles of the site), Nearby (1.5 – 4 miles), In region (4 – 30 miles), and In range, i.e., the species' geographic range overlaps the site. Entries in bold font identify species that Noriko detected during her site visit or that one of us detected at a nearby site.*

Common name	***Species name***	**Status**[1]	**Occurrence potential**	
			South 2025	**Records, Surveys**
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT		In region
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	None	In range
Monarch	*Danaus plexippus*	FC	None	**Nearby**
Crotch's bumble bee	*Bombus crotchii*	CCE	None	Nearby
Western spadefoot	*Spea hammondii*	FC, SSC	None	In region
Northwestern pond turtle	*Actinemys marmorata*	FC, SSC	None	In region
Blunt-nosed leopard lizard	*Gambelia sila*	FE, CE, CFP	None	In region
Coast horned lizard	*Phrynosoma blainvillii*	SSC	None	In region
Bakersfield legless lizard	*Anniella grinnelli*	SSC	None	In region
California glossy snake	*Arizona elegans occidentalis*	SSC	Low	In region
San Joaquin coachwhip	*Masticophis flagellum ruddocki*	SSC	Low	In region
Brant	*Branta bernicla*	SSC2		In region
Cackling goose (Aleutian)	*Branta hutchinsii leucopareia*	WL		In region
Redhead	*Aythya americana*	SSC2		Nearby
Western grebe	*Aechmophorus occidentalis*	BCC		Nearby
Clark's grebe	*Aechmophorus clarkii*	BCC		In region
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE		In range
Black swift	*Cypseloides niger*	SSC3, BCC		In range
Vaux's swift	*Chaetura vauxi*	SSC2		Nearby
Calliope hummingbird	*Selasphorus calliope*	BCC		In region
Rufous hummingbird	*Selasphorus rufus*	BCC		Nearby
Mountain plover	*Charadrius montanus*	SSC2, BCC		In region
Long-billed curlew	*Numenius americanus*	WL		In region
Marbled godwit	*Limosa fedoa*	BCC		In region

13-YY cont.

Common name	*Species name*	Status[1]	Occurrence potential	
			South 2025	**Records, Surveys**
Pectoral sandpiper	*Calidris melanotos*	BCC		In region
Short-billed dowitcher	*Limnodromus griseus*	BCC		In region
Lesser yellowlegs	*Tringa flavipes*	BCC		Nearby
Willet	*Tringa semipalmata*	BCC		In region
Franklin's gull	*Leucophaeus pipixcan*	BCC		In region
Western gull	*Larus occidentalis*	BCC		In region
California gull	*Larus californicus*	BCC, WL		**Nearby**
Black tern	*Chlidonias niger*	SSC2, BCC		In region
Common loon	*Gavia immer*	SSC		In region
Double-crested cormorant	*Phalacrocorax auritus*	WL		Very close
American white pelican	*Pelacanus erythrorhynchos*	SSC1		Nearby
Least bittern	*Ixobrychus exilis*	SSC2		In region
White-faced ibis	*Plegadis chihi*	WL		**Nearby**
California condor	*Gymnogyps californianus*	FE, CE, CFP		In region
Turkey vulture	*Cathartes aura*	BOP		On site
Osprey	*Pandion haliaetus*	WL, BOP		**Nearby**
White-tailed kite	*Elanus luecurus*	CFP, BOP	None	Nearby
Golden eagle	*Aquila chrysaetos*	BGEPA, CFP, BOP, WL		Nearby
Northern harrier	*Circus cyaneus*	BCC, SSC3, BOP		Nearby
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP		Very close
Cooper's hawk	*Accipiter cooperii*	WL, BOP		**Very close**
Bald eagle	*Haliaeetus leucocephalus*	CE, BGEPA, BOP		Nearby
Red-shouldered hawk	*Buteo lineatus*	BOP		Very close
Swainson's hawk	*Buteo swainsoni*	CT, BOP	None/Moderate	Nearby/**On site**
Red-tailed hawk	*Buteo jamaicensis*	BOP		Very close/**On site**
Ferruginous hawk	*Buteo regalis*	WL, BOP		Nearby
Rough-legged hawk	*Buteo lagopus*	BOP		In region
American barn owl	*Tyto furcata*	BOP		Very close
Western screech-owl	*Megascops kennicotti*	BOP		Nearby
Great horned owl	*Bubo virginianus*	BOP		Nearby
Burrowing owl	*Athene cunicularia*	BCC, CCE, SSC2, BOP	High	**Nearby**

13-YY cont.

Common name	*Species name*	Status[1]	Occurrence potential	
			South 2025	**Records, Surveys**
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		Nearby
Nuttall's woodpecker	*Picoides nuttallii*	BCC		Nearby
American kestrel	*Falco sparverius*	BOP		On site/**On site**
Merlin	*Falco columbarius*	WL, BOP		**Nearby**
Peregrine falcon	*Falco peregrinus*	BOP		**Nearby**
Prairie falcon	*Falco mexicanus*	WL, BOP		Very close
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2		Nearby
Willow flycatcher	*Empidonax trailii*	CE		Nearby
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE		In range
Vermilion flycatcher	*Pyrocephalus rubinus*	SSC2		Nearby
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE		In range
Loggerhead shrike	*Lanius ludovicianus*	SSC2		**Very close/Fringing**
Oak titmouse	*Baeolophus inornatus*	BCC		Nearby
Bank swallow	*Riparia riparia*	CT		Nearby
Purple martin	*Progne subis*	SSC2		In region
Wrentit	*Chamaea fasciata*	BCC		Nearby
California thrasher	*Toxostoma redivivum*	BCC		Nearby
Cassin's finch	*Haemorhous cassinii*	BCC		Nearby
Lawrence's goldfinch	*Spinus lawrencei*	BCC		Very close
Grasshopper sparrow	*Ammodramus savannarum*	SSC2		In region
Black-chinned sparrow	*Spizella atrogularis*	BCC		In region
Gray-headed junco	*Junco hyemalis caniceps*	WL		Nearby
Bell's sparrow	*Amphispiza b. belli*	WL		In region
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2		In range
Yellow-breasted chat	*Icteria virens*	SSC3		Very close
Yellow-headed blackbird	*X. xanthocephalus*	SSC3		Nearby
Bullock's oriole	*Icterus bullockii*	BCC		Very close
Tricolored blackbird	*Agelaius tricolor*	CT, BCC, SSC1	None	Nearby

13-YY cont.

Common name	*Species name*	Status[1]	Occurrence potential	
			South 2025	Records, Surveys
Lucy's warbler	*Leiothlypis luciae*	SSC3		In region
Virginia's warbler	*Leiothlypis virginiae*	WL, BCC		In region
Yellow warbler	*Setophaga petechia*	SSC2		Nearby
Summer tanager	*Piranga rubra*	SSC1		Nearby
Little brown bat	*Myotis lucifugus*	WBWG:M		In range
Yuma myotis	*Myotis yumanensis*	WBWG:LM		**In region**
Long-eared myotis	*Myotis evotis*	WBWG:M		In range
California myotis	*Myotis californicus*	WBWG:L		**Nearby**
Small-footed myotis	*Myotis ciliolabrum*	WBWG:M		In range
Canyon bat	*Parastrellus hesperus*	WBWG:M		In range
Big brown bat	*Episticus fuscus*	WBWG:L		In range
Silver-haired bat	*Lasionycteris noctivagans*	WBWG:M		**Nearby**
Hoary bat	*Lasiurus cinereus*	WBWG:M	None	In range
Western red bat	*Lasiurus blossevillii*	SSC, WBWG:H		**Nearby**
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC, WBWG:H		In range
Pallid bat	*Antrozous pallidus*	SSC, WBWG:H		In range
Mexican free-tailed bat	*Tadarida brasiliensis*	WBWG:L		**Nearby**
Western mastiff bat	*Eumops perotis*	SSC, WBWG:H	None	In range
Nelson's antelope squirrel	*Ammospermophilus nelsoni*	CT	Low	In region
Tipton kangaroo rat	*Dipodomys n. nitratoides*	FE, CE	None	In region
Giant kangaroo rat	*Dipodomys ingens*	FE, CE		In region
Tulare grasshopper mouse	*Onychomys torridus tularensis*	SSC	None	In region
American badger	*Taxidea taxus*	SSC	Low	In region
San Joaquin kit fox	*Vulpes macrotis mutica*	FE, CT	Moderate	**Nearby/On site**

13-YY cont.

[1] Listed on CDFW's Special Animals List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406) as FT or FE = federal threatened or endangered; FC = federal candidate for listing; 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_i = California Species of Special Concern with i = priorities 1, 2 and 3; WL = CDFW's Taxa to Watch List; BGEPA = Bald and Golden Eagle Protection Act; WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H); BCC = U.S. Fish and Wildlife Service's Bird of Conservation Concern (https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf); and BOP = protected by Birds of Prey (California Fish and Game Code 3503.5, see https://wildlife.ca.gov/Conservation/Birds/Raptors).

The impacts analysis in CEQA review involves prediction. Impact predictions are necessary in environmental review because measuring a project's impacts directly could not happen until after the impacts occur, and the timing of this type of measurement would come too late for formulating a mitigation strategy or deciding on a project alternative. As noted earlier, the accuracy of the predictions of impacts and their significance ultimately relies on the degree of accuracy in the characterization of the existing environmental setting (Figure 3). Prediction accuracy also relies on experience, of which development projects subjected to CEQA review have been made amply available (Figure 8). CEQA prohibits the use of speculation to predict that potential project impacts would be less than significant (see CEQA Guidelines section 15145. SPECULATION), so it is experience that must be used. The type of experience proven most effective, and therefore most amenable to achieving CEQA's primary objectives, is scientific inference, as generally depicted in Figure 8. Scientific inference can be drawn from scientific studies or from the many other projects that have undergone CEQA review. The comparative method enables the use of scientific inference to predict impacts and to predict the efficacies of mitigation strategies, the latter of which should be also amply available in the record.

13-ZZ

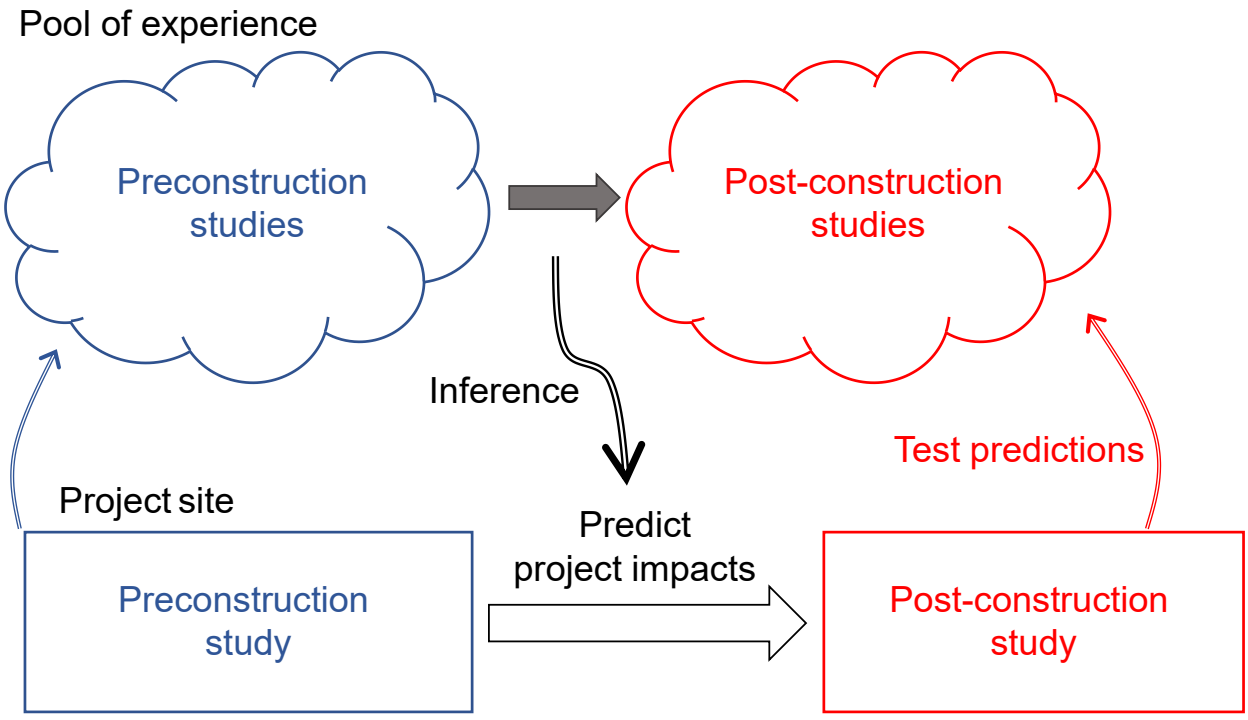


Figure 8. *A framework for arriving at predicted project impacts based on experience with other project sites. Ideally, there is a pool of similar projects in similar circumstances where predicted impacts were compared to realized impacts, and into which the proposed project can also contribute to experience.*

In the following, I analyze several types of impacts likely to result from the project, none of which are analyzed adequately in the DEIR, and some of which are not analyzed at all.

First, however, I need to comment on a mischaracterization reported by South. According to South (2025:20), "The loss of this disturbed community would be a less than significant impact according to CEQA because the community is not a sensitive natural community and because of its high level of disturbance and lack of habitat for special-status species. In the event that Bakersfield cactus, burrowing owls, or San Joaquin kit fox are present on the project site, the habitat loss for these species would be mitigated as outlined below in the Special-Status Species impacts analysis." This statement is a mischaracterization of CEQA, which does not require that the significance of the loss of an ecological community depends on whether it is regarded as a sensitive natural community. Furthermore, and regardless of the mitigation measures required in the DEIR, the applicant is not allowed to take Bakersfield cactus, burrowing owl or San Joaquin kit fox without incidental take permits issued by the regulatory agencies, and the same is true of Swainson's hawk.

13-ZZ cont.

REDUCED PRODUCTIVE CAPACITY FROM HABITAT LOSS

Habitat loss results in a reduced productive capacity of affected wildlife species. The site is proven to serve as habitat to at least 30 species of vertebrate wildlife which Noriko observed on or adjacent to the project site, but the number of avian nest sites remains unknown. The surveys that have been conducted on the project site were unsuitable for detecting all bird nests or estimating total nest density. South (2025) completed only one reconnaissance survey, and it was in the non-breeding season. Noriko visited the site only once, but finding nest sites requires many surveys through the breeding season. The alternative method for estimating avian productive capacity is to infer it from estimates of total nest density elsewhere. Noriko and I have been studying total avian nest density over several years, so I mostly draw from our estimates to be multiplied against 110 acres of grassland and shrub cover on the project site.

Based on total nest densities of birds in a grassland at Indian Cave State Park and Ponka State Park, Nebraska (Jorgenson et al. 2014), a grassland in the San Jacinto Wildlife Area (Noriko Smallwood 2023 unpubl. Data), two grassland sites in Murietta (Noriko Smallwood 2024 unpubl. Data), and a grassland site in eastern Yolo County (K. S. Smallwood 2024 unpubl. Data), the average total nest density is 3.3 nest sites/acre/year. This average multiplied against 110 acres predicts 363 nest sites. Assuming 1.39 broods per nest site based on a review of 322 North American bird species, which averaged 1.39 broods per year, then I estimate 505 nest attempts per year on the project site. Assuming Young's (1948) study site typifies bird productivity of 2.9 fledged birds per nest attempt, then I predict 1,465 fledglings/year at the project site.

13-AAA

The loss of 363 nest sites and 505 nest attempts per year would qualify as significant impacts that have not been analyzed in the DEIR. But the impacts would not end with the immediate loss of nest sites. The reproductive capacity of the site would be lost. The project would prevent the production of 1,465 fledglings per year. Assuming an average bird generation time of 4 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) = 1,647 birds per year lost to California.

The loss of 1,647 birds per year would be a loss of significant habitat value that is currently provided by the project sites. Most of these birds are protected by the federal Migratory Bird Treaty Act and by California's Migratory Bird Protection Act, both of which are intended to most strongly protect breeding migratory birds. The annual loss of 1,647 birds would easily qualify as an unmitigated significant impact.

13-AAA cont.

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, this concern has not motivated any serious analysis of whether or how the project would interfere with wildlife movement in the region. South (2025) and the DEIR merely speculate that the project site is unlikely to function as a wildlife movement corridor due to its setting amid developed or disturbed properties, and due to the advanced stage of habitat fragmentation in the region. South (2025) and the DEIR further claim that the Bakersfield Cactus Ecological Reserve is also so isolated that it no longer functions as a wildlife movement corridor. All this speculation is readily refutable. Only 25% of the project site's perimeter abuts developed property, leaving 75% of it next to undeveloped open space. The Bakersfield Cactus Ecological Reserve is also mostly bounded by open space. The claims that the project site and the Bakersfield Cactus Ecological Reserve are isolated, and that they are isolated from each other, are not supported by evidence. The DEIR's Figure 3-13 depicts cumulative projects just north and a bit south of the project site, but the Figure does not disclose which projects these are, nor their status. Currently, these properties are open space.

13-BBB

Even if the project site was isolated – it is not, the isolation would not rule out the importance of the project site to wildlife movement in the region. In fact, as habitat fragmentation advances, the isolated fragments of habitat that remain can emerge as even more important to the ability of volant species to move across the region, as the fragments provide migrants and long-range dispersers the only opportunities for forage and refuge (Smallwood 2015).

Finally, South (2025) and the DEIR rely on the red-herring argument that the project site must act as a wildlife movement corridor before changes to it could result in significant interference with wildlife movement in the region. The premise of the argument is not true. The CEQA standard expressed in Question (d) of the CEQA's App. G Checklist applies to all types of movement and not just the movement channeled by corridors. As habitat fragmentation proceeds, the remaining patches of open space increase in their importance as stopover opportunities for wildlife on long-distance dispersal or migration.

Moreover, some of the birds Noriko observed on or adjacent to the project site are migrants. One such migrant was Swainson's hawk. Noriko also found San Joaquin kit

fox tracks on the site, which means that kit foxes are moving across the site. The site is obviously important to the movement of at least some species, but South did nothing to measure this movement. South (2025) does not even identify wildlife movement as one of its survey objectives, and it indeed implemented no study design or program of observations to characterize wildlife movement on or around the project site.

13-BBB cont.

Continued habitat connectivity is of central concern to the conservation and recovery of the Endangered San Joaquin kit fox (Cypher et al. 2013; Los Padres Forest Watch and Center for Biological Diversity 2010, USFWS 2010; Nogeire-McRae et al. 2019; USFWS 2020a,b). The 2010 5-year review (USFWS 2010: 12–14) includes mapped movement corridors that connect San Joaquin kit fox Recovery Units 10 and 11, inclusive of the project site, to San Joaquin kit fox Core Areas located north and south of Bakersfield.

TRAFFIC IMPACTS ON WILDLIFE

The DEIR neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 24—27), including along roads far from the project footprint but which would nevertheless be traversed by automobiles headed to or from the project's building. 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.

13-CCC



Photo 24. *A desert cottontail runs across the road just in Murietta, California. Such road crossings are usually successful, but too often prove fatal to the animal.*

Photo 25. *A great-tailed grackle crosses a road in the Imperial Valley.*







Photos 26 and 27. *Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and California kingsnake killed by a vehicle on a rural road in El Dorado County in 2024.*

13-CCC cont.

A useful 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 9,462 animals killed by traffic on the road. This fatality number projected over 1.25 years and 2.5 miles of road translates to 3,028 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 188,191 animals killed per 100 km of road per year, or 22 times that of Loss et al.'s (2014) upper bound estimate and 53 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, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,028 animals killed per mile along a county road in Contra Costa County. The estimated numbers of fatalities were 1.75% birds, 26.4% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 67.4% 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 4.4% 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.

13-CCC cont.

Predicting project-generated traffic impacts on wildlife

The DEIR predicts 3,476,056 VMT for construction worker and vendor trips, and it predicts 36,819,636 annual VMT generated by employees during project operations. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road in Contra Costa County 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 9,462 wildlife fatalities, or 2,351 vehicle miles per fatality. This rate of mortality multiplied against predicted project VMT predicts 1,479 wildlife fatalities would result from construction worker and vendor trips, followed by 15,661 wildlife fatalities per year due to employee traffic.

13-DDD

Based on my analysis, the project-generated traffic would cause significant impacts on wildlife. The DEIR 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, and that these impacts would be unmitigated.

BIRD AND BAT COLLISION MORTALITY CAUSED BY SECURITY FENCE

MM 4.3-8(b) addresses the management of a construction security fence to enable passage by terrestrial Mammalian carnivores such as American badger and San Joaquin kit fox. The EIR also mentions the intention to construct an 8-foot tall security fence on the project's perimeter, but it does not describe the fence. Assuming it is of wire cyclone construction or similar, its added presence would pose a hazard to birds and bats.

Cyclone fencing is known to kill wildlife via collision and entanglement (Photos 28 and 29), so it is important to disclose the length and type of security fencing. I estimate the length of the fence would be at least 3.17 km. Recent fatality monitoring along fences of utility-scale solar projects in California provides the basis for predicting avian mortality that would be caused by the project's fence (Smallwood 2022). The greater roadrunner experienced particularly high mortality along security fences. I also found collision mortality with fencing at solar projects to be highest for canyon bats, western meadowlarks, northern flickers, burrowing owls, yellow-headed blackbirds and northern harriers (Smallwood 2022). At the project site, Noriko detected western meadowlarks, and greater roadrunners, burrowing owls, and northern harriers are likely also present. 13-EEE

Based on a weighted mean 14.435 (95% CI: 10.880–20.339) birds and 2.56 (95% CI: 0.17–6.54) bats per km per year along fences of California's solar projects, the project's 3.17 km of fence would likely kill 46 (95% CI: 34–64) birds per year, and 8 (95% CI: 1–21) bats per year. It is my opinion that this predicted level of mortality would qualify as an unmitigated significant impact.

Photo 28. *A great-horned owl died after becoming entangled on the razor wire placed on top of this cyclone fence surrounding a substation in Alameda County. Photo by Joanne Mount.*



Photo 29. *Fledgling house finch that fatally collided with a security fence, 26 June 2022. Photo by Noriko Smallwood.*



13-EEE cont.

FLAWED CUMULATIVE IMPACTS ANALYSIS

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would contribute significantly to cumulative impacts of past, present and future projects, or to multiple types of impacts that are cumulatively considerable. Unfortunately, the DEIR fails to seriously analyze the project's contribution to cumulative impacts on biological resources. The DEIR's Figure 3-13 and Table 3-7 poorly disclose the level of habitat fragmentation that would result from cumulative project buildout. Figure 3-13 hides the sizes of some of the projects by representing each with a same-sized square. Table 3-7 fails to sum the acreages at issue. In fact, the project site combined with the projects in Table 3-7 sum to 6,798 acres. Assuming that my earlier average total nest density of 3.3 nest sites/acre/year applies to all 6,798 acres in the cumulative projects list (this assumption might not be entirely correct, but I will use it here as an example of the type of analysis that is needed), then the cumulative impact to birds would be 22,433 nest sites, 31,183 nest attempts/year, and 90,429 fledglings/year. Applying these numbers and the same assumptions I used earlier to an indicator-level model in Smallwood (2022), I predict the cumulative impact would be an annual loss to California of 101,646 birds. However, this loss is predicted solely for habitat loss, and does not account for the added impact of habitat fragmentation. If the layout of all these 53 cumulative projects eliminates connectivity and further isolates the breeding areas in habitat fragments, then the net loss of birds would be even greater. Unfortunately, the DEIR does not disclose the layout of cumulative projects.

13-FFF

The DEIR argues that "the implementation of **Mitigation Measures MM 4.3-1** through **MM 4.3-12** and **MM 4.8-1** would reduce Project level impacts to less than significant and therefore would not contribute to a cumulative impact. Further, past, present and reasonably foreseeable future projects in the area would also be required to

implement measures, as set forth in their respective CEQA documents, consistent with federal, State, and local regulations to avoid adverse effects to existing biological resources or to mitigate for significant impacts to these resources. The types of measures required for projects impacting protected habitat, species, and regulated resources can include avoidance, project design features, regulatory approvals, best management practices, and mitigation measures. Overall, the proposed Project would not result in significant cumulative effects." As I comment below, these measures would not avoid substantial, highly significant impacts such as habitat loss, loss of wildlife productive capacity, and collision mortality with project-generated automobile traffic. Even if each of the impacts was adequately mitigated by the list of measures, this mitigation would not necessarily avoid significant cumulative impacts on wildlife. The many other projects built, approved, or under review in the region are contributing to habitat fragmentation, which is a process of habitat loss that results in a net greater loss of a species' numerical capacity than would have resulted from the same expanse of contiguous habitat having been lost (Smallwood 2015). The effects of habitat fragmentation exemplify the types of impacts that are referred to as cumulative impacts. If these types of impacts were not important, then CEQA would not require the analysis.

The DEIR's conclusion that existing policies, regulations, and project-by-project requirements of mitigation measures would avoid significant cumulative impacts lacks evidentiary support, and it is readily refutable. Noriko Smallwood and I performed an experiment to measure the efficacy of applicable laws and regulations, permitting requirements, and required mitigation measures at avoiding or minimizing project impacts including cumulative impacts. We revisited the project sites we had surveyed as experts 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 to control these sources of variation to cleanly 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 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%. We found that "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 the mitigation measures and existing policies and regulations. Experimental evidence demonstrates the need to analyze a project's potentially significant contributions to cumulative impacts on wildlife despite existing laws, policies and project-by-project requirements of mitigation. The environmental review for this project needs to include an appropriate cumulative impacts analysis.

13-FFF cont.

FLAWED MITIGATION STRATEGY

The mitigation strategy needs to be based on a sound understanding of the existing wildlife community. It needs to be known which species occur or are likely to occur on the project site as well as the nature of their occurrences. It needs to be known whether each species is resident or migratory. For special-status species, detection surveys should have been completed to either detect the species or to obtain evidence of absence. Surveys should have been completed to understand how wildlife use the site in their movement patterns. And what was found of wildlife species needs to be carefully interpreted by comparing the findings to the findings from other survey efforts at other sites. Failures to detect species should be interpreted relative to the probabilities of their detections given the survey effort. The mitigation strategy needs to follow the steps under Assess species occurrence likelihoods and Characterize wildlife community, followed by Step 7: Predict impacts (Figure 3). However, the Addendum's mitigation strategy does not follow from these steps. This pointed out, my comments follow in regular font the summary of each required mitigation measure in italics. 13-GGG

MM4.3-1: *Prior to the issuance of grading permits, the project operator shall retain a Lead Biologist(s) who meets the qualifications of an Authorized Biologist as defined by California Department of Fish and Wildlife (CDFW) Service to oversee compliance with protection measures for all listed and other special-status species that may be affected by the construction and operation of the project. … shall be on the project site during all construction activities which include, but are not limited to, installation of perimeter fencing, clearing of vegetation, grading activities, and facility construction. …* 13-HHH

Should the project go forward, I concur with this measure in concept. However, based on my own experience as a Lead Biologist on a construction project, it needs to be understood that retaining a lead biologist would not avoid the loss of wildlife habitat and its loss of productive capacity, nor would it avoid the wildlife-traffic collision mortality predicted herein. The measure's conservation benefits would be *de minimis* relative to project impacts on wildlife.

MM 4.3-1 does not cite a source that explains how CDFW defines the qualifications for a lead biologist. Without more detail about how a lead biologist would be determined qualified, the measure remains short on objective criteria and is therefore unenforceable.

MM4.3-2: *Prior to the issuance of grading permits, the Lead Biologist shall develop a Worker Environmental Awareness Training Program containing life history and identification information of special-status wildlife and plant species with potential to occur on site. … A sticker shall be placed on hard hats, indicating that the worker has completed the Worker Environmental Awareness Training. …* 13-III

Should the project go forward, a Worker Environmental Awareness Training Program should be implemented, and certainly a sticker should be placed on the hard hat of each worker who has been trained. However, it needs to be understood that the conservation

benefits of the Worker Environmental Awareness Training Program would be *de minimis* relative to project impacts. This measure would not avoid the permanent loss of habitat nor the collision mortality with automobiles.

It needs to be remembered that construction workers operate heavy machinery and otherwise work around heavy machinery and moving vehicles. Workers primarily need to be aware of their construction work performance and their safety. It is misleading to imply that a Worker Environmental Awareness Training Program is going to result in increased worker vigilance for any mouse or lizard in harm's way. This is not what should be expected or desired of construction workers.

13-III cont.

MM4.3-3: *No more than thirty (30) days prior to the start of ground disturbance activities or issuance of any grading permits, a qualified biologist knowledgeable on the identification of rare plant species shall conduct a pre-construction plant survey of areas of proposed disturbance within the project site and 100-foot buffer (where legally accessible) to determine if any special-status plant species are present. If special-status plants are identified on-site, their locations shall be mapped and the project proponent shall confer with CDFW or USFWS as required by applicable law to facilitate salvage or seed collection.*

A preconstruction survey does not carry the same likelihood of detection of rare plants as do properly implemented surveys per the CDFW (2018) rare plant survey guidelines. The appropriate survey has yet to be conducted. A preconstruction survey cannot substitute for a protocol-level detection survey, largely because the timing of the survey would be inconsistent with the timing intended by CDFW (20198): "These protocols are meant to help people meet California Environmental Quality Act (CEQA)1 requirements for adequate disclosure of potential impacts to plants and sensitive natural communities." The appropriate timing for rare plant survey is prior to the public circulation of the DEIR, not afterwards.

13-JJJ

MM4.3-4: *During construction of the project site, the project proponent and/or contractor(s) shall implement the following general avoidance and protective measures: a. … the Lead Biologist or their designee shall perform a pre-construction visual survey of the area to ensure that no special-status species are present. … b. Within the vicinity of any construction activities, sensitive biological resources (i.e., special-status species, jurisdictional drainages, nesting birds, etc.) shall be delineated with stakes and/or flagging. c. All construction activities shall be confined within the project construction area, … d. Any spoils shall be stockpiled in disturbed areas that lack native vegetation to the maximum extent practicable. Spoils that have been stockpiled and inactive for more than 24 hours shall be inspected by a qualified biologist for signs of special-status wildlife before moving or disturbing. e. To prevent inadvertent entrapment of San Joaquin kit foxes, American badgers, or other animals during construction, all excavated steep-walled holes or trenches more than two (2) feet deep shall be covered … f. All construction pipes, culverts, or similar structures with a diameter of four (4) inches or greater that are stored at the site for more than 24 hours and without endcaps shall be thoroughly inspected by a qualified biologist prior to being moved or capped. … h. A speed limit of 15 miles per hour shall be*

13-KKK

enforced within the limits of the project site. If night work occurs on the project site, the speed limit will be 10 miles per hour. i. Fueling of construction equipment shall take place within existing roads or disturbed areas. … j. Trash and food items shall be contained in closed containers … k. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife. 1. No pets shall be allowed in project areas, except for trained canine animals related to security and operation of the facility. m. Intentional killing or collection of any listed plant or wildlife species shall be prohibited. n. Herbicides that may be used as vegetation control measures in project areas shall be applied in accordance with sub-measures below. …

13-KKK cont.

Should the project go forward, I concur with the implementation of all Best Management Practices, but it needs to be understood that their conservation benefits would be *de minimis* relative to Project impacts. None of the identified measures would avoid habitat loss, habitat fragmentation, and wildlife-automobile collision mortality of workers and vendors traveling to and from the construction site, nor of employees commuting or traveling as per operations of the project over the years following construction.

MM4.3-5 *No more than (30) days prior to the issuance of any grading permits or the start of ground disturbance, a qualified biologist knowledgeable in the identification of all special-status wildlife species shall conduct a pre-construction survey of areas proposed for disturbance within the project site and 500-foot buffer (where legally accessible) to determine if any special-status species are present. If, as a result of this pre-construction survey it is determined that special-status wildlife species are present, the project proponent shall confer with the U.S. Fish and Wildlife Service or California Department of Fish and Wildlife, as required by applicable law, for proper avoidance measures or the need for take authorization through the acquisition of an incidental take permit, pursuant to Fish and Game Code section 2081 subdivision (d).*

This measure substitutes a preconstruction survey for the multiple special-status species detection surveys that are needed prior to the public circulation of the EIR. The timing of the preconstruction survey – because it comes after rather than before the public circulation of the EIR – cannot achieve CEQA's primary objectives of accurately characterizing the environmental setting as the foundation for predicting project impacts, of disclosure of potential impacts, and of formulating an effective mitigation strategy. Furthermore, a preconstruction survey does not carry the same likelihood of detection as do protocol-level detection surveys, so a preconstruction survey cannot substitute for a detection survey with anywhere close to the same level of efficacy. Qualifying the measure as even more divorced from sound practice, it has the lead biologist conducting a preconstruction survey for all special-status species simultaneously, whereas detection surveys are focused on one species at a time. I would concur with this measure only if the appropriate detection surveys were completed first, and by first I mean prior to the circulation of the EIR.

13-LLL

MM4.3-6: *Preconstruction surveys shall be conducted by a qualified biologist to locate active breeding or wintering burrowing owl burrows no fewer than 14 days prior to commencement of ground-disturbing activities. Surveys need not be*

13-MMM

conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days prior to that portion of the project site disturbed.

The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife (CDFW) Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. As each burrow is investigated, surveying biologists shall also look for signs of American badger and San Joaquin kit fox. ...

If burrowing owls are detected onsite, the avoidance buffers outlined below should be established. ... CDFW' s Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist, approved by CDFW, verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Visible markers shall be placed near the identified burrow(s) to ensure that machinery does not collapse the burrow(s). ...

If burrow avoidance is infeasible ... a qualified biologist shall implement a passive relocation program in accordance with Appendix El ... of the 2012 CDFW Staff Report on Burrowing Owl Mitigation.

13-MMM cont.

If passive relocation is required, a qualified biologist shall prepare a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan in, accordance with the 2012 CDFW Staff Report on Burrowing Owl Mitigation, for review by CDFW .... At a minimum, the following recommendations shall be implemented: a. Temporarily disturbed habitat shall be restored, ... b. Permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat shall be mitigated such that the habitat acreage, number of burrows and burrowing owl impacted are replaced based on a site-specific analysis and shall include permanent conservation of similar vegetation communities ... c. If compensatory mitigation is required, permanently protect mitigation land through a conservation easement, deed restriction, or similar mechanism deeded to a nonprofit conservation organization or public agency with a conservation mission. ...

Due to a rapid decline throughout California (Miller 2024), the California Fish and Game Commission voted unanimously in 2024 to designate the burrowing owl as a candidate for listing under the California Endangered Species Act. It is therefore imperative to first consult with the CDFW about whether and how to obtain an incidental take permit (ITP), and otherwise to adhere to the CDFW (2012) survey and mitigation guidelines. The DEIR indicates that there has been no consultation with CDFW, and it misrepresents CDFW's (2012) survey and mitigation guidelines by mischaracterizing breeding-season detection surveys as preconstruction take-avoidance surveys. A preconstruction take avoidance survey is different from a breeding-season survey effort, as summarized below.

For the burrowing owl, there are three types of surveys recommended and described in the CDFW's (2012) survey and mitigation guidelines: (1) Habitat assessment, (2) Detection surveys, and (3) Preconstruction survey. The habitat assessment is intended to evaluate the likelihood that the site supports burrowing owls, and to decide whether detection surveys should be performed. The detection survey, otherwise described as either or both breeding-season or non-breeding-season survey, is intended to detect whether the site truly supports burrowing owls, and if so, where and how many. The preconstruction survey, otherwise known as a take-avoidance survey, is intended to determine whether burrowing owls immigrated to the site since completion of the detection survey, or whether they returned to the site since passive or active relocations were performed as mitigation. The three types of survey carry distinct but inter-related purposes, and CDFW (2012) intends them to be completed in chronological order as numbered above.

The first two types of survey support impacts analysis, whereas the third type of survey is a mitigation measure. Burrowing owls can be determined absent at the time of the survey based on evidence derived from the habitat assessment or detection survey, but only if the surveys achieved the minimum standards of CDFW (2012). Whereas an absence determination naturally follows from the negative findings of properly performed detection surveys, the following three questions must be answered negatively to determine absence based on the habitat assessment:

13-MMM cont.

A) Are there occurrence records nearby the project site?
B) Is the site's vegetation cover and height typical of where burrowing owls are found?
C) Are there fossorial mammals present which typically construct burrows useable by burrowing owls, or are there surrogate cavities that can serve as nest sites?

If the answers to these questions are compellingly negative, then detection surveys are not necessary, but they could be implemented to make certain that burrowing owls are absent on the project site. If the answers to these questions are affirmative or not compellingly negative, then it should be assumed that burrowing owl habitat exists on the site until detection surveys prove otherwise.

To question A, the nearest burrowing owl occurrence records are between 1.5 and 4 miles from the project site. In fact, I personally observed a burrowing owl only 3 miles from the site last year. Moreover, South (2025) determines burrowing owls have a High likelihood to occur on the site. The weight of the evidence easily justifies an affirmative answer to question A, and so this part of the habitat assessment warrants a detection survey effort.

To question B, the vegetation on site is typical of the area, and much of it is typical of vegetation often used by burrowing owls. The answer to question B is affirmative, and so this part of the habitat assessment warrants a detection survey effort.

To question C, ground squirrels are known to occur on the project site. Ground squirrels construct burrows used by burrowing owls, and these two species mutually alarm-call

for predators and survive better together (K. S. Smallwood, unpublished data). The answer to question C is affirmative, and so this part of the habitat assessment warrants a detection survey effort.

The answers to all three questions are affirmative. Therefore, breeding-season detection surveys are needed, and these surveys are not to be confused with preconstruction take-avoidance surveys. Breeding-season detection surveys are needed to accurately characterize the existing environmental setting and to publicly disclose potential impacts on the burrowing owl.

13-MMM cont.

4.3-7: *If nighttime lighting for construction activities and operations is required and is within 50 feet of the outside edge of areas containing habitat for special-status wildlife, as determined by the qualified biologist, lighting shall be directed away from those areas that contain habitat for special-status wildlife.*

This measure belongs in MM 4.3-4 as another Best Management Practice. Its conservation benefits would be *de minimis* relative to project impacts on wildlife, because it would not avoid habitat loss, habitat fragmentation, and the collision mortality with project-generated mortality I predict herein.

13-NNN

4.3-8: *Prior to and during construction activities: a. If any San Joaquin kit fox dens are found during pre-construction surveys, the status of the dens shall be evaluated no more than 14 days prior to project ground disturbance. Provided that no evidence of kit fox occupation is observed, potential dens shall be marked and a 50-foot avoidance buffer delineated using stakes and flagging or other similar material to prevent inadvertent damage to the potential den. If a potential den cannot be avoided, it may be hand-excavated following United States Fish and Wildlife Service standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance by the lead biologist. If kit fox activity is observed at a den, the den status shall change to "known" per United States Fish and Wildlife Service guidelines (1999), and the buffer distance shall be increased to 100 feet. Absolutely no excavation of San Joaquin kit fox known or pupping dens shall occur without prior authorization from the United States Fish and Wildlife Service and California Department of Fish and Wildlife. b. To enable kit foxes and other wildlife (e.g., American badger) to pass through the project site during construction, the perimeter security fence shall leave a 5-inch opening between the fence mesh and the ground ... c. All pipes, culverts, or similar structures with a diameter of four inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. ... d. To prevent inadvertent entrapment of San Joaquin kit foxes, badgers, or other animals during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials at the close of each working day, ... e. All vertical tubes used in project construction, such as chain link fencing poles shall be temporarily or permanently capped at the time they are installed to avoid the entrapment and death of special-status birds.*

13-OOO

Most of this measure is redundant with Best Management Practices listed in MM 4.3-4. Only 4.3-8(a) is unique to this measure.

MM 4.3-8 inappropriately defers the detection survey to a time when it could no longer achieve four of CEQA's primary objectives to (1) accurately characterize the existing environmental setting as part of the CEQA review, (2) disclose potential project impacts to the public and decision-makers, and (3) foster public participation with decision-making over proposed projects to (4) identify issues and feasible alternative mitigation measures to minimize environmental impacts. The appropriate timing of the survey is essential, not just biologically but also in terms of achieving CEQA's objectives.

13-OOO cont.

Furthermore, this measure would not avoid the permanent loss of habitat and productive capacities of any of these three species, as the measure cannot change the existing carrying capacities in the region. Its conservation benefits would therefore be *de minimis* relative to project impacts on these species.

MM 4.3-8(b) addresses the management of a security fence to enable passage of San Joaquin kit foxes during construction. The DEIR also mentions a permanent 8-foot-tall securing fence. As I commented above, if the fence is a cyclone fence or something similar in construction, it would add an unmitigated impact of collision mortality of birds and bats.

4.3-9: *If construction activities are conducted during the typical nesting bird season (February 15 through September 15), pre-construction surveys shall be conducted by a qualified biologist prior to any site preparation and/or construction activity to identify potential nesting bird activity. … Swainson's hawk protocol-level surveys shall be consistent with the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC 2000); If no active nests are found within the survey area, no further mitigation is required. If nesting activity is identified during the pre-construction survey process, the following measures will be implemented: …*

13-PPP

If the project goes forward, preconstruction surveys for nesting Swainson's hawks should be implemented, but this measure would not avoid the permanent loss of habitat nor the collision mortality with automobiles and project infrastructure. The project's impact on Swainson's hawk would be the permanent loss of 110 acres of habitat. MM 4.3-9 requires no compensatory mitigation for the loss of this habitat, which is a flaw of this measure. The conservation benefits of this measure would be *de minimis* compared to the project's potential impacts on breeding Swainson's hawks.

MM 4.3-10: *Pre-construction protocol-level surveys by a qualified biologist for nesting birds shall be required if construction activities are scheduled to occur during the breeding season for raptors and other migratory birds (February 1- August 31), to reduce potential impacts to nesting birds and raptors. The survey shall be conducted within 30 days of ground disturbance activities. a. If any nesting birds/raptors are observed, a qualified biologist shall determine buffer distances and/or the timing of project activities so that the proposed project does not cause nest abandonment or destruction of eggs or young. …*

13-QQQ

If the project goes forward, preconstruction surveys for nesting birds should be implemented, but this measure would not avoid the permanent loss of habitat nor the collision mortality with automobiles and project infrastructure. Preconstruction, take-avoidance surveys should 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. To be successful, these types of observations typically require many surveys on many dates spread throughout the breeding season even for a single species. To identify and locate the birds of all species nesting on a site would require a much greater survey effort than can be accomplished in MM 4.3-10's allotted timespan. Many bird nests would be missed.

I estimate the project site supports 363 nest sites in the average year, and this number does not include those that would need to be located within the defined buffer area beyond the project site's boundary. Even assuming all these nests could be found (not likely), the mitigation measure would apply only to the breeding season of the survey. After the breeding season of the preconstruction survey, there would be no further production of birds from the project site. The project's impact on birds would be permanent and of large magnitude. The conservation benefits of this measure would be *de minimis* compared to the project's potential impacts on breeding birds.

13-QQQ cont.

Furthermore, the mitigation language allows a single individual to make a subjective decision, outside the public's view, to determine the buffer area and buffer timing for any given species. This measure lacks objective criteria, and it is therefore unenforceable.

Lastly, the mitigation language includes the requirement that the preconstruction nest survey shall be conducted by a qualified biologist, and this requirement carries over to determinations of the buffer areas and buffer timing to avoid take caused by construction activities. Undefined, however, is what qualifies as a "qualified biologist" in these contexts. As mentioned earlier in this letter, Noriko Smallwood and I have been conducting surveys over the past several years to estimate total nest density, which is relevant to a preconstruction, take-avoidance survey because our surveys were likewise directed to all bird species that could be concurrently nesting on a site. Searching for the nests of one species is difficult, but searching for nests of all bird species at once is vastly more difficult. For this reason, there are very few published estimates of total nest density, and there are very few wildlife biologists who have experience with surveys for the nest attempts of all bird species on a given site. A technical way to qualify a wildlife biologist for the tasks outlined in this measure would be to obtain an agency Memorandum of Understanding in which the biologist is named and said to be qualified for conducting the preconstruction survey and for determining the take-avoidance buffer area and timing. However, a more compelling means of qualifying the biologist would be to require that the biologist has achieved demonstrable experience with nest surveys and avian nesting behavior. Without a better definition of what is a qualified

biologist in the contexts of these tasks, MM 4.3-10 lacks objective criteria, and it is therefore unenforceable. 13-QQQ cont.

MM 4.3-11: *Prior to any vegetation removal during site preparation, the areas required for construction shall be surveyed for actively nesting birds. If any wildlife is encountered during the course of construction, the wildlife shall be allowed to leave the construction area unharmed. Should any active bird nests be identified, the vegetation shall not be removed in areas that contain actively nesting birds. A biological monitor shall survey the areas of vegetation slated for removal, a report shall be submitted to the Kern County Planning and Natural Resources Department for review prior to site preparation.* 13-RRR

This measure is merely a repeat of part of MM 4.3-10. See my comments on MM 4.3-10.

MM 4.3-12: *A qualified biologist shall conduct a survey for Crotch's bumble bee and their requisite habitat using the California Department of Fish and Wildlife -approved protocol during the blooming period immediately prior to project construction to detect bumble bees and potential nesting sites. The survey shall be conducted within a survey area that includes a 50-foot buffer around the Project footprint and results submitted to California Department of Fish and Wildlife at least seven {7) days prior to commencing any project activities. If Crotch's bumble bee is identified during surveys or at any time during Project construction, the project proponent shall confer with California Department of Fish and Wildlife to determine if take can be avoided. If avoidance of Crotch's bumble bee nest{s) is not feasible, take authorization prior to ground disturbing activities is warranted. Take authorization would occur through issuance of an Incidental Take Permit by California Department of Fish and Wildlife, pursuant to Fish and Game Code section 2081{b). Alternatively, in the absence of surveys, the project proponent may assume presence and apply for and acquire an Incidental Take Permit for Crotch's bumble bee prior to initiating project activities.* 13-SSS

MM 4.3-12 inappropriately defers the appropriate detection survey to a time when it could no longer achieve four of CEQA's primary objectives to (1) accurately characterize the existing environmental setting as part of the CEQA review, (2) disclose potential project impacts to the public and decision-makers, and (3) foster public participation with decision-making over proposed projects to (4) identify issues and feasible alternative mitigation measures to minimize environmental impacts. The appropriate timing of the survey is essential, not just biologically but also in terms of achieving CEQA's objectives. According to CDFW (2023:3), "On-site surveys provide the most valuable information for determining potential impacts of proposed projects and activities on the four candidate bumble bee species, and subsequently developing measures to avoid or minimize take of these species." This guidance obviously recognizes the need to complete the detection surveys before the public circulation of the CEQA review document; otherwise, it would not be possible to determine potential impacts or formulate appropriate mitigation.

Crotch's bumble bee is a candidate for listing under the California Endangered Species Act, and it is confirmed as present on the project site. It is therefore important to implement the appropriate detection survey, which should be consistent with CDFW (2023). The survey needs to be implemented prior to the public circulation of the DEIR.

13-SSS cont.

Furthermore, I found no evidence in the DEIR that efforts have been made to obtain an ITP, nor that CDFW is inclined to issue and ITP for Crotch's bumble bee.

NEEDED MITIGATION MEASURES

Road Mortality: Compensatory mitigation is needed for the increased wildlife mortality that would be caused by collisions with automobiles due to 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).

Wildlife overcrossings and under-crossings have been built and tested for wildlife use. Strategic fencing and speed controls have also been implemented, as speed is an important factor to wildlife mortality (Illner 1992), and whereas a required mitigation includes an onsite speed limit, this measure would not apply to commuter traffic off the project site.

13-TTT

Fund Wildlife Rehabilitation Facilities: Compensatory mitigation is needed, and it ought to also 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 during construction and by collisions with automobiles traveling to and from the project site during project operations.

Thank you for your consideration,



_____

Shawn Smallwood, Ph.D.

LITERATURE CITED

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.

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.

CDFW (California Department of Fish and Wildlife). 2012. Staff report on burrowing owl mitigation. Sacramento, California.

CDFW (California Department of Fish and Wildlife). 2019. Approved Survey Methodology for the Blunt-Nosed Leopard Lizard, October 2019 (Revised).

CDFW (California Department of Fish and Wildlife). 2023. Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species.

Cypher, B.L., S.E. Phillips, and P.A. Kelly. 2013. Quantity and distribution of suitable habitat for endangered San Joaquin Kit Foxes: Conservation implications. Canid Biology & Conservation 16:25–31.

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.

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.

Illner, H. 1992. Road deaths of Westphalian owls: methodological problems, influence of road type and possible effects on population levels. Pp. 94-100 in C. A. Galbraith, I. R. Taylor, and S. Percival, eds. The ecology and conservation of European owls. Peterborough, Joint Nature Conservation Committee, UK Nature Conservation No. 5.

Jorgensen, J. G., L. R. Dinan, M. A. Brogie, W. R. Silcock, J. Rink, C. Klaphake, and G. Steinauer. 2014. Breeding bird diversity, abundance and density at Indian Cave and Ponca State Parks, Nebraska 2012-2014. Nongame Bird Program of the Nebraska Game and Parks Commission. Lincoln, NE.

Los Padres Forest Watch and Center for Biological Diversity. 2010. Before the Secretary of Interior Petition to Designate Critical Habitat for the Endangered San Joaquin Kit Fox (*Vulpes Macrotis Mutica*) under the Endangered Species Act. Santa Barbara.

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.

National Research Council. 1986. Ecological knowledge and environmental problem-solving: concepts and case studies. National Academy Press, Washington, D.C.

Nogeire-McRae, T., J. J. Lawler, N. H. Schumaker, B. L. Cypher, and S. E. Phillips. 2019. Land use change and rodenticide exposure trump climate change as the biggest stressors to San Joaquin kit fox. PLoS ONE 14(6): e0214297. https://doi.org/10.1371/journal.pone.0214297

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

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 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, K. S., and N. L. Smallwood. 2023. Measured effects of anthropogenic development on vertebrate wildlife diversity. Diversity 15, 1037. https://doi.org/10.3390/d15101037.

South Environmental. 2025. Final Biological Resources Assessment: Airport Commerce Center Industrial Project by ACC, Bakersfield JV, LLC in Bakersfield, California. Report to FirstCarbon Solutions.

USFWS (U.S. Fish and Wildlife Service). 1999. San Joaquin Kit Fox Survey Protocol for the Northern Range. Prepared by the Sacramento Fish and Wildlife Office, June 1999.

USFWS (U.S. Fish and Wildlife). 2010. San Joaquin Kit Fox (*Vulpes macrotis mutica*) 5-Year Review: Summary and Evaluation. Sacramento, California.

USFWS (U.S. Fish and Wildlife). 2020a. 5-Year Review San Joaquin kit fox (*Vulpes macrotis mutica)*.

USFWS (U.S. Fish and Wildlife). 2020b. Species Status Assessment Report for the San Joaquin kit fox (*Vulpes macrotis mutica*). UI.S. Department of the Interior.

Young, H. 1948. A comparative study of nesting birds in a five-acre park. The Wilson Bulletin 61:36-47.

Kenneth Shawn Smallwood
Curriculum Vitae

3108 Finch Street
Davis, CA 95616
Phone (530) 756-4598
Cell (530) 601-6857
puma@dcn.org

Born May 3, 1963 in
Sacramento, CA
Married, father of two.

Ecologist

Business **Smallwood Ecology**

- Employs Noriko Smallwood, M.S., Environmental Science with focus on wildlife

Expertise

- Finding solutions to controversial problems related to wildlife interactions with anthropogenic infrastructure and activities;
- Design of field study to detect, enumerate, or monitor wildlife and behavior patterns by visual search, GPS, thermal imaging, and acoustic bat survey;
- Using systems analysis and experimental design principles to identify meaningful ecological patterns from that can inform conservation and management of terrestrial wildlife.

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

- 1,072 professional reports, including:
- 96 peer reviewed publications
- 24 in non-reviewed proceedings
- 950 reports, declarations, posters and book reviews
- 8 in mass media outlets
- 98 public presentations of research results

Expert testimony regarding potential impacts from development projects: To check on the accuracy of the characterization of wildlife communities at sites of proposed residential, commercial and industrial projects, I perform visual-scan surveys for

wildlife, thermal-imaging at night, and acoustic detection of bats using a Petterson M500 detector and Sonobat Live to identify bats by sonograms of their calls. I predict project impacts and I compare my findings to those in the environmental review documents. I also testify on potential outcomes of water transfers and water transfer delivery systems, endangered species recovery plans, Habitat Conservation Plans, Natural Communities Conservation Programs, proposed Federal Rules and State and Federal policies and regulations affecting wildlife. I deliver oral testimony to government agencies, Tribunals, Boards of Supervisors and City Councils, and participated with press conferences and depositions. I prepare expert witness reports and court declarations, and I participate with depositions.

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 it advised the County on how to reduce wildlife collision mortality.

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 Professor Shu Geng and Dr. 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 based on 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 database 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 method for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

Projects and Studies

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 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. I also collaborated, and continue to collaborate with, Dr. Douglas Bell in a GPS telemetry study of 44 golden eagles originating from the northern Diablo Range. The goal was to quantify flight patterns for development of predictive models to more carefully site new wind turbines in repowering projects. I performed focused behavior surveys from May 2012 through 2019, and golden eagle telemetry monitoring from 2013 through the present. Collision hazard models were prepared for eight wind projects, three of which were built.

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.

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 management in 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 opportunities for research collaboration in the environmental and agricultural sectors.

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., and D. A. Bell. 2025. On the Spatial distribution of eagle carcasses around wind turbines: implications for collision mortality estimation. Diversity 2025, 17, 686. https://doi.org/10.3390/d17100686

Smallwood, K. S. 2025. Background Mortality of Wildlife on Renewable Energy Projects. Diversity 2025, 17, 628. https://doi.org/10.3390/d17090628

Smallwood, K. S. and M. L. Morrison. 2024. Burrowing owls require mutualist species and ample interior habitat space. Diversity 2024, 16, 590. https://doi.org/10.3390/d16090590

Smallwood, K. S., and N. L. Smallwood. 2023. Measured effects of anthropogenic development on vertebrate wildlife diversity. Diversity 15, 1037. https://doi.org/10.3390/d15101037.

Bell, D. A., S. A. Snyder, J. E. DiDonato, and K. S. Smallwood. 2023. Conspecific carcass removal from a wind project study plot by a great horned owl (*Bubo Virginanus*). Journal of Raptor Research 57:489-492.

Kitano, M., K. S. Smallwood, and K. Fukaya. 2022. Bird carcass detection from integrated trials at multiple wind farms. Journal of Wildlife Management: In press.

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 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, K. S. 2020. USA wind energy-caused bat fatalities increase with shorter fatality search intervals. Diversity 12(98); https://doi.org/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. 2020a. Effects of wind turbine curtailment on bird and bat fatalities. Journal of Wildlife Management 84:684-696. DOI: 10.1002/jwmg.21844

Smallwood, K. S., and D. A. Bell. 2020b. Relating bat passage rates to wind turbine fatalities. Diversity 12(84); doi:10.3390/d12020084.

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. Turbine siting for raptors: an example from Repowering of the 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.

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., A. Gonzales, T. Smith, E. West, C. Hawkins, E. Stitt, C. Keckler, C. Bailey, and K. Brown. 2000. Suggested standards for science applied to conservation issues. Transactions of the Western Section of the Wildlife Society 36:40-49.

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. 1996. 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. https://tethys.pnnl.gov/publications/range-management-practices-reduce-wind-turbine-impacts-burrowing-owls-other-raptors

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. A framework to screen wind power sites for potential impacts to birds 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.
https://www.nrel.gov/docs/fy05osti/36973.pdf

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.
https://tethys.pnnl.gov/publications/developing-methods-reduce-bird-mortality-altamont-pass-wind-resource-area

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. 2026. Burrowing Owls (*Athene cunicularia*) in the Altamont Pass Wind Resource Area. Report to East Bay Regional Park District. 218 pp.

Smallwood, K. S., L. Neher, and D. A. Bell. 2023. Golden eagle roost sites based on telemetry data. Report to Salka Energy, San Diego, California. 29 pp.

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.

Smallwood, K. S. and C. Thelander. 2006. Response to third review of Smallwood and Thelander (2004). In Terry Surles and Edward Vine, Eds., Avian/Wind Statistical Peer Review Project. Report to California Energy Commission. Contract No. 500-02-004. https://tethys.pnnl.gov/sites/default/files/publications/Surles-2006.pdf

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

Assessment of wildlife collision risk with fourth wind turbine layout of Sand Hill and Rooney Ranch Wind Farms. Report to Viracocha Wind, Bethesda Maryland, and Salka, San Diego, California. 2 pp.

Smallwood, K. S. 2025. Review of Identifying Critical Drivers of Western Snowy Plover Reproductive Success to Guide Management Toward Recovery Goals (Neuman et al. 2024). Report to Center for Biological Diversity.

Smallwood, K. S. 2024. Assessment of grading impacts on eagles at Viracocha Wind. Report to Viracocha Wind, Bethesda Maryland, and Salka, San Diego, California. 1 p.

Smallwood, K. S. 2023. Assessment of wildlife collision risk with third wind turbine layout of Sand Hill & Rooney Ranch Wind Farm. Report to Viracocha Wind, Bethesda Maryland, and Salka, San Diego, California.

Smallwood, K. S. and D. A. Bell. 2022. Ground squirrel abundance and repeat raptor surveys at Vasco Caves Regional Preserve, 2006–2019. Report to the East Contra Costa County Habitat Conservancy Science and Research Grant Program. 80 pp.

Smallwood, K. S. 2022c. Assessment of wildlife collision risk with second wind turbine layout of Sand Hill and Rooney Ranch Wind Farm. Report to Viracocha Wind LLC and Salka LLC.

Smallwood, K. S. 2022b. Assessment of wildlife collision risk with second wind turbine layout of Viracocha Wind Farm. Report to Viracocha Wind LLC and Salka LLC.

Smallwood, K. S. 2022. Survey for Burrow Systems of San Joaquin Kangaroo Rat (*Dipotomys nitratoides*) at Natural Resource Management Area 5, Naval Air Station, Lemoore. Report to U.S. Navy.

Smallwood, K. S. 2022a. Assessment of wildlife collision risk with initial wind turbine layout of Viracocha Wind Farm. Report to Viracocha Wind LLC and Salka LLC.

Smallwood, K. S. 2020. Baseline Map of California Ground Squirrel Burrow Systems on Marsh Creek Preserve. Report to East Bay Regional Park District, Oakland, California.

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 Sand Hill Repowering Project, Altamont Pass Wind Resource Area. Report to S-Power, Salt Lake City, Utah.

Smallwood, K. S., and L. Neher. 2018. Siting wind turbines to minimize raptor collisions at Rooney Ranch 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: 2013 Final Report (Inclusive of work during 2000-2013). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California.

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. Magney. 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.

Written Expert Testimony on Environmental Documents (Year; pages)

I was retained or commissioned to comment on environmental planning and review documents, including:

- Delano Pre-zoning Application No. 25-0002 Staff Report, City of Delano (2026; 20);
- PCUP24-017 Kinder Morgan Ontario Terminal Tank OT-4, Ontario International Airport (2026; 7);
- Del Puerto Canyon Reservoir PRDEIR, Del Puerto Water District (2026; 37);
- Replies to responses to comments on Bridgehead Industrial Project DEIR, City of Oakley (2026; 49);
- Pacific Palmdale DEIR, Palmdale (2026; 50);
- Village Farms Project FEIR, Davis (2026; 17);
- Village Farms Project DEIR, Davis (2025; 19);
- PS Solar Project DEIR, Twentynine Palms (2026; 52);
- Baker Street Warehouse Project DEIR, Lake Elsinore (2026; 55);
- Dexter Village IS/MND, Lake Elsinore (2026 ; 52);
- 83 Princess Street, California Design Review, City of Sausalito (2026; 39);
- Replies to responses to comments on Bridgehead Industrial Project DEIR, City of Oakley (2026; 49);
- Delta Conveyance Project Incidental Take Permit, California Department of Water Resources (2025; 37);

- Tri Pointe Homes Staff Report, City of Banning (2025; 38);
- Replies to responses to comments on Locust Gateway Development Project DEIR, City of Rialto (2025; 30);
- Meredith International Centre Specific Plan Amendment – Planning Area 3 Project FEIR Addendum, City of Ontario (2025; 44);
- Pepper 210 Commerce Center Project IS/MND, City of Rialto (2025; 35);
- Pacific Gateway Specific Plan Project DEIR, San Joaquin County (2025; 57);
- Lake Creek Logistics Center DEIR, City of Apple Valley (2025; 49);
- Replies to responses to comments on E&P Technology Way - Building A & B IS/MND, County of Napa (2025; 56);
- Menifee 27 Residential Staff Report (2025; 46);
- Shingle Springs Band of Miwok Indians 295.7-Acre Fee-to-Trust Project Environmental Assessment (2025; 17);
- Catavina Residential Project IS/MND, Palm Desert (2025; 52);
- Menifee Business Park DEIR (2025; 43);
- Replies to responses to comments on Ophir Road Warehouse Project DEIR, Oroville (2025; 19);
- Thermal Ranch Specific Plan DEIR, County of Riverside (2025; 53);
- Camino Pablo Single-Family Residential Subdivision IS/MND, Morgan Hill (2025; 44);
- Adesa Foods Project IS/MND, City of Rialto (2025; 34);
- Entrada South and Valencia Commerce Center SEIR, County of Los Angeles (2025; 61);
- Malibu Vineyards Industrial Parkway Project DREIR, City of Bakersfield (2025; 37);
- Locust Gateway Development Project DEIR, City of Rialto (2025; 41);
- FSRE Industrial Concord Project DEIR, City of Concord (2025; 34);
- Bridgehead Industrial Project DEIR, City of Oakley (2025; 40);
- San Francisco Housing Element 2022 Update FEIR Addendum (2025; 22);
- Trails at Lyons Canyon DEIR, County of Los Angeles (2025; 55);
- Replies to responses to comments on Conejo Summit Project DEIR, Thousand Oaks (2025; 30);
- Replies to responses to comments on Rome Hill Commercial IS/MND, City of Lake Elsinore (2025; 16);
- Rome Hill Commercial IS/MND, City of Lake Elsinore (2025; 34);
- Replies to responses to comments on Town & Country Village Project DEIR, County of El Dorado (2025; 46);
- Arroyo Vista Project DEIR. County of Riverside (2025; 46);
- Rubio Village Mixed-Use Project IS/MND, City of San Gabriel (2025; 64);
- Replies to responses to comments on Bickmore Warehouse IS/MND, Hesperia (2025; 4);
- Vesting Tentative Tract Map 7500 Staff Report, City of Bakersfield (2025; 10);
- Spirit Living at 55 Thomas Dr/70 Knoll Rd Design Plans, Tiburon (2025; 39);

- Cargo Solutions Truck Warehouse and Truck Stop Hesperia Project IS/MND (2025; 40);
- Fontana Master Case No. 23-0101, Conditional Use Permit No. 24-0022, and Design Review No. 23-0024 Class-32 CEQA Categorical Exemption, City of Fontana (2025; 32);
- Vesting Tentative Tract Map 7471 IS/MND, City of Bakersfield (2025; 46);
- Replies to responses to comments on Upper Westside Specific Plan DEIR, County of Sacramento (2025; 56);
- Upper Westside Specific Plan DEIR, County of Sacramento (2025; 63);
- Flat Creek Solar Project Major Renewable Energy Facility Siting Permit pursuant to Article VIII of the New York State Public Service Law, Towns of Root and Canajoharie, Montgomery County, New York (2025; 37);
- Replies to responses to comments on Dogwood Geothermal Energy Project DEIR, Imperial County (2025; 22);
- Wineville Development Project DEIR, Jurupa Valley (2025; 43);
- Desert Business Park MSD Addendum, County of Riverside (2025; 29);
- Chino Gateway Terminal Project DEIR Addendum, Chino (2025; 39);
- Mesa Verde Specific Plan DSEIR, City of Calimesa (2025; 53);
- Harvest Landing Retail Center & Business Park DEIR, City of Perris (2025; 40);
- Hive Live Project DEIR, Costa Mesa (2025; 37);
- Perris Airport Logistics Center DEIR, Perris (2025; 41);
- Vehicle-Caused Mortality of Western Snowy Plovers On Oceano Dunes State Vehicular Recreation Area (2025; 17);
- Dakota Warehouse Project IS/MND, Apple Valley (2025; 36);
- Delta Conveyance Project FEIR, CDFW ITP, California Department of Water Resources (2025; 45);
- Oceanside Transit Center EIR, Oceanside (2025; 41);
- Auburn Development, Ecosave III (LDP 23-02) IS/MND, Adelanto (2025; 39);
- Replies to responses to comments on Dogwood Geothermal and Solar DEIR, Imperial County (2025; 22);
- Pinyon Solar Project EA, BLM, Phoenix (2025; 63);
- Armorlite Lofts Project DEIR/FEIR, San Marcos (2025; 47);
- Ophir Road Warehouse Project DEIR, Oroville (2025; 47);
- Intex Corporate Office and Fulfillment Center Project, Long Beach (2025; 35);
- Sywest Industrial Building FEIR, Goleta (2025; 42);
- Vista Santa Domingo Warehouse Project rezone, Otay Mesa (2025; 28);
- Replies to responses to comments on Airport South Industrial Park and City Annexation DEIR, Sacramento (2025; 33);
- Flat Creek Solar Project 94-c Permit for Major Renewable Energy Facility, Montgomery County, New York (2025; 29);
- Bickmore Warehouse IS/MND, Hesperia (2025; 25);
- Replies to responses to comments on Brew Enterprises Warehouse, Perris (2025; 41);

- Nexus Hotel IS.MND, Palm Springs (2025; 33);
- Ranegras Plains Energy Center Project DEIS, Arizona (2025; 58);
- Riverside County General Plan Amendment for 350,000+ sf warehouse (2025; 31);
- Riverside County General Plan Amendment for 224,800 sf warehouse (2025; 29);
- Hageman Industrial Park DEIR, Bakersfield (2025; 42);
- Adelanto Warehouse CEQA Exemption (2025; 25);
- Tire Recycling Facility IS/MND, Adelanto (2025; 29);
- Replies to responses to comments on Sites Reservoir Application to California Water Board (2025; 41);
- Bakersfield General Plan Amendment/Zone Change No. 24-0372, Bakersfield (2025; 29);
- The Pointe Apartments CEQA Exemption, Oxnard (2025; 37);
- Mill Point Solar I Article VIII Permit for Major Renewable Energy Facility, Montgomery County, New York (2025; 36);
- Conejo Summit Project DEIR, Thousand Oaks (2025; 45);
- Replies to responses to comments on March Plaza IS/MND, Perris (2025; 5);
- March Plaza IS/MND, Perris (2024; 32);
- Replies to responses to comments on Arcadia Town Center IS/MND, Arcadia (2025; 3);
- Arcadia Town Center IS/MND, Arcadia (2024; 33);
- Westlanc Partners Hotel Project IS/MND, Lancaster (2025; 44);
- Temecula Resort and Spa Class 32 Exemption, Temecula (2025; 34);
- Briones Regional Park Staff Report, East Bay Regional Park District (2024; 63);
- Declaration regarding Havana Warehouse, Riverside County (2024; 6);
- 11623 Glenoaks Blvd (no CEQA review), City of Los Angeles (2024; 28);
- Five Point Community Offices SSEIR, Irvine (2024; 23);
- Replies to responses to comments on ENV-2022-6190-CE Categorical Exemption - Class 32, City of Los Angeles (2024; 17);
- ENV-2022-6190-CE Categorical Exemption - Class 32, City of Los Angeles (2024; 2);
- 380 North First Street DEIR, San Jose (2024; 21);
- Site Plan Review 23-014 IS/MND, Lancaster (2024; 29);
- Big Ranch Road Annexation Exemption, City of Napa (2024; 43);
- E&P Technology Way - Building A & B IS/MND, County of Napa (2024; 30);
- Outlaw Battery Energy Storage Project IS/MND, Kings County (2024; 26);
- Replies to responses to comments on Hills Preserve Project DEIR, Anaheim (2024; 57), and update (2024; 4);
- Replies to responses to comments on Tennessee Village Mixed-Use Project IS/MND, Redlands (2024; 26);
- Glen Annie Site (#11) in the Housing Element Update, County of Santa Barbara (2024; 61);
- Quail Meadows Apartments CEQA Exemption, Encinitas (2024; 61);
- Dogwood Geothermal and Solar DEIR, Imperial County (2024; 60);

- Hills Preserve Project DEIR, Anaheim (2024; 57), and update (2024; 14);
- Temescal Commercial Project EA/IS, County of Riverside (2024; 36);
- 11011 Torreyana Road Project SMND, Torrey Pines (2024; 42);
- Rosemount Storage Project IS/MND, Cathedral City (2024; 9);
- Town & Country Village Project DEIR, El Dorado County (2024; 40);
- Maruchan Expansion Project EIR Addendum, Irvine (2024; 30);
- American River One Project CEQA Exemption, Sacramento (2024; 35);
- Spruce & Red Oak Apartments Project Notice of Exemption Supplement Information, Rancho Cucamonga (2024; 38);
- SDG Commerce 220 Distribution Center DEIR, American Canyon (2024; 39);
- Simi Pak Industrial Project IS/MND, Simi Valley (2024; 33);
- Replies to responses to comments on 4th & Hewitt Project DEIR, Los Angeles (2024; 5);
- Replies to responses to comments on Hardt and Brier Business Park IS/MND, San Bernardino (2024;
- Riverview Development Project IS/MND, Santa Clarita (2024; 37);
- Replies to responses to comments on 1360 N. Vine Street Project DEIR, Los Angeles (2024; 5);
- 1360 N. Vine Street Project DEIR, Los Angeles (2024; 29);
- Sites Reservoir Application to California Water Board (2024; 43);
- 022-221-100 Corona Drive, Pacifica (2024: 26);
- Airport South Industrial Park and City Annexation DEIR, Sacramento (2024; 53);
- Early Times Cell Tower at 12415 Fig Road IS/MND, County of Sacramento (2024; 29);
- University Community Plan, San Diego (2024; 10);
- 2720 S Willow Industrial Project IS/MND, Rialto (2024; 31);
- Elisabeth Solar Energy Project EA, Yuma Arizona (2024; 75);
- Jove Solar Energy Project DEIS, Yuma Arizona (2024; 103);
- Tennessee Village Project IS/MND, Redlands (2024; 43);
- Declaration on Whistling Ridge Energy Project Site Certification Agreement, Washington Energy Facility Site Evaluation Council (2024; 30);
- Replies to responses to comments on Dynamo Solar IS/MND, Napa (2024; 11);
- Dynamo Solar IS/MND, Napa (2024; 37);
- Shirk & Riggin Industrial Park DEIR, Visalia (2024; 37);
- Replies to responses to comments on Cal 98 Holdings IS/MND, Imperial County (2024; 10);
- Cal 98 Holdings IS/MND, Imperial County (2024; 39);
- 2nd Replies to responses to comments on Amazing 34 Distribution Center IS/MND, San Bernardino (2024; 28);
- Western States Solar Plan DPEIS, Washington D.C. (2024; 66);
- Patterson Business Center IS/MND, Perris (2024; 30);
- Replies to responses to comments on Sunset and Everett Project SCEA, Los Angeles (2024; 24);

- Sunset and Everett Project SCEA, Los Angeles (2024; 33);
- 605-613 Bridgeway, Sausalito (2024; 28);
- PBP Industrial Project IS/MND, Palmdale (2024; 35);
- Replies to responses to comments on Lockwood III Apartments IS/MND, Oxnard (2024; 19);
- Lockwood III Apartments IS/MND, Oxnard (2024; 42);
- 1169 8th Ave. Mixed-use Development City Posting, San Diego (2024; 16);
- 2nd Brew Enterprises Warehouse IS/MND, Perris (2024; 39);
- Replies to responses to comments on Hughes SMCC Industrial Project DEIR, San Marcos (2024; 5);
- Hughes SMCC Industrial Project DEIR, San Marcos (2024; 44);
- Harvill and Water Warehouse IS/MND, County of Riverside (2024; 41);
- Brew Enterprises Warehouse IS/MND, Perris (2024; 34);
- Garden Street Hotel Staff Report, Santa Barbara (2024; 31);
- River Walk Specific Plan DEIR, Riverbank (2024; 72);
- Woodlake Holdings Industrial Park DEIR (2024; 34);
- 2nd Quail Meadows Apartments CEQA Exemption, Encinitas (2024; 60);
- Replies to responses to comments on One Hamilton Drive Affordable Housing DEIR, Mill Valley (2024; 29);
- Glen Annie Housing Element Update, County of Santa Barbara (2024; 53);
- Replies to responses to comments on 4260 Arch North Drive Class 32 Categorical Exemption, Los Angeles (2023; 10);
- 4260 Arch North Drive Class 32 Categorical Exemption, Los Angeles (2023; 27);
- 2nd Replies to responses to comments on Rubio Village IS/MND, San Gabriel (2023; 17);
- West Foothill Development IS/MND, Upland (2023; 9);
- Costco Camarillo IS/MND (2024; 37);
- Shiloh Business Park General Plan Consistency Checklist, Windsor (2023; 25);
- Assembly and Light Industrial Building IS/MND, Grand Terrace (2024; 33);
- SMP 38, SMP 39. SMP 40 DEIR, Livermore (2023; 41);
- Summit Ridge Wind Farm second visit, The Dalles (2024; 43);
- Summit Ridge Wind Farm first visit, The Dalles (2023; 31);
- 3601 E. Mission Class 32 Categorical Exemption, Los Angeles (2023; 31);
- [Redacted] Conservation Easement, Tennessee (2023; 55);
- Hardt and Brier Business Park IS/MND, San Bernardino (2023; 32);
- Sacramento Street CEQA Exemption, San Francisco (2023; 22);
- One Hamilton Drive Affordable Housing DEIR, Mill Valley (2023; 48);
- Elmore North Geothermal site visit, Salton Sea (2023; 32);
- Morton Bay Geothermal site visit, Salton Sea (2023; 53);
- Black Rock Geothermal site visit, Salton Sea (2023; 29);
- Covelop Warehouse IS/MND, Paso Robles (2023; 39);
- Walnut Creek Flow Trail IS/MND (2023; 34);

- Replies to responses to comments on Rubio Village IS/MND, San Gabriel (2023; 15);
- Ashley Warehouse Environmental Checklist, Lathrop (2023; 38);
- Replies on 6615 Pacific Coast Highway Site Plan Review, Long Beach (2023; 12)
- Science Research Park Expansion Project EIR Addendum, San Diego (2023; 40);
- Rubio Village IS/MND, San Gabriel (2023; 14);
- Havana Investment Industrial Categorical Exemption, Jurupa Valley (2023; 22);
- New Cal Centre EIR Addendum, Kern County (2023; 39);
- 4th & Hewitt Project DEIR, Los Angeles (2023; 19);
- 4260 N Arch Drive Categorical Exemption, Los Angeles (2023; 27);
- 6700 Pacific Coast Highway Site Plan Review, Long Beach (2023; 29);
- Replies to responses to comments on 6615 Pacific Coast Highway Site Plan Review, Long Beach (2023; 12);
- 6615 Pacific Coast Highway Site Plan Review, Long Beach (2023; 34);
- Moonlight Apartments biological assessment, Encinitas (2023; 46);
- Replies to responses to comments on Modera Melrose Mixed-use DEIR, Oceanside (2023; 11);
- Modera Melrose Mixed-use DEIR, Oceanside (2023; 39);
- 550 Piercy Road Industrial IS/MND, San Jose (2023; 28);
- Living Spaces Development IS/MND, Fresno (2023; 28);
- FIND Food Bank Staff Report, Indio (2023; 19);
- Replies to responses to comments on Shadowbox Studios DEIR, Santa Clarita (2023; 35);
- Shadowbox Studios DEIR, Santa Clarita (2023; 50);
- Tulare 40 Generation Facility IS/MND, Tulare County (2023; 20);
- Garden Street Hotel Staff Report, Santa Barbara (2023; 19);
- Replies to responses to comments on 975 Manhattan Apartments Discretionary Approval, Los Angeles (2023; 10);
- 975 Manhattan Apartments Discretionary Approval, Los Angeles (2023; 12);
- 67h visit Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2023; 14);
- Coachella Airport Business Park IS/MND, Coachella (2023; 31);
- 3400 Tecate Warehouse Staff Report, Camarillo (2023; 26);
- Green Valley III Apartments DEIR, Fairfield (2023; 50);
- Pacific Specific Plan DEIR, San Marcos (2023; 55);
- Amara Bay Mixed Use Staff Report, Chula Vista (2023; 46);
- Greenlaw Partners Warehouse IS, Fresno (2023; 23);
- PODS Warehouse IS/MND, Desert Hot Springs (2023; 30);
- 6th visit Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2023; 9);
- Replies on Ormat Brawley Solar Project DEIR, Brawley (2023; 80);
- One Hamilton as part of City of Mill Valley's 2023-2031 Housing Element Update DSEIR (2023; 31);

- Second letter on Shinohara Project IS/MND, Chula Vista (2023; 22);
- 3890 Depot Road Project IS/MND, Hayward (2023; 33);
- Wellprofit Wellness Mixed-use project CEQA Exemption, Temecula (2023; 31);
- Quail Meadows Apartments CEQA Exemption, Encinitas (2023; 55);
- RCCB Fresno Distribution Center Notice of Exemption, Fresno (2022; 14);
- Stoddard Wells Industrial Project IS/MND, City of Victorville (2022; 31);
- 16454 Adelanto Road Warehouse Distribution Facility Class 32 Categorical Exemption, Adelanto (2022; 17);
- Replies on Pure Water Project – Las Virgenes-Triunfo Joint Powers Authority FPEIR, Agoura (2022; 26);
- Desert Gateway MND Addendum, Desert Hot Springs (2022; 35);
- Blue Oaks Commerce Center MND Addendum, City of Roseville (2022; 12);
- Replies on Coachillin Amendment to Specific Plan, Desert Hot Springs (2022; 24);
- Island View Mixed-Use CEQA Compliance Memo, City of Rancho Cucamonga (2022; 17);
- Prairie Station Apartments IS/MND, City if Inglewood (2022; 32);
- Golden Land Warehouse CEQA Exemption, City of Rialto (2022; 12);
- South Juarez Street Design Review, Banning (2022; 17);
- Replies on Pentair Expansion Industrial Warehouse FMND, Moorpark (2022; 13);
- 2nd Replies on Greentree FEIR, Vacaville (2022; 16);
- Replies on Temporary Outdoor Vehicle Storage FEIR, Port of Hueneme (2022; 21);
- National City-Bayfront, San Diego DEIR (2022; 56);
- Goshen Community Plan General Plan Amendment & Addendum (2022, 6);
- Primrose and Adelanto warehouse Categorical Exemption, Adelanto (2022, 14);
- TenTen Hollywood Categorical Exclusion (2022, 17);
- Waste to Hydrogen project IS/MND, Lancaster (2022, 36);
- Las Virgenes-Triunfo Pure Water Project <Agoura Hills, (2022; 43);
- Shinohara Project IS/MND, Chula Vista (2022; 30);
- Marlborough-Northgate Warehouse IS/MND, Riverside (2022; 33);
- Meyers Ave, Warehouse IS/MND, Escondido IS/MND (2022; 27);
- Northgate Industrial Park IS/MND, Sacramento (2022; 28);
- Ramona-Indian Warehouse IS/MND, Perris (2022; 44);
- Norwalk Entertainment District EIR (2022; 29);
- Breeze Luxury Apartments IS/MND, Oceanside (2022; 40);
- Paso Commons Golden Hills Commerce Center IS/MND, Paso Robles (2022; 35);
- YS Industrial Park Application, Visalia (2022; 20);
- Pentair Expansion Industrial Warehouse IS/MND, Moorpark (2022; 28);
- Salvador Solar IS/MND, Riverside (2022; 27);
- Fresno General Plan Amendment 555 IS/MND (2022; 21);
- 570 Crespi Drive IS/MND, Pacifica (2022; 40);
- Renaissance Ranch Commerce Center DEIR, Temescal Valley (2022; 53);
- Replies on Glen Ivy Senior Living IS/MND, Temescal Valley (2022; 24);

- Glen Ivy Senior Living IS/MND, Temescal Valley (2022; 46);
- FedEx Distribution Warehouse IS, Lancaster (2022; 35);
- Urban Villages EIR Addendum, San Marcos (2022; 32);
- NextEra San Ardos Solar IS/ND, San Ardo (2022; 20);
- Summit Avenue Warehouse IS/MND, Fontana (2022; 28);
- Gateway at the Oaks DEIR, Thousand Oaks (2022; 30);
- Primrose and Adelanto Warehouse CEQA Exemption, Adelanto (2022; 11);
- Fore Apartments Staff Report, Oxnard (2022; 29);
- 975 Manhattan Rd. discretionary approval, Los Angeles (2022; 12);
- Coachillin DEIR, North Palm Springs (2022; 30);
- 2740 W. Nielsen Ave Warehouse IS/MND, Fresno (2022; 25);
- Golf Center Warehouse Staff Report, Indio (2022; 26);
- Desert Peak Energy IS/MND, Palm Springs (2022; 26);
- Replies on Greentree FEIR, Vacaville (2022; 13);
- Greentree DEIR, Vacaville (2022; 31);
- Town Center DEIR, Laguna Niguel (2022; 16);
- 2nd Replies on Freedom Circle Focus Area and Greystar General Plan Amendment Project FEIR, San Jose (2022; 3);
- Corydon III CEQA Categorical Exemption, Lake Elsinore (2022; 11);
- Park Edge Apartments IS/MND, Santa Maria (2022; 30);
- Replies on UCSF New Hospital FEIR at Parnassus Heights FEIR. San Francisco (2022; 13);
- Replies on North Central Valley BESS Project IS/MND, Stockton (2022; 21);
- 9248 Holly Road Cannabis CEQA Exemption, Adelanto (2022; 12);
- Replies on Amazing 34 Distribution Center IS/MND, San Bernardino (2022; 10);
- Amazing 34 Distribution Center IS/MND, San Bernardino (2022; 28);
- Replies on Freedom Circle Focus Area and Greystar General Plan Amendment Project FEIR, San Jose (2022; 5);
- Replies on Alviso Hotel Project IS/MND, San Jose (2022; 49);
- Bussetto Foods IS/ND, Fresno (2022; 34);
- Spruce Ave Commerce Center, Rialto (2022;);
- 5006 and 5010 Mission Boulevard Warehouse IS/MND, Montclair (2022; 18);
- Conejo Summit IS/MND, Thousand Oaks (2022; 28);
- Sixth visit, Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2022; 4);
- TC NO. CAL. Development Warehousing and Distribution Facility Project DEIR, Stockton (2022; 33);
- Replies on Davidon Homes FEIR, Petaluma (2022; 49);
- Rural preservation and net conservation benefit coalition reply to post hearing briefs, Garnet Solar (2022; 24);
- Garnet Solar direct testimony, New York (2022; 17);
- Fifth visit, Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2022; 11);

- Shirk & Riggin Industrial Park Application, Visalia (2022; 22);
- Duarte Industrial Application, Visalia (2022; 17);
- Amond World Cold Storage Warehouse IS/MND, Madera (2022; 23);
- Replies on Schulte Logistics Centre EIR, Tracy (2022; 28);
- Alta Cuvee Mixed Use Project Recirculated IS/MND, Ranch Cucamonga (2022; 8);
- Fourth visit, Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2022; 9);
- Replies on 1242 20th Street Wellness Center Project FEIR, Santa Monica (2022; 5);
- 656 South San Vicente Medical Office Project EIR, Los Angeles (2022; 21);
- UCSF New Hospital at Parnassus Heights DEIR. San Francisco (2022; 40);
- DPR-21-021Warehouse IS, Modesto (2022; 19);
- Ormat Brawley Solar Project DEIR, Brawley (2022; 37);
- Site visits to Heber 1 Geothermal Repower Project IS/MND (2022; 31);
- Heritage Industrial Center Design Review, Chula Vista (2022; 13);
- Temporary Outdoor Vehicle Storage DEIR, Port of Hueneme (2022; 31);
- CNU Medical Center and Innovation Park DEIR, Natomas (2022; 35);
- Beverly Boulevard Warehouse IS/MND, Pico Rivera (2021; 28);
- Hagemon Properties IS/MND Amendment, Bakersfield (2022; 23);
- Airport Distribution Center IS/MND, Redding (2021; 22);
- Orchard on Nevada Warehouse Staff Report, Redlands (2021; 24);
- Landings Logistics Center Exemption, Bakersfield (2021; 19);
- Replies on Hearn Veterans Village IS/MND, Santa Rosa (2021; 22);
- North Central Valley BESS Project IS/MND, Stockton (2021; 39);
- 2nd Replies on Heber 1 Geothermal Repower Project IS/MND (2022; 21);
- Stagecoach Solar DEIR, Barstow (2021; 24);
- Updated Sun Lakes Village North EIR Amendment 5, Banning, Riverside County (2021; 35);
- Freedom Circle Focus Area and Greystar General Plan Amendment Project EIR, San Jose (2021; 43);
- Operon HKI Warehouse IS/MND, Perris (2021; 26);
- Fairway Business Park Phase III IS/MND, Lake Elsinore (2021; 23);
- South Stockton Commerce Center IS/MND, Stockton (2021; 31);
- Starpoint Warehouse IS/MND, San Bernardino (2021; 24);
- Replies on Heber 1 Geothermal Repower Project IS/MND (2021; 15);
- Heber 1 Geothermal Repower Project IS/MND (2021; 11);
- Alviso Hotel Project IS/MND, San Jose (2021; 43);
- Replies on Easton Research Park West IS/MND, Rancho Cordova (2021; 3);
- Easton Research Park West IS/MND, Rancho Cordova (2021; 31);
- US Cold Storage DEIR, Hesperia (2021; 30);
- 1242 20th Street Wellness Center Project FEIR, Santa Monica (2021; 23);
- Third visit, Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2021; 10);
- Roseland Creek Community Park Project IS/MND, Santa Rosa (2021; 23);

- Vista Mar Declaration of Irreparable Harm, Pacifica (2021; 3);
- LogistiCenter at Fairfield IS/MND (2021; 25);
- Alta Cuvee Mixed Use Project IS/MND, Ranch Cucamonga (2021; 29);
- Caligrows Architectural and Site Plan Review, Patterson (2021; 21);
- 1055 E. Sandhill Avenue Warehouse IS/MND, Carson (2021; 10);
- Chestnut & Tenth Street Commercial Project IS/MND, Gilroy (2021; 27);
- Libitzky Management Warehouse IS/MND, Modesto (2021; 20);
- 3rd Replies on Heber 2 Geothermal Repower Project IS/MND, El Centro (2021; 10);
- Medical Office Building DEIR, Santa Cruz (2021; 30);
- Scannell Warehouse DEIR, Richmond (2021; 24);
- Diamond Heights Application, San Francisco (2021; 24);
- Costa Azul Mixed-Use EIR Addendum, San Diego (2021; 25);
- Woodland Research Park DEIR (2021; 45);
- 2nd Replies on Diamond Street Industrial IS/MND, San Marcos (2021; 9);
- Replies on Diamond Street Industrial IS/MND, San Marcos (2021; 3);
- Diamond Street Industrial IS/MND, San Marcos (2021; 28);
- DHS 109 Industrial Park IS/MND, Desert Hot Springs (2021; 33);
- Jersey Industrial Complex Rancho Cucamonga (2022; 22);
- 1188 Champions Drive Parking Garage Staff Report, San Jose (2021; 5);
- San Pedro Mountain, Pacifica (2021; 22);
- Pixior Warehouse IS/MND, Hesperia (2021; 29);
- 2nd Replies on Heber 2 Geothermal Repower Project IS/MND, El Centro (2021; 9);
- Hearn Veterans Village IS/MND, Santa Rosa (2021; 23);
- Second visit, Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2021; 11);
- Replies on Station East Residential/Mixed Use EIR, Union City (2021; 26);
- Schulte Logistics Centre EIR, Tracy (2021; 30);
- 4150 Point Eden Way Industrial Development EIR, Hayward (2021; 13);
- Airport Business Centre IS/MND, Manteca (2021; 27);
- Dual-branded Hotel IS/MND, Santa Clara (2021; 26);
- Legacy Highlands Specific Plan EIR, Beaumont (2021; 47);
- UC Berkeley LRDP and Housing Projects #1 and #2 EIR (2021; 27);
- Santa Maria Airport Business Park EIR, Santa Maria (2021; 27);
- Replies on Coachella Valley Arena EIR Addendum, Thousand Palms (2021; 20);
- Coachella Valley Arena EIR Addendum, Thousand Palms (2021; 35);
- Inland Harbor Warehouse NOD, Ontario (2021; 8);
- Alvarado Specific Plan DEIR, La Mesa (2021; 35);
- Harvill Avenue and Rider Street Terminal Project MND, Riverside (2021; 23);
- Gillespie Field EIR Addendum, El Cajon (2021; 28);
- Heritage Wind Energy Project section 94-c siting process, New York (2021: 99);
- Commercial Street Hotels project Site Plans, Oakland (2021; 19);

- Heber 1 Geothermal Repower Project MND, El Centro (2021; 11);
- Citrus-Slover Warehouse Project MND, Fontana (2021; 20);
- Scott Ranch Project RDEIR (Davidon Homes), Petaluma (2021; 31);
- Replies on StratosFuel Renewable H2 Project MND, Victorville (2021; 5);
- StratosFuel Renewable H2 Project MND, Victorville (2021; 25);
- Replies on PARS Global Storage MND, Murietta (2021; 22);
- Baldwin-Zacharias Master Plans EIR, Patterson (2021; 38);
- 1000 Gibraltar Drive EIR, Milpitas (2021; 20);
- Mango Avenue Industrial Warehouse Project, Fontana, MND (2021; 20);
- Veterans Affairs Site Plan Review No. 20-0102 MND, Bakersfield (2021; 25);
- 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 to comments on responses on Casmalia and Linden Warehouse, Rialto (2020; 15);
- Clover Project MND, Petaluma (2020; 27);
- Ruby Street Apartments Project Env. Checklist, Hayward (2020; 20);
- Replies to responses to comments on 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 to comments on 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 to comments on 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 to comments on responses on Dove Hill Road Assisted Living Project MND (2018; 11);
- Replies to responses to comments on 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 to comments on 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 to comments on 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 to comments on 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);
- 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 IS/MND 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 to comments on 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);

Volunteer 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

Smallwood, N., and S. Smallwood. 2025. Improving methods in environmental review Part 1: Habitat assessment of wildlife species with potential to occur on a project site. The Wildlife Society – Western Section, Visalia, California, 5 February 2025.

Smallwood, S., and N. Smallwood. 2025. Improving methods in environmental review part 2: reconnaissance surveys for characterizing the wildlife community. The Wildlife Society – Western Section, Visalia, California, 5 February 2025.

Eagle mortality at wind turbines. Wings over the Columbia Gorge. Friends of the Columbia Gorge, 4 January 2024.

Ecology and recent population trend of burrowing owls in the Altamont Pass Wind Resource Area. The Wildlife Society – Western Section Burrowing Owl Symposium, Riverside, California, 6 February 2023.

Renewable energy impacts to burrowing owls. The Wildlife Society – Western Section Burrowing Owl Symposium, Riverside, California, 7 February 2023.

Smallwood, K.S. and D.A. Bell. Long-Term Population Trend of Burrowing Owls in Vasco Caves. Via Zoom to Audubon Society, 21 October 2021.

Long-Term Population Trend of Burrowing Owls in the Altamont. Golden Gate Audubon, 21 October 2020.

Long-Term Population Trend of Burrowing Owls in the Altamont. East Bay Regional Park District 2020 Stewardship Seminar, Oakland, California, 18 November 2020.

Smallwood, K.S., D.A. Bell, and S, Standish. Dogs detect larger wind energy effects on bats and birds. The Wildlife Society, 28 September 2020.

Smallwood, K.S. and D.A. Bell. Effects of wind turbine curtailment on bird and bat fatalities in the Altamont Pass Wind Resource Area. The Wildlife Society, 28 September 2020.

Smallwood, K.S., D.A. Bell, and S, Standish. Dogs detect larger wind energy effects on bats and birds. The Wildlife Survey, 7 February 2020.

Smallwood, K.S. and D.A. Bell. Effects of wind turbine curtailment on bird and bat fatalities in the Altamont Pass Wind Resource Area. The Wildlife Survey, 7 February 2020.

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 (Some 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
Western Birds	Journal of Caribbean Ornithology
Ecosystem Health	The Prairie Naturalist
Environmental Conservation	Restoration Ecology
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
Conservation Biology	Biology Open
Western Wildlife	PLOS One
Heliyon	Global Ecology and Conservation
Wildlife Monographs	Journal for Nature Conservation
Biological Control	Ecological Solutions and Evidence
Wind Energy	Environmental and Ecological Statistics
The Condor	Ecosphere
Diversity	Renewable and Sustainable Energy Reviews
Northeastern Naturalist	

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

Response to Comment Letter 13: Golden State Environmental Justice Alliance (GSEJA) (April 12, 2026)

Response 13-A

This comment introduces the letter and formally requests to be added to the public interest list. This comment does not raise any specific issues or questions on the environmental analysis in the Draft EIR. The County will add GSEJA to the public interest list and will provide notice of subsequent environmental documents, public notices, public hearings, and notices of determination for the project pursuant to PRC Section 21092.2.

Response 13-B

This comment includes a detailed project description and list of discretionary actions required. This comment does not raise any specific issues or questions on the environmental analysis in the Draft EIR.

Response 13-C

The comment refers the reader to attachments from SWAPE for a complete technical commentary and analysis. Responses 13-LL – 13-PP have been provided in response to the SWAPE attachment. The comment states that the Draft EIR does not include analysis for relevant environmental justice issues in reviewing potential impacts, including cumulative impacts from the proposed project. The commenter summarizes existing air quality conditions within the census tract where the project site is located using data obtained from the California Environmental Protection Agency (CalEnviroScreen 4.0), in addition to water quality and solid waste facility impacts. The comment further provides a breakdown of the diversity included in this census tract, and states that the community has a high rate of poverty.

The County recognizes that CalEnviroScreen provides relevant information regarding the existing pollution burden in the project vicinity, and this information informs the description of the environmental setting and baseline conditions in the Draft EIR pursuant to CEQA Guidelines Section 15125. However, in addition to environmental burdens, CalEnviroScreen considers socioeconomic factors that may increase a community's vulnerability to pollution. These components are combined to produce an overall CalEnviroScreen score. Accordingly, the ranking cited by the commenter reflects environmental burdens, socioeconomic factors, and other factors, rather than pollution burden alone. CalEnviroScreen is a comparative screening and mapping tool; it is not a site-specific HRA or project-specific impact analysis, and its scores and percentile rankings do not quantify the proposed project's incremental contribution to a particular pollutant, exposure, or health outcome. Additionally, neither the County, SJVAPCD, nor the CEQA Guidelines establish a CalEnviroScreen-based significance threshold. Instead, the potential environmental impacts of an individual project are evaluated using applicable project-level significance thresholds and methodologies. Thus, while CalEnviroScreen provides useful information regarding existing community conditions, it does not establish a CEQA significance threshold for evaluating an individual project's incremental impact on the environment. Please also see responses 1-B and 1-C. The comment does not provide substantial evidence regarding any significant environmental impact caused by the project. The comment is noted for the record and has been provided to the Kern County Planning Commission and the Kern County Board of Supervisors.

CEQA Guidelines Section 15131(c) does not require a project-level EIR to analyze environmental justice as a separate impact category or to adopt separate significance thresholds for environmental justice. Rather, section 15131(c) provides that economic, social, and housing factors shall be considered by the decision-

making body, together with technological and environmental factors, when determining whether alternatives or mitigation measures are feasible. Environmental justice, while an important consideration in land use, is not a County threshold of significance and is not required to be discussed, analyzed or mitigated pursuant to CEQA. The Draft EIR nevertheless evaluates the physical environmental issues raised by the commenter, including existing air quality conditions and toxic air contaminant burdens in the project vicinity (Section 4.2.2, Environmental Setting), as well as project-related impacts associated with air quality and health risk exposure, noise, hazards and hazardous materials, transportation, water supply, solid waste, and cumulative impacts (Sections 4.2, 4.8, 4.12, 4.16, and 4.18). Specifically, the Air Quality analysis includes a HRA evaluating potential health risks to nearby sensitive receptors, including residences and schools, with results presented in Tables 4.2-10 through 4.2-12. The HRA was prepared consistent with SJVAPCD and OEHHA guidance. The Draft EIR concludes that health risk impacts to sensitive receptors would be less than significant, while operational criteria pollutant emissions would remain significant and unavoidable even after implementation of mitigation measures. Please see responses 1-B and 1-C. Noise impacts are reduced to less-than-significant levels with mitigation, hazards and hazardous materials impacts are less than significant with mitigation, and project-level utilities and service systems impacts, including water supply and solid waste service impacts, are less than significant with mitigation. The Transportation and Traffic analysis identifies a significant and unavoidable vehicle miles traveled (VMT) impact that remains significant after mitigation. In addition, the Draft EIR evaluates cumulative impacts associated with air quality, transportation, hydrology and water quality, and utilities and service systems, and identifies those impacts that would remain cumulatively considerable and significant and unavoidable. Accordingly, while environmental justice is not analyzed as a separate CEQA significance category, the physical environmental concerns identified by the commenter are evaluated and disclosed throughout the Draft EIR using the applicable CEQA significance thresholds, impact analyses, and mitigation measures.

Although environmental justice is not a separate CEQA significance category, the County notes that the CalEnviroScreen 4.0 data cited by the commenter regarding the project census tract's pollution burden is relevant to, and is reflected in, the Draft EIR's description of the existing environmental setting and baseline conditions (Section 4.2.2, Environmental Setting; Tables 4.2-1 through 4.2-4). The Draft EIR's HRA (Tables 4.2-10 through 4.2-12) and cumulative air quality analysis (Section 4.2.4, Air Quality Impacts and Mitigation Measures) evaluate the physical environmental effects of the project on this community, and the underlying physical impacts that inform the commenter's environmental justice concerns are therefore addressed in the analysis. As identified in the *Supplemental Air Quality Information* (Final EIR **Appendix A**) and *Supplemental Health Risk Assessment* (Final EIR **Appendix B**), the additional analysis did not affect the conclusions made in the Draft EIR.

Finally, the absence of a stand-alone environmental justice section does not render the Draft EIR inadequate under CEQA. Accordingly, the comment does not identify a deficiency in the Draft EIR nor does it provide substantial evidence regarding any significant environmental impact. As discussed in more detail in the Draft EIR, it utilized the currently recommended SJVAPCD significance thresholds to determine health risk impacts resulting from the proposed project in accordance with the mandates of CEQA. The Draft EIR acknowledged that the project site is adjacent to the existing sensitive receptors identified by the commenter, and therefore the Draft EIR identifies the potential health risk impacts that could occur as a result of project construction and operation and found that construction and operation health risk impacts would be below SJVAPCD thresholds. Therefore, the project’s construction and operation would not have significant impacts on the sensitive receptors near the project area.

Response 13-D

See response 13-C.

Response 13-E

See response 13-C.

Response 13-F

See response 13-C.

Response 13-G

See response 13-C.

Response 13-H

The comment asserts that the Draft EIR lacks substantial evidence to support its less-than-significant conclusion regarding airport-related hazards, is misleading because it does not include Airport Land Use Commission review and must identify a significant impact because the project requires a General Plan Amendment that the commenter contends is subject to Public Utilities Code Section 21676(b).

The County does not concur. Public Utilities Code (PUC) Section 21676(b) is a procedural airport-land-use consistency provision; it does not itself establish a CEQA significance threshold. Where an airport land use commission is performing the statutory review function, Section 21676(b) requires a local agency, before amending a general plan or specific plan or adopting or approving a zoning ordinance or building regulation within the planning boundary established pursuant to Section 21675, to first refer the proposed action to the commission. If the commission determines the proposed action is inconsistent with the commission's plan, the local agency may, after public hearing and by two-thirds vote with the required findings and notice to the commission and the Division of Aeronautics, overrule that determination; if the commission does not act within 60 days after referral, the proposed action is deemed consistent. Those requirements govern the timing and procedure for final land use action; they do not require that ALUC review be completed before circulation of the Draft EIR, and they do not convert an alleged procedural timing issue into substantial evidence of a significant airport-safety impact.

The comment's premise of a required referral to a currently existing Kern County ALUC is not accurate as applied here, however. Kern COG previously accepted the duties of the Kern County ALUC in 1971, and airport land use study areas were established in 1973. After the 1993 statutory changes to the PUC, the Kern County Board of Supervisors disestablished the Kern ALUC in 1994 based on the conclusion that airport land use compatibility could be addressed through other local actions, including general plan policy and zoning implementation. After elimination of the ALUC, airport land use compatibility review became the responsibility of the local jurisdiction. Consistent with that framework, the Kern County ALUCP explains that state law allows alternative implementation processes ranging from creation of an ALUC to adoption by the County and affected cities of an ALUCP; the County and affected cities adopted the ALUCP as a guidance document for regulating land uses around public-use airports, and the County and each affected city are responsible for establishing processes and procedures for adoption, amendment, update, and implementation within their own jurisdictions.

The applicable CEQA question remains whether the Draft EIR adequately used airport land use compatibility materials as technical resources, disclosed the relevant airport setting, and analyzed whether

the project would result in airport-related safety hazards or excessive noise for people residing or working in the project area. PRC Section 21096 directs lead agencies preparing EIRs for projects within ALUCP boundaries to use the Airport Land Use Planning Handbook and other documents as technical resources for airport-related safety hazards and noise problems. The Kern County ALUCP similarly states that, for CEQA projects, the ALUCP can be considered a source document and used as a reference and guidance in evaluating impacts and designing mitigation. The ALUCP also provides that projects requiring adoption or amendment of a general plan, specific plan, zoning ordinance, or building regulation within an airport influence area are subject to compatibility review, and that specific findings should be made before approval. Accordingly, any required local compatibility findings or procedural steps should be completed before final project approval, but the absence of a separate ALUC action in the Draft EIR does not require a significant impact finding or recirculation where the EIR itself evaluates the airport compatibility issue using the adopted ALUCP criteria and imposes enforceable mitigation.

The Draft EIR contains substantial evidence supporting the less-than-significant airport-hazard conclusion. The Draft EIR discloses that Meadows Field Airport is approximately 0.3 miles west of the project site, that the nearest runway is approximately 0.7 miles from the site, and that the site is within ALUCP Zone C, the Common Traffic Pattern. The ALUCP criteria cited in the Draft EIR allow 150 persons per acre in Zone C, require 15 percent open land, and identify warehousing and truck terminals as normally accepted uses because Zone C presents limited aircraft risk at or below 1,000 feet above ground level, although frequent noise intrusion may occur. The Draft EIR further explains that the project's warehouse and quick-serve restaurant uses are consistent with Zone C, that the project would provide open land exceeding the 15 percent requirement, and that the project's estimated density of approximately 8.8 persons per acre is well below the 150-person-per-acre criterion. The Draft EIR also addresses the H Combining District and explains that the proposed 60-foot warehouse height is within the M-2 base district height limit, while the H district allows heights above 35 feet through the review procedures in Sections 19.76.130 and 19.76.140, including the requirement for an FAA letter for structures exceeding 35 feet. The record further shows that the project has obtained FAA Determinations of No Hazard to Air Navigation for proposed 60-foot structures, and those FAA findings state that the structures would have no substantial adverse effect on navigable airspace or air navigation facilities, would not penetrate the VFR traffic pattern airspace, would not affect existing or proposed IFR operations or procedures, would not affect existing or proposed minimum flight altitudes, would not have physical or electromagnetic effects on air navigation and communications facilities, and would not create a significant cumulative airspace impact. Based on the Draft EIR's ALUCP analysis, the County's local compatibility-review framework, **Mitigation Measure MM 4.8-12**, the H district development-plan process, and the FAA no-hazard determinations, the comment does not identify substantial evidence requiring a significant airport-hazard finding, and no revision to the Draft EIR's significance conclusion is required.

Response 13-I

The comment states that delaying airport land use compatibility review until after the close of the public review period circumvents CEQA and asserts that glare from solar panels at the project site could create a hazard to air navigation. The comment further asserts that the Draft EIR must demonstrate that the project can obtain FAA clearance while preserving solar-energy features relied upon in the Draft EIR.

The County does not concur that the timing of airport land use compatibility review circumvents CEQA. As explained in Response 13-H, Public Utilities Code Section 21676(b) is a procedural referral and consistency-review provision applicable where an airport land use commission or other designated body is performing that statutory function. It requires referral before final amendment or adoption of the covered

land use action within the applicable airport planning boundary; it does not require the compatibility determination to occur before the end of the Draft EIR public review period, and it does not establish a CEQA significance threshold. Kern County's ALUC was disestablished in 1994, after which airport land use compatibility review became the responsibility of the local jurisdiction, and the Kern County ALUCP is implemented through local planning processes. The ALUCP itself states that, for CEQA projects, it may be used as a source document and guidance for evaluating impacts and mitigation, and that projects requiring adoption or amendment of a general plan, specific plan, zoning ordinance, or building regulation within an airport influence area are subject to compatibility review and required findings before approval. Accordingly, any required local airport compatibility findings or procedures should be completed before final project approval, but the absence of a separate ALUC action before the close of the Draft EIR public review period does not require a significant impact finding or recirculation.

The County also does not concur that the project's rooftop-mounted photovoltaic measures create a significant airport-hazard impact. The FAA's own airport-solar technical guidance distinguishes solar photovoltaic technology from more problematic solar technologies and explains that solar PV is comparatively compatible with airport land uses because it is cost-effective for smaller on-site electricity demand, has a low-profile and modular design compatible with low-demand airport property such as rooftops and airfields, and is designed to absorb sunlight rather than reflect it, thereby minimizing potential glare impacts. The same FAA guidance states that many airports are employing solar PV and reporting reliable and safe performance, while contrasting PV with concentrating solar power systems, which are typically less compatible with airports because they require more space and raise concerns involving glare from parabolic troughs and heliostats, radar interference from mirror components, and power towers that may penetrate navigable airspace. FAA's current solar-glare policy is likewise focused on proposed on-airport solar energy systems at federally obligated towered airports and expressly does not apply to solar energy systems that are not located on airport property. FAA has also concluded that, in most cases, glint and glare from solar energy systems to pilots on final approach is similar to glare pilots routinely experience from water bodies, glass-facade buildings, parking lots, and similar features. Technical literature further confirms that PV-glare risk is project-specific; larger arrays can produce more intense glare than smaller arrays, and solar reflections may be treated as non-risky where the solar PV installation is small or the receptor is farther from the glare source. These authorities support evaluating rooftop PV in context rather than treating the mere presence of building-mounted panels near an airport as substantial evidence of a significant hazard. Here, the project does not propose a stand-alone solar field, utility-scale solar facility, on-airport solar project, or concentrating solar power facility. The Draft EIR's energy and greenhouse gas measures require rooftop photovoltaics to provide only a portion of future electrical demand and, separately, allow the project to satisfy the renewable-electricity requirement either through on-site clean-energy generation or through PG&E's 100 percent carbon-free Solar Choice program. The Draft EIR also already reduces general light and glare effects through matte and nonglossy building finishes, restrictions on reflective metal exterior architectural elements near roadways, limited use of glass and windows, and downward-directed, shielded lighting. The comment provides no project-specific glare study, FAA objection, or other substantial evidence showing that the project's rooftop PV measures would create a significant hazard to air navigation. No revision to the Draft EIR's significance conclusion are required.

Response 13-J

The comment asserts that the project is inconsistent with numerous Metropolitan Bakersfield General Plan (MBGP) goals and policies and that the Draft EIR must be revised to include additional consistency analysis and significant-impact findings based on those alleged inconsistencies. The County does not concur. The

Draft EIR includes a land use and planning consistency analysis, and the comment does not identify any unaddressed physical environmental effect resulting from an alleged MBGP inconsistency. As explained below, the policies cited by the comment either are addressed in the Draft EIR, are broad or programmatic policies implemented through County planning and public-works processes, are not directly applicable to this unincorporated industrial project, or are satisfied by the project's design, entitlement structure, mitigation measures, and required compliance with County standards.

As an initial matter, the comment conflates a planning-law consistency issue with CEQA significance. CEQA evaluates whether a project may cause a direct physical change or reasonably foreseeable indirect physical change in the environment. An alleged inconsistency between a project and a general plan policy is a legal determination, not a physical environmental impact in itself. A plan inconsistency may be relevant under CEQA only to the extent it indicates that an underlying physical environmental effect may occur or may be significant. Accordingly, the relevant CEQA question is not whether the comment can identify MBGP policies that it believes should have been discussed in greater detail, but whether the project would conflict with a policy adopted for the purpose of avoiding or mitigating an environmental effect in a way that would cause or evidence a physical impact not already disclosed and analyzed in the Draft EIR.

Separately, whether the project is consistent with the MBGP as a planning-law matter is a determination for the County as the local agency responsible for interpreting and applying its own general plan. California courts defer to a local agency's consistency determination unless, based on the evidence before the decisionmaker, no reasonable person could have reached the same conclusion. Strict conformity with every general plan policy is not required; a project may be found consistent if, considering all of its aspects, it furthers the plan's objectives and policies and does not obstruct their attainment. This deference is especially appropriate where, as here, the cited policies are broad, programmatic, qualified by terms such as "where appropriate" or "where possible," or require the County to balance land use, infrastructure, transportation, economic-development, and environmental objectives.

The overall land use record supports the County's consistency determination. The MBGP is a long-range policy document for the unincorporated portions of the Metropolitan Bakersfield planning area, and the project site is within that plan area. The project site is already largely designated Service Industrial, with one General Commercial parcel proposed to be amended to Service Industrial to align the land use designation with the proposed industrial use. The MBGP's land use goals call for accommodating new development that captures market demand, complements existing land uses, channels development in an orderly manner with infrastructure and public improvements, and targets growth companies that meet clean-air requirements and create sustainable employment. The Draft EIR explains that the project would develop warehouse, cold storage, manufacturing/assembly, office, and quick-serve restaurant uses in an area surrounded by industrial, airport, roadway, vacant, and logistics uses, and that the project would create approximately 572 jobs.

With respect to Land Use Element Policy 15, the comment quotes a commercial-development policy addressing the development of commercial centers and corridors differentiated by function, users, and intensity. That policy is not the controlling policy for the project's dominant industrial warehouse, cold storage, manufacturing/assembly, and office components, which are more directly supported by MBGP industrial policies allowing warehousing, distribution, transportation-related, and other industrial uses and encouraging clustering of new industrial development adjacent to existing industrial uses and along major transportation corridors. The project's limited commercial component, consisting of two quick-serve restaurants, is nevertheless consistent with the policy's commercial-service concept because those uses would provide local-serving commercial opportunities for nearby residents, employees, and airport users.

The proposed General Plan Amendment also removes the existing mismatch between the proposed warehouse use and the General Commercial designation on one parcel by changing that portion of the site to Service Industrial.

The comment's citation to Circulation Element Policies 8 and 11 also does not establish a plan inconsistency or a CEQA impact. Policy 8 limits full-access median breaks on arterials and calls for left-turn lanes at each, while Policy 11 concerns the design of local collector street systems to minimize through traffic and excessive speeds. The project does not propose a new residential-style local collector street system; rather, it proposes industrial site access and frontage improvements along existing roadways. The Draft EIR and traffic study evaluate project access, intersection operations, roadway operations, queueing, and signal warrants, and **Mitigation Measure MM 4.16-1** requires right-of-way dedication and roadway improvements along Airport Drive, Merle Haggard Drive, Petrol Road, and Landings Way in accordance with the Kern County Land Division Ordinance and Development Standards. The project therefore addresses the transportation-design concerns underlying these policies through the County's project-specific traffic review and development-standard process.

Circulation Element Policy 15 is expressly limited to incorporated areas because it prohibits trucks from non-truck routes within incorporated areas except as necessary for direct property access. The project is located in unincorporated Oildale and therefore is not directly governed by that incorporated-area truck-route prohibition. The relevant truck-access issue for this project is instead addressed by Circulation Element Policy 16 and by the Draft EIR's analysis of truck access, site access, and roadway operations. The project's truck movements would use existing and improved roadways serving an industrial and airport-adjacent setting, and the project's access improvements, truck drive approaches, and truck-routing controls are addressed through **MM 4.16-1** and applicable County development standards.

Circulation Element Policy 16 requires truck access to commercial and industrial properties to be designed to minimize impacts on adjacent residential parcels. The Draft EIR identifies the nearest residence and describes the surrounding land use context as industrial, airport-related, roadway, vacant, logistics, and oil-tank-farm uses. The Draft EIR's MBGP consistency table states that the project is consistent with Policy 16 because compliance with **MM 4.16-1** would require truck-route controls away from sensitive land uses and would minimize conflicting truck traffic. The project also provides off-street truck-trailer parking and truck access facilities, further supporting consistency with Policy 16 and related delivery-truck access policies.

Circulation Element Policy 20 does not support the comment's claim of inconsistency. That policy prohibits parking on new arterials in incorporated areas and, for unincorporated areas, prohibits parking when traffic studies warrant elimination while allowing parking on collectors and residential streets. The project is in the unincorporated area and proposes substantial on-site parking rather than reliance on arterial street parking, including approximately 2,001 automobile spaces and 401 truck-trailer spaces. The project remains subject to County site-plan, parking, and circulation review through the Precise Development Plan process and applicable County standards. The comment does not identify any physical environmental impact caused by a parking-policy inconsistency.

Circulation Element Policy 21 calls for traffic to be routed around, rather than through, pedestrian-oriented areas. The MBGP identifies principal pedestrian-sensitive activity centers such as Downtown, Baker Street, the Southwest Center, Northwest Centers, and the Northeast Center. The project site is not located in one of those identified pedestrian-oriented centers; it is an industrial and airport-adjacent site in unincorporated Oildale. The project's circulation is therefore more appropriately evaluated under the site access, truck

access, frontage-improvement, and transportation-impact policies discussed above, and the Draft EIR separately requires roadway improvements and TDM measures that support safe motorized, nonmotorized, and pedestrian movement.

Circulation Element Policy 36 is also satisfied when read as written. The policy seeks to prevent streets and intersections from degrading below LOS C "where possible" and expressly provides a three-part mitigation structure consisting of adjacent right-of-way dedication, access improvements, and/or area-wide impact fees where physical improvements are not possible or are part of a larger project. The Draft EIR does not ignore LOS issues; it includes an operational LOS analysis for General Plan consistency, identifies future roadway and intersection deficiencies, identifies physically constrained locations, and requires roadway improvements, right-of-way dedication, transportation impact fees, and a TDM program. The project's future VMT impact remains significant and unavoidable under CEQA after mitigation, but VMT significance does not mean the project conflicts with the MBGP's LOS-focused mitigation framework. The project fits the Policy 36 framework because it provides and funds feasible access and circulation improvements while acknowledging where full LOS correction is not feasible or depends on larger area-wide improvements.

The cited transit policies do not require a different conclusion. Transit Policy 2 calls for bus turnouts along arterials and collectors where appropriate, and Transit Policy 3 calls for consideration of transit service issues in the site plan review process. Section 4.16 expressly considered transit and found that the project is not located along an existing bus route, that few bus stops exist on roadways likely to be used during construction and operation, that the nearest bus stop is approximately 0.5 mile east of the project at McCray Street and Merle Haggard Drive, and that project construction and operation would not close transit-route roadways or impede public transit mobility. Thus, the Draft EIR considered transit service issues, and the record supports the County's determination that additional bus-turnout or shelter improvements are not shown to be appropriate on the project frontages.

The bikeway and parking policies likewise are addressed by the project record. Bikeway Policy 11 requires bike lanes in conjunction with street improvement projects that coincide with the Bikeway Master Plan, while Parking Policy 3 requires adequate on-site parking supply and parking-lot circulation in accordance with adopted parking standards. The Draft EIR requires frontage improvements and right-of-way dedication and identifies TDM measures that support bicycle use, including alternate-mode incentives, commute information, secure bicycle parking, showers, and on-site bicycle repair facilities. The project also provides substantial on-site automobile and truck-trailer parking. To the extent final frontage design coincides with any Bikeway Master Plan facility, the project remains subject to County development standards; in any event, the comment does not identify any unstudied physical environmental impact from the project's bicycle or parking design.

The cited water-resource goals and policies are also supported by substantial evidence. The MBGP's water-resource goals seek to conserve and augment planning-area water resources, assure adequate groundwater resources, and assure adequate surface-water supplies. The Draft EIR and WSA identify Oildale Mutual Water Company as the project's public water supplier, identify OMWC's mix of purchased or imported surface water and groundwater supplies, and conclude that OMWC has sufficient supplies to serve the project and reasonably foreseeable future development under normal, single-dry, and multiple-dry years through 2045. Those findings support consistency with the MBGP's water-resource goals and with the Public Services and Facilities Element goal requiring adequate water service for developed and developing portions of the planning area.

The more specific water-resource policies cited in the comment do not undermine that conclusion. Policy 2 concerns minimizing the loss of water that could otherwise be used for groundwater recharge; the Draft EIR explains that approximately 18 percent of the project site would remain landscaped, where infiltration could occur, and that the project would not significantly interfere with groundwater recharge. Policy 5 concerns resolving groundwater deficiencies in upland portions of the planning area; the project is not an isolated new water system in an upland deficient area but is served by OMWC's existing public water system. Policy 6 concerns groundwater quality; the Draft EIR requires stormwater, erosion-control, drainage, and groundwater-use measures, including **MM 4.9-1**, **MM 4.9-2**, **MM 4.18-2**, and **MM 4.18-3**. Policy 8 calls for considering each proposal's water use in the context of planning-area needs and priorities; the WSA did exactly that by evaluating project demand and OMWC supply through 2045 under normal, dry, and multiple-dry conditions.

The comment's reliance on cumulative groundwater overdraft does not show that the project is inconsistent with these water policies. The Draft EIR discloses that the Kern County Subbasin is in critical overdraft and that cumulative impacts associated with groundwater supplies would be significant and unavoidable. At the same time, the WSA found that adequate water supplies are available to meet project demand, that project implementation would not cause undesirable results within the applicable groundwater sustainability agency area due to groundwater pumping, and that groundwater use and extraction are under the control of OMWC. CEQA permits the Draft EIR to disclose a significant cumulative basin-wide impact while also concluding, based on the WSA and mitigation requirements, that the project does not obstruct the MBGP's water-service and water-resource policies at the project level.

The cited air quality goals and Policy 16 also do not require a significant plan conflict finding. The MBGP air quality goals promote air quality compatible with health and enjoyment of life and reduction of vehicular emissions, while Policy 16 calls for cooperation with Golden Empire Transit and Kern Regional Transit and requires large-scale development to provide related improvements, such as bus stop shelters and turnouts. The Draft EIR analyzes air quality under SJVAPCD guidance, states that project-generated criteria-pollutant emissions would not exceed SJVAPCD project-level significance thresholds and requires feasible controls including SJVAPCD Regulation VIII dust measures and Rule 9510 compliance. The Draft EIR also includes **MM 4.16-3**, requiring a TDM program with alternative-mode subsidies and incentives, carpool or electric vanpool incentives, travel-behavior information, promotional materials, and commute-assistance facilities. As discussed above, Section 4.16 considered transit and found the project is not along an existing bus route and would not impede existing transit facilities.

The Draft EIR's disclosure of significant and unavoidable cumulative air quality or VMT impacts does not, by itself, establish that the project is legally inconsistent with the MBGP or that the EIR must identify a separate significant land use impact. CEQA focuses on the underlying physical environmental effects, and those effects are analyzed in the Draft EIR's air quality, greenhouse gas, transportation, and related sections. The MBGP air quality and circulation policies cited by the comment are broad policies designed to reduce emissions, encourage transit and alternative modes, manage truck access, and improve circulation where feasible. The project furthers those policies to the extent feasible through project siting in an industrial and airport-adjacent area near major transportation corridors, emissions-control mitigation, SJVAPCD compliance, TDM measures, access improvements, right-of-way dedication, and traffic impact fees. The remaining significant and unavoidable cumulative impacts are disclosed and addressed under CEQA, but they do not automatically transform the project into a legal conflict with every broad MBGP policy that promotes reduced emissions or improved circulation.

The cited flooding policy likewise does not support the comment's claim. The comment identifies Safety Element Policy 3 as preventing urban development encroachment that would impede flows in the Kern River designated floodway. The record does not show that the project encroaches into the Kern River designated floodway. The Draft EIR describes the project site and surrounding area as displaying minimal flood hazard and requires project-specific hydrology and drainage review, including a hydrologic study and final drainage plan under **MM 4.9-2**, to address runoff, erosion, sedimentation, and flooding. The Draft EIR further concludes that cumulative drainage and flooding impacts would not be cumulatively considerable because those impacts are primarily localized and because the project and other cumulative projects would implement similar measures. The comment identifies no evidence that the project would impede Kern River flood flows or create an unstudied physical flooding impact.

In sum, the comment does not identify a new or more severe physical environmental impact. At most, it disputes the County's planning-law consistency judgment and requests a more exhaustive policy-by-policy discussion than CEQA requires. The Draft EIR discloses and analyzes the physical environmental effects associated with the cited policy areas, including land use, transportation, air quality, greenhouse gas emissions, hydrology, water supply, utilities, flooding, noise, and public services. The cited policies are either satisfied, not directly applicable, or broad and programmatic provisions that do not impose a specific, mandatory, fundamental prohibition on the project. Based on the record as a whole, a reasonable decisionmaker could conclude that the project is compatible with the MBGP's overall goals and policies and does not obstruct their attainment.

Response 13-K

The comment asserts that the Draft EIR provides a misleading and erroneous consistency analysis for the Metropolitan Bakersfield General Plan (MBGP) water provisions. Specifically, the comment challenges the Draft EIR's analysis of Conservation Element Water Resources Policy 2 and the Public Services and Facilities Element provisions addressing water distribution and adequate water supply. The County does not concur. As explained below, the Draft EIR and project-specific WSA provide substantial evidence supporting the project-level water-supply and groundwater-recharge conclusions. This response also updates the record regarding the status of the 2025 Kern County Subbasin Groundwater Sustainability Plan (2025 Plan) prepared pursuant to the SGMA.

As an initial matter, the Public Services and Facilities Element provision cited in the comment appears to refer to Water Distribution Goal 1, which seeks adequate water service for developed and developing portions of the planning area, and Water Distribution Policy 3, which requires new development proposals to have an adequate water supply available. CEQA evaluates physical environmental effects, and an alleged inconsistency with a plan policy is not, by itself, a physical environmental impact. The relevant CEQA question is whether the alleged inconsistency identifies an unaddressed physical impact to water supply, groundwater recharge, groundwater quality, or related public-service infrastructure. The Draft EIR addresses those physical issues in Sections 4.9 and 4.18 and in the project-specific WSA.

CEQA water-supply principles require an EIR to identify the intended or likely sources of water for the project and analyze, to the extent reasonably possible, the environmental impacts of supplying water to the project. The WSA satisfies that standard by identifying Oildale Mutual Water Company (OMWC) as the project's public water supplier, identifying OMWC's purchased or imported treated-water and groundwater supplies, and evaluating OMWC supply and demand through 2045 under normal, single-dry, and multiple-dry-year conditions.

The WSA provides substantial evidence supporting the Draft EIR's project-level water-supply conclusion. The WSA calculates the project's gross water demand at 299 acre-feet per year. Because OMWC's 2020 Urban Water Management Plan already assumed 5 acre-feet per year of industrial demand for the project site, the WSA treats 294 acre-feet per year as the incremental project demand above the UWMP assumption for purposes of the supply-and-demand comparison. The WSA reports water supply surpluses under normal-year, single-dry-year, and multiple-dry-year conditions. Accordingly, the WSA demonstrates that OMWC has sufficient supplies to serve existing and future uses under normal and dry conditions.

Since preparation of the Draft EIR and WSA, the regulatory status of the Kern County Subbasin groundwater sustainability planning process has changed. At that time, DWR had deemed the 2022 GSPs inadequate and the Subbasin was before the State Water Board in the state-intervention/probationary-hearing process; the WSA noted that revised GSPs were being prepared and that a continued hearing was scheduled for September 17, 2025. The Kern County Subbasin GSAs have since prepared the 2025 Plan, consisting of seven closely coordinated GSPs and a Coordination Agreement developed by all 20 GSAs to address DWR and State Water Board-identified deficiencies and provide a coordinated path to Subbasin-wide sustainable groundwater management by 2040. The 2025 Plan identifies OMWC within the Kern River GSA framework and lists OMWC among urban water purveyors with a 2020 Urban Water Management Plan. The State Water Board has also determined that a probationary designation for the Kern County Subbasin is not necessary and returned the Subbasin to DWR jurisdiction for ordinary SGMA oversight after confirming that the 2025 Final GSPs addressed the priority deficiencies identified by DWR staff. In addition, the 2025 Plan determines that although the Kern River GSA had a pre-SGMA water-budget deficit of 63,608 acre-feet per year over the 1995 through 2014 period, it achieved a positive water budget of 30,184 acre-feet per year during the 2015 through 2023 period, making it a net recharger. (2025 Plan, Section 9, Tables 9-10 and 9-11; Appendix N, Overdraft Conditions.) This finding is directly relevant to the project because the project site is located within the Kern River GSA and OMWC, the project's designated water supplier, operates within that GSA's groundwater management framework. The Kern River GSA's demonstrated progress (shifting from a substantial pre-SGMA deficit to a positive water budget through demand reduction, increased recharge, and conjunctive-use operations, even though six of the nine years in the 2015-2023 period were below normal, dry, or critically dry) provides site-specific evidence that groundwater management within the GSA is on track toward the 2040 sustainability deadline, even while the broader Kern County Subbasin works toward basin-wide sustainability.

The Draft EIR also specifically addresses Water Resources Policy 2, which concerns minimizing the loss of water that could otherwise be used for groundwater recharge. The Draft EIR recognizes that the project would convert portions of the site to impervious surfaces, including building foundations, paved parking areas, trailer parking, truck docks, and roadway improvements. The Draft EIR also explains that approximately 18 percent of the site would remain as landscaped area where infiltration could occur, and therefore groundwater recharge could still occur with implementation of the project. In addition, **Mitigation Measure MM 4.9-2** requires a project-specific hydrologic study and final drainage plan, prepared in accordance with the Kern County Grading Code and Kern County Development Standards and approved before grading permits, to incorporate engineering recommendations that offset increased stormwater runoff and minimize flow concentration, erosion, sedimentation, and flooding. Based on that analysis and mitigation, the record supports the Draft EIR's conclusion that the project would not substantially interfere with groundwater recharge.

The comment's reliance on cumulative groundwater overdraft does not undermine the project-level water-supply or recharge analysis. The Draft EIR discloses that the Kern County Subbasin is in critical overdraft

and that cumulative groundwater-supply impacts would remain significant and unavoidable after feasible mitigation. The updated 2025 Plan and State Water Board action provide additional evidence that the Subbasin is now being managed under a coordinated SGMA framework intended to address those basin-wide conditions over time, but they do not convert the project's disclosed cumulative groundwater impact into a new or different project-level water-supply impact. **MM 4.18-2** and **MM 4.18-3** further support implementation and accountability by requiring groundwater-source disclosure, confirmation that any well used in the permit activity is metered, disclosure of any reclaimed water used, water meters on all facilities, and annual water-use reporting. The comment therefore does not identify a new or more severe physical environmental impact, does not show that the Draft EIR's water-supply analysis is unsupported, and does not require recirculation or revision of the Draft EIR's significance conclusions.

Response 13-L

The comment asserts that the Draft EIR's consistency analysis for MBGP Conservation Element Air Quality Policy 2 is misleading because the Draft EIR discloses significant and unavoidable cumulative air quality impacts. Policy 2 states that the County should encourage land uses and land use practices that do not contribute significantly to air quality degradation. The County does not concur that the Draft EIR omitted the cumulative air quality finding or that the disclosed cumulative impact renders the project directly inconsistent with Policy 2.

The Draft EIR expressly discloses the project's air quality impacts. It states that construction emissions would be reduced to less-than-significant levels with implementation of **Mitigation Measures MM 4.2-1** through **MM 4.2-3**, but that operational emissions would still exceed the SJVAPCD CEQA significance threshold for NOx after implementation of feasible mitigation, resulting in a significant and unavoidable operational air quality impact. The Draft EIR also discloses that, despite implementation of mitigation measures, project operation would contribute to a long-term cumulative increase in criteria pollutants and therefore would result in a significant and unavoidable cumulative air quality impact. The comment therefore is incorrect to the extent it suggests that the Draft EIR excluded the cumulative air quality significance finding from the analysis.

That significance finding does not, by itself, establish a separate land use inconsistency or require revision of the consistency conclusion. Policy 2 is framed as an encouragement policy rather than as a mandatory prohibition on any land use that may contribute to cumulative air quality impacts; it asks the County to encourage land uses and land use practices that do not contribute significantly to degradation, which accommodates considerations of the project's land use context, mitigation, SJVAPCD compliance, and other plan policies as part of the overall consistency determination.

The record supports the County's conclusion that the project incorporates air-quality-related land use practices and all feasible mitigation even though residual NOx and cumulative criteria-pollutant impacts remain significant and unavoidable. The Draft EIR evaluates the project's consistency with the applicable Air Quality Plan using criteria that ask whether the project supports the AQP's primary goals, complies with applicable control measures, and would disrupt or hinder implementation of AQP control measures. The Draft EIR further explains that the project includes all reasonably available and feasible air quality control measures, including SJVAPCD Regulation VIII dust measures and compliance with SJVAPCD Rule 9510. Mitigation includes continuous compliance with SJVAPCD rules, a SJVAPCD-approved Dust Control Plan, payment of air quality mitigation fees through a DMA or VERA mechanism, use of super-compliant low-VOC architectural coatings, plug-in-capable TRUs and loading-bay electrical hookups for cold-storage tenants, idling restrictions, and other operational emissions controls. Those measures directly

advance Policy 2's purpose by reducing the project's contribution to air quality degradation to the extent feasible, even though the Draft EIR conservatively concludes that NOx and cumulative criteria-pollutant impacts remain significant and unavoidable.

Accordingly, the comment does not identify substantial evidence of an additional physical environmental impact or a defect in the Draft EIR's disclosure. The Draft EIR acknowledges the significant and unavoidable operational and cumulative air quality impacts, requires feasible mitigation and regulatory compliance to reduce emissions, and provides the information necessary for decisionmakers to weigh the remaining impacts in connection with certification findings and any statement of overriding considerations. No revision to the Draft EIR's Policy 2 consistency conclusion or separate land use significance finding is required.

Response 13-M

The comment asserts that the Draft EIR does not provide substantial evidence supporting the conclusion that the project is consistent with MBGP Conservation Element Air Quality Policy 4 and must be revised to include a finding of significance. Policy 4 requires the County to consider air pollution impacts when evaluating discretionary land use proposals, including alternative access routes to reduce traffic congestion, development phasing to match road capacities, and buffers with increased vegetation to increase emission dispersion and reduce impacts of gaseous or particulate matter on sensitive uses. The County does not concur that the Draft EIR lacks substantial evidence supporting the Policy 4 consistency conclusion.

The Draft EIR expressly considered air pollution impacts in Section 4.2 and disclosed both the project's less-than-significant construction impact after mitigation and its significant-and-unavoidable operational and cumulative air quality impacts. Moreover, the record addresses Policy 4's access-route and congestion considerations. The project site is located approximately 1.5 miles east of SR 65 and approximately 1.5 miles southeast of SR 99, with regional access available from SR 99 and SR 65 and local access from Airport Drive, Merle Haggard Drive, Petrol Road, and Landings Way. The traffic study evaluated 17 intersections and the roadway system serving the project, including Airport Drive, Merle Haggard Drive, 7th Standard Road, SR 65, and SR 99 ramp connections. The project would include multiple driveway access points and roadway frontage improvements, and **Mitigation Measure MM 4.16-1** requires roadway improvements that would facilitate roadway capacity and corresponding LOS. These facts show that the County considered alternative access, congestion, and road-capacity issues in the manner contemplated by Policy 4.

The record also addresses Policy 4's buffer and vegetation consideration. The project incorporates landscaped screening and buffers through **MM 4.1-3** and related design requirements. The Draft EIR explains that the landscape plan must comply with Kern County Zoning Ordinance Chapter 19.86 and requires a vegetation barrier along the Merle Haggard Drive and Airport Drive frontages, consisting of multiple rows of trees and shrubs, a 10-foot-high berm, a decorative wall, or a combination thereof, together with a 30-foot-wide perimeter buffer along visible boundaries from those frontages. The air quality analysis also describes AB 98-related logistics design practices, including orienting truck loading bays away from sensitive receptors where feasible, locating truck entry, exit, and internal circulation away from sensitive receptors, and providing buffering and screening with walls, berms, and trees. These features support the Draft EIR's conclusion that Policy 4's buffer and dispersion considerations were considered and incorporated into the project design and mitigation framework.

Finally, the project incorporates all reasonably available and feasible air quality controls identified in the Draft EIR. The project must continuously comply with SJVAPCD rules and regulations, prepare a

SJVAPCD-approved Dust Control Plan, pay air quality mitigation fees through the DMA/VERA mechanism to mitigate criteria pollutants, use super-compliant low-VOC coatings, require plug-in-capable TRUs and loading-bay electrical hookups for cold-storage tenants, prohibit auxiliary-engine idling where plug-in capability is available, and implement other emissions controls. The Draft EIR explains that these measures reduce operational ROG below the SJVAPCD annual threshold, although NOx remains significant and unavoidable after all feasible mitigation. Policy 4 requires consideration of air pollution impacts in discretionary review; it does not require that all residual air emissions be eliminated before the County may find overall plan consistency. The record therefore contains substantial evidence supporting the Draft EIR's Policy 4 consistency conclusion, and no separate land use significance finding or recirculation is required.

Response 13-N

The comment asserts that the Draft EIR does not provide substantial evidence supporting the project's consistency with MBGP Circulation Element Goal 3 and Policy 34 and must be revised to include a finding of significance because the Draft EIR discloses significant and unavoidable VMT impacts. Goal 3 seeks to minimize the impact of truck traffic on circulation and noise-sensitive land uses, while Policy 34 requires review of development plans, rezoning applications, and proposed general plan amendments for their transportation-system impacts and requires revisions as necessary. The County does not concur that the disclosed VMT impact renders the project inconsistent with these circulation policies or requires a separate land use significance finding.

The comment conflates the project's transportation VMT impact with the separate circulation, truck-access, roadway-design, and noise-sensitivity issues addressed by Goal 3 and Policy 34. The Draft EIR discloses that project-generated VMT would exceed the applicable threshold and would remain significant and unavoidable after mitigation because no additional feasible or enforceable VMT-reduction measures were identified that would reduce VMT below the threshold. That VMT conclusion does not mean the project fails to minimize truck-circulation impacts or that the County failed to review the project's transportation-system impacts. The Draft EIR separately analyzes roadway operations, site access, truck access, design hazards, emergency access, and noise, and the physical effects associated with those topics are disclosed and mitigated in the transportation and noise sections.

The record supports the County's consistency determination for Goal 3 and Policy 34. The project is located in an industrial and airport-adjacent setting near SR 99 and SR 65, with local access from Airport Drive, Merle Haggard Drive, Petrol Road, and Landings Way. The traffic study evaluated 17 intersections and surrounding roadway segments, including Airport Drive, Merle Haggard Drive, 7th Standard Road, SR 65, and SR 99 ramp connections. The project would include multiple driveways, frontage improvements, truck drive approaches, and off-street parking for approximately 2,001 automobiles and 401 truck trailers. The Draft EIR's MBGP consistency table states that the project is consistent with Goal 3 because **Mitigation Measure MM 4.16-1** requires specific truck routes away from sensitive land uses and minimizes conflicting truck traffic, and it states that the project is consistent with Policy 34 because transportation impacts were reviewed through the traffic analysis and related mitigation framework.

The Draft EIR also identifies roadway-capacity improvements and transportation measures that directly address the policies cited in the comment. **MM 4.16-1** requires roadway improvements that would facilitate better roadway capacity and corresponding LOS, and the traffic study identifies future roadway improvements for Merle Haggard Drive and Airport Drive. The modeled and designated truck-route discussion also directs trucks to major commercial and industrial roadways serving the project rather than

through sensitive residential areas. These measures demonstrate that the County reviewed the project's development plan, rezoning, and General Plan Amendment for transportation-system impacts and required revisions or mitigation as necessary.

Accordingly, the comment does not identify substantial evidence of a new or more severe physical environmental impact or a defect in the Draft EIR's transportation analysis. The Draft EIR acknowledges the significant and unavoidable VMT impact, but that impact is distinct from truck-circulation, roadway-design, access, and noise-sensitive-land-use impacts. The record supports the County's conclusion that the project is consistent with Goal 3 and Policy 34 because it is sited near major transportation corridors, provides off-street truck facilities and access improvements, requires truck-route controls and roadway improvements, and separately discloses the remaining VMT impact for decisionmakers to consider in connection with CEQA findings and any statement of overriding considerations.

Response 13-O

The comment states that the proposed zone variance was withdrawn after circulation of the NOP and asserts that the Kern County Zoning Ordinance requires the development plan to be submitted to the Kern County Airports Department and the FAA. The comment appears to challenge the project's compliance with the Airport Approach Height (H) Combining District procedures for structures exceeding 35 feet. The County does not concur that the withdrawal of the variance creates an unaddressed CEQA impact or a defect in the Draft EIR's airport-safety analysis.

As explained in Response 13-H, a height variance is not required where the project complies with the H Combining District development-plan review process, obtains the required FAA no-hazard determination for structures exceeding 35 feet, and remains within the M-2 base district height limit. The H Combining District allows heights above 35 feet through the review procedures in Kern County Code of Ordinances Sections 19.76.130 and 19.76.140, as well as Section 19.76.140(E), which requires an FAA letter stating that the proposed development does not constitute a hazard to air traffic, does not violate federal regulations, and includes any special FAA conditions. Therefore, withdrawal of the variance does not mean the project lacks a required discretionary approval pathway; it means the height issue is addressed through the H Combining District and Precise Development Plan process.

The record also shows that airport and FAA review have been incorporated into the CEQA and entitlement record. The NOP and Draft EIR were circulated to public agencies, special districts, responsible and trustee agencies, and interested parties, and including both the Kern County Airports Department and Meadows Field Airport. The project also has obtained FAA Determinations of No Hazard to Air Navigation for the proposed 60-foot structures, and the FAA determinations state that the studied structures would have no substantial adverse effect on navigable airspace or air navigation facilities. In addition, the FAA circulated the proposed structures for public comment and received no comments. These facts directly address the comment's concern that the project was not submitted for airport or FAA review.

Finally, the Draft EIR analyzes the physical airport-safety issue that is relevant under CEQA. Section 4.8 explains that the project is in the H Combining District and within the Meadows Field ALUCP area, addresses the project's proposed 60-foot height, and imposes **Mitigation Measure MM 4.8-12** requiring FAA Form 7460-1 notice and either an FAA Determination of No Hazard to Air Navigation or FAA-recommended project changes for portions of the project that meet FAA noticing requirements. The comment therefore does not identify a new or more severe physical environmental impact, and no revision to the Draft EIR's airport-safety or zoning-compliance significance conclusions is required.

Response 13-P

The comment states that the project's proposed 60-foot structures must be reviewed by the FAA and asserts that the Draft EIR does not include substantial evidence that the FAA has reviewed the project. The County does not concur. As explained in Response 13-H and Response 13-O, the Draft EIR's airport-safety analysis addresses the project's location in the H Combining District and the Meadows Field ALUCP area, and the record includes FAA Determinations of No Hazard to Air Navigation for the proposed 60-foot structures.

The FAA determinations provide substantial evidence directly responsive to the comment. The FAA studied proposed 60-foot structures associated with the project and determined that the structures would have no substantial adverse effect on the safe and efficient use of navigable airspace by aircraft or on the operation of air navigation facilities and therefore would not be hazards to air navigation if the stated conditions are met. The FAA determinations also state that the studies considered existing and proposed arrival, departure, and en route procedures for aircraft operating under visual flight rules and instrument flight rules, existing and planned public-use and military airports and aeronautical facilities, and the cumulative impact of the studied structures when combined with other existing or proposed structures.

The FAA's additional findings further support the Draft EIR's less-than-significant aviation-safety conclusion. The FAA determinations state that the proposed structures would have no effect on existing or proposed IFR arrival or en route operations or procedures, would not significantly adversely affect existing or proposed public-use or military airports or navigational facilities, would not affect the capacity of any known existing or planned public-use or military airport, and would not create a significant cumulative airspace impact. The determinations also state that the FAA circulated the proposed structures for public comment and received no comments.

Mitigation Measure MM 4.8-12 remains appropriate because it ensures continuing compliance with FAA notice and approval requirements for any project components that meet FAA noticing requirements. The FAA determinations in the record do not relieve the project proponent of other federal, state, or local compliance obligations, and **MM 4.8-12** ensures that those aviation-review obligations remain enforceable during project implementation. Accordingly, the Draft EIR does include substantial evidence of FAA review, and no new or additional mitigation or revision to the Draft EIR's aviation-safety significance conclusion is required.

Response 13-Q

The comment asserts that the Draft EIR does not provide an accurate consistency analysis with Kern COG's 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and is inconsistent with

RTP Goals 1, 3, 5, and 6 because the project would have significant and unavoidable impacts related to air quality, greenhouse gas emissions, hydrology and water quality, transportation VMT, and water supply. The County does not concur that the project conflicts with the RTP/SCS or that the Draft EIR must include a separate land use significance finding on that basis.

The Draft EIR and supporting technical studies discuss the RTP/SCS and provide the information needed to evaluate the comment's claim. The RTP identifies seven broad regional goals, including Goal 1, Mobility, to improve the mobility of people and freight; Goal 3, Reliability/Safety, to improve the reliability and safety of the transportation system; Goal 5, Livability/Quality of Life, to promote livable communities and satisfaction with the transportation system; and Goal 6, Sustainability, to provide for transportation-system enhancement and expansion while minimizing effects on the environment. The Draft EIR describes

the 2022 RTP as a 24-year blueprint establishing regional transportation goals, policies, and actions for Kern County's planned multimodal transportation system, developed through a continuing, comprehensive, and cooperative planning process and including the SB 375 Sustainable Communities Strategy. The Draft EIR therefore does not ignore the RTP/SCS.

The project is consistent with, and does not obstruct, RTP Goal 1 concerning mobility of people and freight. The project site is approximately 1.5 miles east of SR 65 and approximately 1.5 miles southeast of SR 99, with local access from Airport Drive, Merle Haggard Drive, Petrol Road, and Landings Way. The project is located in an area designated for Strategic Employment under the RTP/SCS regional development pattern and therefore falls within that development category. The RTP/SCS recognizes Kern's strategic role in logistics and goods movement, including policies to develop rural trucking networks, support clean trucking technology, promote compatible land use along freight corridors, and coordinate intermodal connectivity for rail, trucking, transit, and passenger vehicles. The project's industrial/logistics use, location near major transportation corridors, truck access, roadway frontage improvements, and transportation impact fee obligations therefore support Goal 1's mobility and freight-movement objective.

The project is also consistent with RTP Goal 3 concerning transportation-system reliability and safety. The Draft EIR and traffic study reviewed the project's site access, truck access, roadway operations, and transportation improvements. The traffic study evaluated 17 intersections, including SR 65/Merle Haggard Drive, Airport Drive/Merle Haggard Drive, Airport Drive/Petrol Road, and SR 99 ramp connections. The Draft EIR also identifies **Mitigation Measure MM 4.16-1** roadway improvements intended to facilitate better roadway capacity and corresponding LOS, and the traffic study identifies future improvements for Merle Haggard Drive and Airport Drive segments. In addition, the project would provide multiple access points, truck drive approaches, off-street parking and truck-trailer parking, and truck-route controls that direct trucks to major commercial and industrial roadways serving the project. These facts support the conclusion that the project does not undermine RTP Goal 3, even though the Draft EIR separately discloses a significant and unavoidable VMT impact under CEQA.

The project does not conflict with RTP Goal 5 concerning livability, quality of life, and satisfaction with the transportation system. Goal 5 is a broad regional planning goal rather than a project-specific prohibition on industrial development. The project incorporates design and mitigation features intended to reduce land use conflicts and transportation-related nuisance effects, including landscaped screening and buffers, off-street truck queuing and parking to prevent trucks from parking or idling on public streets, and logistics-design practices that orient truck loading bays and truck circulation away from sensitive receptors where feasible. The record also indicates that the nearest sensitive receptor is not adjacent to the project and is more than 1,000 feet from the nearest proposed industrial building. These facts support the conclusion that the project's design and mitigation address livability and quality-of-life concerns in the project vicinity.

The project also does not obstruct RTP Goal 6 concerning sustainability. Goal 6 calls for transportation-system enhancement and expansion while minimizing environmental effects; it does not require that a project eliminate every residual environmental impact before it may be found generally consistent with regional transportation planning goals. The project includes TDM measures, EV charging infrastructure, bicycle-supportive measures, roadway and frontage improvements, SJVAPCD Rule 9510 compliance, fugitive-dust controls, DMA/VERA mitigation, super-compliant low-VOC coatings, plug-in-capable TRUs, loading-bay electrical hookups for cold-storage tenants, and idling restrictions. The Draft EIR nevertheless discloses significant and unavoidable operational NOx, cumulative criteria-pollutant, and VMT impacts, and those impacts remain fully available for decisionmakers to consider in connection with

CEQA findings and any statement of overriding considerations. The existence of disclosed residual impacts does not show that the project impedes the RTP/SCS or renders it ineffective.

Accordingly, the comment's disagreement with the Draft EIR's impact conclusions does not identify a specific RTP/SCS policy that the project violates or establish a separate plan-conflict impact. The Draft EIR analyzes the physical environmental impacts identified by the comment in the relevant resource sections, identifies feasible mitigation, and discloses residual significant and unavoidable impacts where applicable. No revision to the Draft EIR is required to add a separate RTP/SCS inconsistency impact.

Response 13-R

The comment asserts that the Draft EIR is inadequate because the Metropolitan Bakersfield General Plan (MBGP) and MBGP EIR used a 2020 horizon year and because, in the commenter's view, the Draft EIR should provide a cumulative analysis of all light industrial projects approved since adoption of the MBGP to quantify the existing buildout scenario. The County does not concur. The comment incorrectly assumes that the Draft EIR relies on the MBGP's older growth projections as a summary-of-projections cumulative impact analysis. It does not. The Draft EIR is a project-level EIR that evaluates the project against current environmental baseline conditions and uses a cumulative-projects list, supplemented where appropriate by resource-specific cumulative methodologies, to evaluate cumulative impacts.

CEQA expressly permits cumulative impact analysis to be based on either a list of projects producing related impacts or a summary of projections contained in an adopted plan or related planning document. The Draft EIR uses the list-of-projects approach: it defines cumulative impacts as the project's impacts combined with impacts of related past, present, and reasonably foreseeable future projects; explains that the analysis generally considers anticipated development within six miles of the project vicinity, subject to resource-specific methodologies; states that Kern County, City of Bakersfield, and City of Shafter files were reviewed to identify permitted or planned projects; and presents Table 3-7 and Figure 3-13 identifying the cumulative projects considered. Built projects existing at the time of environmental review are reflected in existing baseline conditions, while reasonably foreseeable projects with sufficient information are identified in the cumulative-projects list. Thus, the passing of the MBGP's 2020 horizon year does not render the Draft EIR inadequate, because the Draft EIR does not depend on the MBGP horizon year as the exclusive cumulative-impact framework.

The comment also does not show that the cumulative-projects list is materially underinclusive. CEQA gives lead agencies discretion to identify probable future projects using a reasonable cutoff and available information, and bare assertions that additional projects should have been included are insufficient to show that the lead agency's project list is defective or misleading. The Draft EIR explains that projects with initiated applications but insufficient information may be excluded because their cumulative effects cannot yet be meaningfully analyzed. The comment identifies several industrial projects, but the Draft EIR and response matrix already account for recent projects that are either built into the baseline or included in Table 3-7 where sufficiently defined. The comment therefore does not identify a new significant environmental impact or require recirculation.

Finally, the Draft EIR's use of current project-level review is appropriate for the requested General Plan Amendment, Zone Change, Precise Development Plan, and nonsummary vacation. The project's site is largely already designated Service Industrial, with one General Commercial parcel proposed for amendment to Service Industrial, and the project is located in an industrial and airport-adjacent area near existing transportation corridors. The Draft EIR evaluates the project's significant and unavoidable impacts in the relevant resource sections and analyzes alternatives capable of avoiding or substantially lessening

those effects. The comment's disagreement with the County's cumulative methodology and land use planning judgment does not provide substantial evidence that the Draft EIR is inadequate as an informational document.

Response 13-S

This comment indicates that the EIR must be revised to include the analysis on employment growth, as included in the comment. Once constructed, the project would create 572 direct jobs, one the project is fully operational, as described in Section 4.13, Population and Housing. While the project would encourage job growth in vicinity of the project, this growth is encouraged and planned for, per the MBGP "centers" concept. The MBGP has designated zones within the planning area to facilitate growth within these identified centers. This land use pattern has been considered in the adoption of the MBGP, in which the project is consistent with the land use designation (Light Industrial). Employment generated by the proposed project would be within Metro Bakersfield's anticipated employment growth. Therefore, impacts associated with population growth and housing resulting from operation of the project are in conformance with the planned growth identified in the MBGP, and impacts are considered less than significant. Additionally, potential impacts would be further reduced with the implementation of **Mitigation Measure MM 4.14-2**, included in Section 4.14, Public Services, which would encourage all contractors of the project site to hire at least 50% of their workers from local Kern County communities.

Projects approved since 2020 and projects "in the pipeline" are either; fully constructed and therefore, properly included as part of existing, baseline conditions, or are accounted for as cumulative projects within Draft EIR Table 3-7, as of the date the Notice of Preparation was issued for the Draft EIR. The geographic scope for cumulative impacts to population and housing consists of a 6-mile buffer around the project site, as viewed in Chapter 3, Project Description, Figure 3-13. These 53 projects may have the potential to induce population growth. However, it is likely they would be staffed by the existing regional workforce within Kern County. To this extent, and as noted in Section 4.13, Population and Housing, the unemployment rate in Kern County remains higher than state and national averages, at nearly 9.6% in 2025. Projections also indicate the population will continue to grow to 1.2 million people by 2050. Job availability from this project and combined projects would potentially reduce the unemployment rate and support planned growth in population in Kern County and surrounding communities.

This comment does not provide any credible evidence of an impact associated with this analysis of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 13-T

The comment asserts that recent and proposed industrial projects should be included in the cumulative projects analysis and contends that, when combined with the project, those projects would generate employment growth representing a substantial share of the Metro Bakersfield employment growth forecast. The County does not concur that the Draft EIR omits a required cumulative analysis or that the comment identifies substantial evidence requiring a new population, housing, or growth-inducement significance finding. As explained in Responses 13-R and 13-S, the Draft EIR uses a list-of-projects approach for cumulative analysis, and economic or employment growth is not itself a CEQA impact unless it causes a reasonably foreseeable physical environmental effect not otherwise analyzed.

The Draft EIR's cumulative methodology is consistent with CEQA Guidelines. CEQA permits an EIR to analyze cumulative impacts using a list of past, present, and probable future projects producing related impacts, and the Draft EIR expressly uses that approach by identifying a six-mile cumulative study area,

explaining that different resource-specific analyses may use supplemental methodologies where appropriate, and presenting Table 3-7 and Figure 3-13 to identify the cumulative projects considered. The Draft EIR also explains that Kern County, City of Bakersfield, and City of Shafter files were reviewed to identify permitted or planned projects, and that projects with initiated applications but insufficient available information may be excluded because their cumulative effects cannot yet be meaningfully analyzed. CEQA requires a reasonable, practical, good-faith cumulative analysis; it does not require the County to include every possible future development regardless of location, stage, available information, or relevance to the particular resource impact being analyzed.

The named industrial projects cited in the comment are substantially addressed in the cumulative record. Table 3-7 includes IPG Industrial as Project No. 1 and Malibu Vineyards as Project No. 2, and it includes large approved freight-terminal projects at the southeast and southwest corners of 7th Standard Road and Rudd Avenue as Projects No. 26 and No. 28. The comment also references Westside Industrial Project; to the extent that project is not listed by that specific project name in Table 3-7, the comment does not demonstrate that any omission would alter the Draft EIR's analysis of the project's physical environmental impacts. As discussed in Response 13-R, CEQA allows the lead agency to use a reasonable project list and cutoff based on available information, and bare assertions that additional projects should have been included are not sufficient to show that the cumulative project list is defective or misleading.

Nor does the comment's employment-growth arithmetic establish a CEQA population or housing impact. The Draft EIR directly evaluates whether the project would induce substantial unplanned population growth, whether it would displace housing or people, and whether cumulative projects would combine with the project to create population or housing impacts. It concludes that the project's temporary construction workforce, estimated operational warehouse employment, and approximately 40 retail employees can reasonably be served by the local and regional workforce, especially given Kern County's large civilian labor force and 9.6 percent unemployment rate as of June 2025. The Draft EIR also explains that cumulative projects may generate employment but are likely to be staffed by the existing regional workforce, that each project remains subject to project-level review and project-specific measures as needed, and that job availability from the project and cumulative projects would potentially reduce unemployment and support planned population growth rather than induce unplanned growth.

The Draft EIR also separately analyzes the physical impacts that could be associated with industrial and employment growth, including air quality, greenhouse gas emissions, VMT, utilities, water supply, noise, and public services. Several of those impacts are disclosed as significant and unavoidable, and those disclosures remain available for decisionmakers to consider in adopting CEQA findings and any statement of overriding considerations. However, the existence of disclosed significant and unavoidable impacts in other resource areas does not mean the population and housing analysis is deficient, and it does not show that the cumulative-projects list failed to provide an adequate informational basis for decisionmakers and the public. No revision to the Draft EIR's cumulative projects list or population and housing significance conclusion is required in response to this comment.

Response 13-U

The comment claims the project is inconsistent with the MBGP concept of centers. The County does not concur. The MBGP's Land Use Policy Concept Map, Figure II-2, depicts a system of transit-priority and strategic-employment place types designed to guide Metropolitan Bakersfield's urban form. The project site is located within an area designated as an "Intensified Activity Center" on that map. Intensified Activity Centers are distinct from "Mixed Use Centers" under the MBGP, and the comment incorrectly applies the

Mixed Use Centers description to the project site. Mixed Use Centers are intended for pedestrian-oriented retail, service, office, and residential uses clustered around walkable transit-accessible cores. Intensified Activity Centers, by contrast, are not expressly defined in the same manner; they correspond to areas where the MBGP anticipates intensified employment and economic activity near existing infrastructure and transportation corridors, without requiring the same mixed-use, pedestrian-oriented development pattern prescribed for Mixed Use Centers. Page II-3 of the MBGP expressly states that "the general plan maps can only reflect the quality and character desired in a particular land use designation in general terms." Accordingly, the MBGP "centers" concept does not preclude any particular land use simply because the project site falls within an Intensified Activity Center mapping designation. The project site is designated Service Industrial on approximately 95 acres and General Commercial on approximately 14 acres, with the General Commercial parcel proposed for amendment to Service Industrial. The MBGP allows warehousing, distribution, transportation-related, and other industrial uses within the Service Industrial designation, and encourages clustering of new industrial development adjacent to existing industrial uses and along major transportation corridors. The project site is located adjacent to Meadows Field Airport and existing industrial and logistics uses, near SR 99 and SR 65, and within an area the RTP/SCS designates for Strategic Employment. The project is therefore consistent with the underlying industrial zoning and with the MBGP's land use and industrial-clustering policies. This comment does not provide any credible evidence of an impact associated with this analysis of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 13-V

The County does not concur with this comment. The comment claims the project site is not depicted in Figure II-2 of the MBGP. That claim is incorrect. Figure II-2 of the MBGP is the Land Use Policy Concept Map, which depicts transit-priority and strategic-employment place types throughout the Metropolitan Bakersfield planning area. The project site is clearly shown as being within an Intensified Activity Center on that map. The comment's recitation of text from the MBGP regarding desired land uses, walkability, and pedestrian-oriented design is applicable to the "Mixed Use Centers" concept, not to Intensified Activity Centers. Mixed Use Centers are intended to provide pedestrian-oriented retail, service, office, and residential uses in walkable, transit-accessible clusters. Intensified Activity Centers are not defined by the same walkability and mixed-use requirements; instead, they identify locations where intensified employment and economic activity are anticipated near existing infrastructure.

The Draft EIR's consistency discussion addresses the applicable MBGP policies and land use designations. The project site is largely designated Service Industrial under the MBGP, which allows warehousing, distribution, and transportation-related industrial uses. The proposed General Plan Amendment would change the General Commercial designation on the southeastern parcel to Service Industrial, aligning the entire site with the proposed industrial warehouse use. The MBGP's industrial policies encourage clustering of new industrial development adjacent to existing industrial uses and along major transportation corridors, and the project satisfies both criteria given its location adjacent to Meadows Field Airport and existing industrial, airport-related, and logistics uses, and its proximity to SR 99 and SR 65. The RTP/SCS likewise identifies the project site within an area designated for Strategic Employment, further supporting the Draft EIR's conclusion that the project is consistent with regional and local land use planning objectives. This comment does not provide any credible evidence of an impact associated with this analysis of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 13-W

The comment suggests the Draft EIR's language regarding the construction workforce is uncertain and misleading. The County does not concur. CEQA evaluates whether a project would induce substantial unplanned population growth in an area, either directly by proposing new homes or businesses, or indirectly through the extension of infrastructure. The comment does not identify substantial evidence that the project's temporary construction workforce would cause such unplanned population growth.

The Draft EIR explains that the construction phase is expected to last approximately 29 months and employ up to approximately 100 workers at peak construction periods. Construction workers would primarily be drawn from the local labor pool or would temporarily stay in hotels in local communities, consistent with standard construction-industry practice in the region. Kern County's unemployment rate of 9.6 percent as of June 2025 is higher than both state and national averages, meaning that construction employment associated with the project would likely be filled by the existing local and regional workforce rather than induce relocation of workers' households. The City of Bakersfield, located less than three miles from the project site, has a total population of approximately 419,200 people, and Kern County has a population of approximately 917,400 people, providing a substantial population from which to draw an adequate construction workforce without necessitating permanent relocation. Hotels and temporary accommodations for commuting construction workers are located approximately two miles northwest of the project site near Merle Haggard Drive and Highway 65.

The project's population and housing impacts were found to be less than significant without the need for mitigation, although M**itigation Measure MM 4.14-2**, which requires all contractors to encourage hiring at least 50 percent of their workers from local Kern County communities, would further reduce potential population and housing impacts from temporary construction activities. The Draft EIR accurately explains that construction workers typically commute to project sites rather than relocate their households, that the project's construction labor needs would be met by the existing pool of construction workers in the region, and that the short-term nature of construction employment does not induce substantial permanent population growth. CEQA Guidelines Section 15064(d)(3) provides that an indirect physical change must be "reasonably foreseeable" and that a change that is speculative or unlikely to occur is not reasonably foreseeable. Requiring the Draft EIR to identify specific hotels or provide a geographic radius from which construction workers would commute would require speculation inconsistent with CEQA's "reasonably foreseeable" standard. With regard to operational workforce concerns, see Response 13-T.

This comment does not provide any credible evidence of an impact associated with this analysis of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 13-X

The comment contends that the Draft EIR underestimates the significance of the project's VMT because the quantified VMT analysis does not include all truck, trailer, and delivery-van activity associated with project operations. The comment states that distribution-center operations involve substantial commercial vehicle travel from large import hubs to regional distribution centers and then to final delivery destinations. It further asserts that, after employees arrive at the project site, they would conduct their work by driving trucks, trailers, and delivery vans throughout the region, thereby substantially increasing project-generated VMT. The comment also states that these operational vehicle trips cannot be shifted to public transit or active transportation and that excluding them from the quantified VMT analysis is misleading. The comment requests preparation and recirculation of a revised EIR containing a quantified VMT analysis that includes all truck, trailer, and delivery-van activity.

CEQA Guidelines section 15064.3(a) defines "vehicle miles traveled," for purposes of that section, as the amount and distance of automobile travel attributable to a project. The Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA explains that the term "automobile" "refers to on-road passenger vehicles, specifically cars and light trucks" and that heavy-duty truck VMT could be included for modeling convenience and ease of calculation but is not required. The Technical Advisory further directs that, "[f]or an apples-to-apples comparison, vehicle types considered should be consistent across project assessment, significance thresholds, and mitigation." (OPR Technical Advisory, p. 5.) Consistent with the Technical Advisory's guidance, and because OPR does not recommend a specific VMT threshold for industrial land uses or for heavy-duty truck VMT, Section 4.16 of the Draft EIR expressly discloses that "[t]he VMT evaluation is limited to automobiles and light trucks." (Draft EIR, p. 4.16-14.) Medium- and heavy-duty trucks and truck-trailer combinations therefore are not included in the automobile VMT metric used to determine the significance of the project's transportation impact.

Some delivery vans may fall within a light-duty vehicle classification. However, the project's VMT-per-employee calculation measures automobile and light-truck travel associated with employee trips to and from the project site only. It does not measure commercial vehicle travel occurring during project operations. Adding commercial delivery mileage to the project calculation would require a correspondingly consistent regional benchmark and significance threshold. As explained in Section 4.16, OPR does not recommend a specific VMT threshold for industrial land uses. The County therefore evaluated the project's passenger-vehicle VMT using an employee-based metric because employee travel constitutes the majority of the passenger-vehicle travel generated by the project's industrial uses. CEQA Guidelines section 15064.3(b)(4) affords lead agencies discretion to choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household, or in another measure, and requires the assumptions used to be documented and explained in the environmental document.

The analysis used the Kern COG travel demand model to calculate both the regional baseline and project VMT per employee, thereby maintaining a consistent vehicle basis on both sides of the comparison. Applying that metric, the model determined that the project would generate 18.48 VMT per employee, exceeding the significance threshold of 14.04 VMT per employee used in the Draft EIR. (Draft EIR, Table 4.16-10, p. 4.16-28.) The Draft EIR therefore concluded that the project's transportation VMT impact would be significant and unavoidable after mitigation and found that the Transportation Demand Management program required by **Mitigation Measure MM 4.16-3** would not reduce project VMT below the 14.04 threshold.

The use of an employee-based passenger-vehicle metric does not omit the project's warehousing and distribution operations. Rather, it applies the automobile VMT metric to passenger-vehicle travel associated with those uses. Adding medium- and heavy-duty truck VMT to the project-side calculation while retaining an employee-based passenger-vehicle benchmark and threshold would not provide a consistent basis for determining significance.

CEQA Guidelines section 15064.3(b)(3) does not require a different conclusion. That provision permits a lead agency to analyze VMT qualitatively when existing models or methods are unavailable to estimate the VMT of the particular project being considered. Here, the Kern COG travel demand model was available and was used to quantify the automobile VMT metric defined by section 15064.3(a). Section 15064.3(b)(3) does not transform that defined metric into a requirement to conduct a separate qualitative analysis of medium- and heavy-duty truck VMT.

Nor did the Draft EIR disregard commercial-vehicle activity or its associated physical effects. Chapter 3 identifies the project's truck access points and explains that heavy truck traffic would be routed primarily from SR 99 along Merle Haggard Drive, with remaining truck traffic routed from Airport Drive to James Road and SR 65. (Draft EIR, p. 3-16.) Section 4.16 identifies the proposed truck access points and analyzes project trip generation, general trip distribution, roadway operations, site access, and circulation. (Draft EIR, pp. 4.16-6 and 4.16-14–4.16-15.) The environmental effects of project-related commercial-vehicle activity are also analyzed in Section 4.2, Air Quality, and Section 4.7, Greenhouse Gas Emissions.

Neither the comment nor the available guidance identifies a supported truck-VMT threshold, regional truck-VMT benchmark, or combined passenger- and commercial-vehicle methodology that could be applied consistently to both the project and the applicable baseline. For the reasons stated above, simply adding medium- and heavy-duty truck mileage to the project calculation while retaining an employee-based passenger-vehicle threshold would not establish a meaningful or consistent significance comparison.

Accordingly, the Draft EIR's employee-based passenger-vehicle VMT analysis is consistent with CEQA Guidelines section 15064.3. The existing analysis also concludes that the project's transportation VMT impact would remain significant and unavoidable after mitigation and separately evaluates the physical effects associated with commercial-vehicle operations. No revisions are required.

Response 13-Y

The comment asserts that the Draft EIR does not provide project-specific analysis of hazards due to geometric design features or incompatible uses and requests a revised EIR with a significance finding. The County does not concur. Impact 4.16-3 of the Draft EIR expressly evaluates whether the project would substantially increase hazards due to a geometric design feature or incompatible use, as required by CEQA Guidelines Appendix G. The Draft EIR explains that the project site has flat topography with no elevations that would obstruct views if sharp curves were within the project area, that there are no incompatible uses within the project vicinity, and that the project would not include the development of sharp curves, dangerous intersections, or other hazardous design features. (Draft EIR, pp. 4.16-29–4.16-30.)

The record contains substantial evidence supporting the Draft EIR's less-than-significant conclusion. The Project Description and supporting plans specify the proposed driveway configurations: one 35-foot driveway along Petrol Road, two 20-foot driveways separated by a 10-foot median and two additional 35-foot driveways along Airport Drive, two 35-foot and one 26-foot driveway along Merle Haggard Drive, and one 35-foot driveway along Landings Way. (Draft EIR, pp. 3-16–3-17.) Volume 4 of the Draft EIR includes a Truck Maneuverability Exhibit demonstrating that the proposed internal drive aisles, driveway approaches, and turning radii can accommodate heavy-truck turning movements. These design details were prepared by qualified engineers and illustrate that the site layout avoids sharp curves and dangerous intersections.

The comment's concern that the Draft EIR does not describe County requirements for project access and street design is not supported by the record. **Mitigation Measure MM 4.16-1** requires the project proponent to record an irrevocable offer of dedication to the County of Kern for specified frontage widths along Airport Drive (55 feet), Merle Haggard Drive (55 feet), Petrol Road (45 feet), and Landings Way (30 feet), together with additional right-of-way for right-turn channelization, all per the Kern County Land Division Ordinance and Development Standards. **MM 4.16-1** further requires construction of Type "A" Subdivision Standard street improvements along all site frontages, including pavement, curb, gutter, sidewalk, streetlights, signage, and striping; 20-foot by 20-foot right-of-way corner cutoffs at all intersections to maintain adequate sight-distance triangles; and removal of all obstructions from the ultimate road right-of-

way. (Draft EIR, pp. 1-81–1-84, 4.16-25–4.16-26.) These are not generalized statements; they are specific, enforceable design and construction requirements that ensure project roadways and access points comply with the applicable County standards.

The Kern County Land Division Ordinance and Development Standards establish detailed minimum requirements for roadway dedication, design, and improvement. Relevant provisions include: (1) right-of-way dedication requirements (addressed in the conditions specified by **MM 4.16-1**, which require irrevocable offers of dedication at widths specified for each street classification—55 feet for Arterial Streets such as Merle Haggard Drive and Airport Drive, and 45 feet for Collector Streets such as Petrol Road and Landings Way—plus additional right-of-way for right-turn channelization); (2) Type "A" Subdivision Standard street improvement requirements, including curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, drive approaches, median improvements, right-turn lanes, striping, and streetlights; (3) pedestrian access easements at all wheelchair ramp locations; (4) driveway approach standards governing maximum driveway widths (35 feet per County Plate R-60) and driveway spacing (per County Plate R-58); (5) 20-foot by 20-foot right-of-way corner cutoffs at all intersections to maintain adequate sight-distance triangles; and (6) the obstruction-removal requirement under Chapters 18.50 and 18.55 of the Land Division Ordinance, which mandates that all easements be kept open, clear, and free from buildings and structures, and that all obstructions—including utility poles and lines, trees, pole signs, fences, and similar obstructions—be removed from the ultimate road right-of-way. Compliance with these standards is a precondition to recordation of a final map or issuance of building permits, and the County's development-review process verifies conformance before approvals are issued.

The Draft EIR also addresses construction-phase hazards separately from operational design hazards. **MM 4.16-4** requires the project proponent to prepare and submit a Construction Traffic Control Plan to the Kern County Public Works Department and Caltrans, prepared in accordance with the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook. The Construction Traffic Control Plan must address timing of heavy-equipment and materials deliveries, traffic control and flagging, temporary signing and lighting, emergency-vehicle access, temporary lane closures, access to adjacent properties, construction-vehicle routing, and coordination with neighboring projects. (Draft EIR, pp. 1-85–1-86, 4.16-29–4.16-30.) This mitigation measure ensures that construction activities do not create roadway hazards or obstruct traffic.

Finally, to the extent the comment raises concerns about on-site internal circulation—for example, whether delivery trucks could safely maneuver within the site or whether truck traffic could create hazards within the project's loading areas and drive aisles—the project's internal circulation design is governed by applicable law and will be verified through the County's development and permitting review process. The project's internal drive aisles and turning radii must comply with Kern County Development Standards and the California Fire Code. Specifically, the KCFD has confirmed that all fire access roads must meet the specifications of California Fire Code Section 503.2. (Draft EIR, Vol. 2, KCFD Comment Letter.) As described in the Project Description and shown in the Truck Maneuverability Exhibit in Volume 4 of the Draft EIR, the project includes a minimum 26-foot-wide fire lane around all sides of the buildings for emergency access, and drive aisles in some areas of the site are 35 feet wide—dimensions that accommodate heavy-truck turning movements as well as fire apparatus access. (Draft EIR, pp. 3-16–3-17; Vol. 4, Truck Maneuverability Exhibit.) Under Section 19.56.150 of the Kern County Zoning Ordinance, the decision-making authority may approve a Precise Development Plan only upon finding that the proposed development will not be materially detrimental to the health and safety of the public. The County's review of the Precise Development Plan, site plan, and building permit applications will verify that the

internal circulation design meets all applicable fire access, driveway geometry, and maneuvering standards before construction permits are issued. The Draft EIR provides substantial evidence supporting the less-than-significant conclusion under Impact 4.16-3, and no revision or recirculation is required.

Response 13-Z

The comment asserts that the Draft EIR's statements regarding roadway design are "not supported by substantial evidence" and that reliance on the County's development and permitting review process constitutes improper deferral of environmental analysis. The County does not concur with this characterization. CEQA does not require an EIR to contain every conceivable design specification or code provision; rather, an EIR must contain sufficient detail to enable meaningful public review and informed decision-making. (CEQA Guidelines, § 15124.) Here, the Draft EIR provides substantial evidence supporting its less-than-significant conclusion through the Project Description's detailed driveway configurations (pp. 3-16–3-17), the Truck Maneuverability Exhibit demonstrating that internal drive aisles and turning radii accommodate heavy-truck movements (Draft EIR, Vol. 4), and the specific requirements of **Mitigation Measures MM 4.16-1** through **MM 4.16-4**, which incorporate the Kern County Land Division Ordinance and Development Standards by reference and require compliance as a precondition to permit issuance. Reliance on existing regulatory standards is not improper deferral; it is an appropriate recognition that the County's established development-review procedures will verify compliance before construction is authorized. The comment does not identify any specific deficiency in the project's proposed design or demonstrate that the existing regulatory framework is inadequate to address hazardous design features.

Response 13-AA

This comment quotes language from the Draft EIR regarding emergency access and the County's development and permitting review process. The comment does not raise any specific issue or question regarding the adequacy of the Draft EIR's analysis. The comment has been noted for the record.

Response 13-BB

The comment asserts that the Draft EIR has not provided "any meaningful information, such as a list of the County's Code requirements/California Fire Code requirements and how the project does or does not comply with the requirements," and that deferral to the construction permitting phase constitutes improper mitigation. These concerns are substantively the same as those raised in Comments 13-Y and 13-Z. See Responses 13-Y and 13-Z, which identify the applicable California Fire Code requirements (including Section 503.2), describe the project's compliance with those requirements, cite the Kern County Fire Department's confirmation of applicable standards, and explain why reliance on the County's established development-review process is not improper deferral under CEQA.

Response 13-CC

The comment asserts that the Draft EIR has not provided any analysis of available sight distance at the intersection of project driveways and adjacent streets. The concerns raised by this comment regarding the adequacy of the Draft EIR's analysis of design hazards and the alleged deferral of CEQA-required analysis to the permitting phase are substantively the same as those addressed in Responses 13-Y and 13-Z. As explained in those responses, the record contains substantial evidence supporting the Draft EIR's less-than-significant conclusion, and reliance on the County's established development-review process is not improper deferral under CEQA. With respect to sight distance specifically, **Mitigation Measure MM 4.16-1** requires 20-foot by 20-foot right-of-way corner cutoffs at all intersections to maintain adequate sight-

distance triangles. Division 9, Chapter 5 of the Kern County Development Standards establishes minimum sight-distance requirements for roadway intersections, including the criteria illustrated in Plate T-7. Compliance with these standards is a precondition to permit issuance and ensures that project intersections and access points provide adequate sight distance.

Response 13-DD

The comment asserts that the Draft EIR has not adequately analyzed the project's consumption of nonrenewable resources, specifically water, and that the project's irreversible commitment of groundwater resources is inconsistent with MBGP Public Services and Facilities Element Goal 3 (Water Distribution). The County does not concur with this characterization.

The comment's premise that groundwater in Kern County is a "nonrenewable resource" because it is "consumed faster than it can be naturally replenished" is inconsistent with the regulatory framework and the updated record. If groundwater were truly nonrenewable on the basis of basin overdraft, there would be no purpose to the Sustainable Groundwater Management Act (SGMA), which is predicated on the principle that overdrafted basins can be returned to sustainable conditions through coordinated groundwater management. As explained in Response 13-K, the State Water Board has determined that a probationary designation for the Kern County Subbasin is not necessary and has returned the Subbasin to DWR jurisdiction for ordinary SGMA oversight. The 2025 Plan prepared by the Kern County Subbasin GSAs provides a coordinated path to Subbasin-wide sustainable groundwater management by 2040. Notably, the 2025 Plan determines that the Kern River GSA—in which the project is located—achieved a positive water budget of 30,184 acre-feet per year during the 2015 through 2023 period, compared to a deficit of 63,608 acre-feet per year during the pre-SGMA 1995 through 2014 period. (2025 Plan, Section 9, Tables 9-10 and 9-11; Appendix N, Overdraft Conditions.) This undercuts the comment's premise that groundwater in the project area is a nonrenewable resource incapable of replenishment.

Section 5.3 of the Draft EIR addresses irreversible environmental changes as required by CEQA Guidelines Section 15126.2(d). That section identifies the nonrenewable resources committed by the project as "oil, gas, and other fossil fuels," consumed "primarily in the form of transportation fuel for project employees and delivery trucks and supplemental energy for the micro mill." The Draft EIR does not characterize groundwater as a nonrenewable resource. The Draft EIR separately discloses that cumulative groundwater impacts would be significant and unavoidable due to the critically overdrafted condition of the Kern County Subbasin as a whole. The comment does not identify any new significant environmental effect that the Draft EIR failed to disclose; rather, it reasserts the same cumulative groundwater impact that the Draft EIR already identifies as significant and unavoidable. CEQA does not prohibit approval of a project with significant and unavoidable impacts; it requires disclosure and adoption of a statement of overriding considerations if the project is approved. With respect to the project's consistency with MBGP Goal 3 (Water Distribution), see Response 13-K, which explains that the WSA demonstrates adequate water supplies are available to serve the project through 2045 under normal, single-dry, and multiple-dry year conditions, and that **Mitigation Measures MM 4.18-2** and **MM 4.18-3** require groundwater-source disclosure, metering, and annual water-use reporting. The disclosed cumulative groundwater impact does not render the project inconsistent with Goal 3, which requires that new development proposals have an adequate water supply available—a requirement the WSA confirms the project satisfies.

Response 13-EE

The comment asserts that the Draft EIR is inadequate as an informational document because the Metropolitan Bakersfield General Plan's 2020 horizon year has passed, because the Draft EIR does not

quantify the MBGP's existing buildout scenario, and because the project was proposed after 2020 and therefore is not accounted for in the MBGP's growth projections. The comment concludes that a finding of significance is required on that basis. The County does not concur. The comment rests on a legal premise that CEQA does not adopt. Namely, that a project proposed after a general plan's planning horizon must be found to have a significant environmental effect. Growth projections and buildout assumptions in a general plan are planning tools; they are not a regulatory ceiling on development, and the fact that a project postdates or exceeds them is not itself a physical change in the environment. CEQA evaluates physical environmental effects, and economic and social changes are not to be treated as significant effects on the environment. (CEQA Guidelines, § 15064(e).) An asserted mismatch between a project and a planning document's horizon year is therefore not a physical impact and does not compel a significance finding.

The Draft EIR is a project-level EIR that establishes its own environmental baseline and analyzes each resource area on its own terms; its impact conclusions do not depend on the MBGP EIR's 2020 horizon year. Under CEQA Guidelines section 15125(a), the environmental setting is the physical condition of the affected area as it exists at the time the Notice of Preparation is published. All development completed as of that date, including industrial development approved after 2020, is therefore captured in the Draft EIR's existing-conditions baseline for air quality, transportation, noise, water supply, biological resources, and every other resource area analyzed. Approved but unbuilt development that is sufficiently defined to permit meaningful analysis is captured in the cumulative-projects list. The comment's request that the Draft EIR quantify the MBGP's "existing buildout scenario" asks for a plan-level accounting exercise that CEQA does not require of a project-level EIR; a project EIR need not audit the buildout status of the applicable general plan in order to analyze the physical effects of the project before the agency.

For cumulative impacts, CEQA Guidelines section 15130(b)(1) expressly authorizes either a list of projects producing related impacts, or a summary of projections contained in an adopted planning document. As explained in Response 13-R, the Draft EIR uses the list-of-projects approach, identifying a six-mile cumulative study area and presenting Table 3-7 and Figure 3-13. Because the Draft EIR does not rely on the summary-of-projections approach, the currency of the MBGP's horizon year is not the operative framework for the Draft EIR's cumulative analysis, and the passing of that horizon year does not create an informational gap. A cumulative analysis need not be exhaustive; it is judged by whether it reflects a reasonable, practical, and good-faith effort at disclosure. The comment does not identify any physical environmental effect of the project that the Draft EIR failed to disclose or analyze, and unsubstantiated assertions of inadequacy are not substantial evidence. None of the circumstances requiring recirculation under CEQA Guidelines section 15088.5 is present, and no revision to the Draft EIR is required.

Response 13-FF

The comment asserts that the Draft EIR uses uncertain and misleading language in stating that construction workers "would primarily be drawn from the local labor pool or would temporarily stay in hotels in local communities," faults the Draft EIR for not specifying the geographic distance of the "local labor pool" or the "hotels in local communities," and contends that the Draft EIR lacks substantial evidence that those areas can accommodate the project's construction workforce. The County does not concur. This comment restates the construction-workforce concern addressed in detail in Response 13-W, which is incorporated here. The applicable CEQA question, drawn from Appendix G of the CEQA Guidelines, is whether the project would induce substantial unplanned population growth, not whether the Draft EIR catalogues the specific lodging establishments or commute radii that individual construction workers might elect to use.

The record contains substantial evidence supporting the Draft EIR's conclusion. Construction would span approximately 29 months with a peak workforce of up to approximately 100 workers, and the daily workforce would fluctuate by construction phase because different trades are needed at different stages. As of June 2025, the Kern County civilian labor force numbered approximately 413,600 persons, of whom approximately 39,900 were unemployed. This unemployment rate of 9.6 percent is well above state and national averages. A peak construction workforce of up to 100 workers represents a fraction of one percent of the County's unemployed labor force alone, which is substantial evidence that the project's construction labor needs can be met by the existing regional workforce without inducing household relocation. The City of Bakersfield, with a population of approximately 419,200, lies less than three miles from the project site, and Kern County's population is approximately 917,400. Hotels and temporary accommodations are located approximately two miles northwest of the project site near Merle Haggard Drive and State Route 65. **Mitigation Measure MM 4.14-2** further encourages contractors to hire at least 50 percent of their workers from local Kern County communities, which would reduce the number of workers commuting into the area.

CEQA does not require the further specificity the comment demands. An indirect physical change is considered only if it is a reasonably foreseeable impact of the project; a change that is speculative or unlikely to occur is not reasonably foreseeable. Identifying particular hotels, or fixing a commute radius from which individual construction workers would travel, would require the County to speculate about the hiring and lodging decisions of contractors not yet retained. The comment offers no evidence contradicting the Draft EIR's labor-force data or its conclusion, and argument and unsubstantiated opinion are not substantial evidence. (CEQA Guidelines, § 15384(a).) No revision to the Draft EIR is required.

Response 13-GG

The comment cites Table 3-2 of the Kern COG 2022 RTP/SCS planning assumptions, which forecasts that Metro Bakersfield will add 18,065 jobs between 2020 and 2035, and calculates that the project's 572 operational employees represent approximately 3.1 percent of that forecast growth. The comment characterizes that share as "a significant amount of growth" and requests that the Draft EIR be revised to add this analysis together with a cumulative discussion of projects approved since 2020 and projects "in the pipeline." The County does not concur that this arithmetic identifies a CEQA impact or requires revision of the Draft EIR. This comment restates the employment-growth concerns addressed in Responses 13-S and 13-T, which are incorporated here.

The comment's percentage calculation does not measure a physical environmental effect. Employment growth is an economic change, and CEQA Guidelines section 15064(e) provides that economic and social changes resulting from a project are not to be treated as significant effects on the environment; such changes are relevant only insofar as they help determine whether an associated physical change is significant. The Appendix G threshold applicable to population and housing asks whether a project would induce substantial *unplanned* population growth, either directly or indirectly. Comparing a project's job count to a regional net employment forecast is not a significance threshold under CEQA, and a project's share of a forecast, whether 3.1 percent or some other figure, does not by itself establish that the project would induce substantial unplanned population growth or cause any physical change in the environment. Moreover, regional employment forecasts are planning projections, not development caps; a project is not rendered significant under CEQA because its employment might represent a measurable share of, or would contribute toward exceeding, such a forecast.

Applying the correct threshold, the record supports the Draft EIR's less-than-significant conclusion. Once operational, the project would employ approximately 532 warehouse workers across shifts, with a maximum of approximately 100 employees on site per day, plus approximately 40 quick-serve restaurant employees. Measured against a Kern County civilian labor force of approximately 413,600 persons with approximately 39,900 unemployed as of June 2025, those positions can be filled from the existing regional workforce without requiring in-migration or new housing construction. The project includes no residential component and would not extend infrastructure or roadways into previously unserved areas in a manner that would remove a barrier to growth. Because Kern County is jobs-poor relative to its labor force, the project's employment would tend to improve the local jobs-housing relationship and absorb existing unemployment rather than induce unplanned population growth. The Draft EIR separately analyzes the physical effects that could accompany industrial employment growth, including air quality, greenhouse gas emissions, VMT, water supply, utilities, noise, and public services, and discloses several of those effects as significant and unavoidable, preserving them for the decisionmakers' consideration in adopting findings and any statement of overriding considerations. The comment identifies no physical effect left unanalyzed, and argument and unsubstantiated opinion are not substantial evidence. No revision to the Draft EIR is required.

Response 13-HH

This comment restates, within the Growth Inducement discussion, the cumulative employment argument raised earlier in the letter: that recent industrial projects, including Majestic Gateway Bakersfield, Westside Industrial Project, Malibu Vineyards Industrial, and the IPG Industrial Project, would, together with the project, generate approximately 10,483 employees, representing roughly 58 percent of Metro Bakersfield's employment growth forecast, and that this total would increase when other industrial and commercial activity is added. The County does not concur that this aggregation identifies a cumulative CEQA impact. This comment is addressed by Responses 13-R, 13-T, and 13-GG, which are incorporated here. As explained in Response 13-T, the named projects are substantially accounted for in the cumulative record: Table 3-7 of the Draft EIR includes IPG Industrial as Project No. 1, Malibu Vineyards as Project No. 2, Majestic Gateway Bakersfield as Project No. 33, and the approved freight-terminal projects at the southeast and southwest corners of 7th Standard Road and Rudd Avenue as Projects No. 26 and No. 28. Projects completed before issuance of the Notice of Preparation are reflected in the Draft EIR's existing-conditions baseline rather than in the cumulative list.

Aggregating projected employment across multiple projects and expressing the total as a percentage of a regional forecast is not a cumulative impact analysis under CEQA. CEQA Guidelines section 15130 requires an EIR to analyze whether the incremental effects of the project, combined with the effects of other closely related projects, would be cumulatively considerable, and the effects at issue must be physical environmental effects. Employment totals are economic figures, not physical effects. The Draft EIR performs the required analysis resource by resource, evaluating cumulative air quality, greenhouse gas, transportation, hydrology, water supply, utilities, noise, and public services effects within resource-appropriate geographic scopes, including a six-mile cumulative study area for population and housing. Each of the cumulative projects identified likewise remains subject to its own project-level environmental review and project-specific mitigation. The comment does not explain how adding the employment figures it cites would alter any of the Draft EIR's cumulative significance conclusions, and it identifies no physical environmental effect that the Draft EIR failed to disclose or analyze. Unsubstantiated assertions of inadequacy are not substantial evidence and none of the circumstances requiring recirculation is present. No revision to the Draft EIR is required.

Response 13-II

The comment raises two distinct objections to the Draft EIR's alternatives analysis. First, it asserts that the Draft EIR fails to evaluate a reasonable range of alternatives because only two alternatives beyond the statutorily required No Project Alternative were analyzed. Second, it asserts that the Draft EIR is deficient because it does not include an alternative that both attains the project objectives and reduces all of the project's significant and unavoidable impacts to less-than-significant levels. The County does not concur with either objection. Both rest on legal standards that CEQA does not impose. Because the Center for Biological Diversity raised overlapping alternatives objections, this response should be read together with Responses 14-Y and 14-Z, which address the alternatives screening, the project objectives, and the analysis of the Eastern Kern/Mojave Specific Plan Alternative Site in greater detail.

CEQA does not prescribe a minimum number of alternatives. An EIR must "consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation," and there is no fixed rule governing the nature or scope of the alternatives discussed other than the rule of reason. The operative question is whether the range presented permits a reasoned choice among meaningfully different options, not whether a particular count has been satisfied.

Measured against that standard, the Draft EIR presents a reasonable range. Chapter 6 analyzes three alternatives in detail: the No Project Alternative (Alternative 1), the Reduced Footprint Alternative (Alternative 2), and the Eastern Kern/Mojave Specific Plan Project Alternative Site (Alternative 3). These alternatives are not variations on a single theme; they span the principal axes along which a project of this type can be altered: not building at all; building less; and building elsewhere. Alternative 2 reduces development intensity on the same site, while Alternative 3 relocates the use to a different planning area with different regulatory and air-district conditions, including jurisdiction under the East Kern Air Pollution Control District, which is in attainment for criteria pollutants. The Draft EIR further considered and rejected two additional alternatives after initial screening (an Infill Alternative and a Transit Oriented Development Alternative) because no suitable infill or TOD sites of sufficient size were identified within unincorporated Kern County and because such alternatives could produce greater impacts due to proximity to sensitive receptors. Those screening determinations applied the definition of feasibility in CEQA Guidelines section 15364 together with the location-specific factors authorized by section 15126.6(f)(1), including site suitability, infrastructure availability, plan consistency, regulatory limitations, jurisdictional boundaries, and whether the applicant could reasonably acquire or control an alternative site. The Draft EIR also identifies Alternative 3 as the Environmentally Superior Alternative other than the No Project Alternative.

The comment's second objection—that the Draft EIR must include an alternative reducing every significant and unavoidable impact to a less-than-significant level—misstates CEQA's requirement. Section 15126.6(a) calls for alternatives that would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen *any* of the significant effects of the project. The standard is avoidance or substantial lessening of *any* significant effects; it is not the elimination of all of them. Were CEQA to require an alternative that reduced every unavoidable impact to insignificance, PRC Section 21081 and CEQA Guidelines section 15093 would be superfluous, because those provisions expressly authorize a lead agency to approve a project with significant and unavoidable impacts upon adopting a statement of overriding considerations supported by the record. The Draft EIR performs the analysis CEQA actually requires: the No Project Alternative would avoid the project's impacts but would not attain the project objectives, and Alternative 2 and Alternative 3 would each substantially lessen certain significant effects while attaining most, though not all, of those objectives. That is the comparative showing section 15126.6

contemplates, and it equips decisionmakers to weigh the project against genuinely different options before deciding whether overriding considerations justify approval.

Finally, the comment does not identify any specific alternative that the Draft EIR should have analyzed. It asks generally for "alternatives such as development of the site with a project that reduces all of the proposed project's significant and unavoidable impacts to less than significant levels," but it does not describe the configuration, intensity, or location of such a development, explain how it would attain most of the project objectives, or identify evidence that it would be feasible under CEQA Guidelines section 15364. CEQA encourages commenters challenging an alternatives analysis to identify the alternative they contend was improperly omitted, together with supporting facts. (CEQA Guidelines, § 15204(a), (c).) A lead agency need not presume that an unidentified feasible alternative exists and then analyze that speculative alternative in detail. Because the comment identifies no omitted feasible alternative and no physical environmental effect that the Draft EIR failed to disclose, it does not constitute substantial evidence of inadequacy. None of the circumstances requiring recirculation under CEQA Guidelines section 15088.5 is present, and no revision to the Draft EIR's alternatives analysis is required.

Response 13-JJ

This comment directs the reader to the biological resources concerns in the attached Smallwood letter. This comment does not raise any specific issues or questions on the environmental analysis in the Draft EIR.

Response 13-KK

The comment provides closing remarks and requests to be added to notification lists for the project. With regard to the statement that the EIR is flawed and that recirculation is required, see responses 13-A to 13-TTT. The County has determined that none of the circumstances under CEQA Guidelines Section 15088.5 have occurred that would require recirculation.

This comment does not provide any credible evidence of an impact associated with this analysis of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary. The County thanks the commenter for their comments and participation in the public process.

Response 13-LL

This is an introductory comment to the attached letter stating that Draft EIR has been reviewed by SWAPE. The comment states the author's opinion that the Draft EIR inadequately analyzes impacts to air quality, health risk, and GHG emissions. The comment states the author's opinion that impacts related to construction and operation of the proposed project are underestimated, and requests that a revised EIR be prepared. Please see responses below 13-MM through 13-PP below.

Response 13-MM

The comment states that additional feasible mitigation should be adopted by the project. Please see response 13-PP.

Response 13-NN

The comment explains existing air quality and socioeconomic conditions within the project vicinity using data obtained from the California Environmental Protection Agency (CalEnviroScreen 4.0), in addition to water quality and solid waste facility impacts. The comment states that the proposed project may worsen disproportionate health risks for community members within the immediate area. This comment does not

identify any specific deficiencies or substantive errors in the analysis presented in the Draft EIR. Accordingly, no further response is required. With respect to environmental justice and CalEnviroScreen, please see response 13-C. With respect to the project's HRA, please see response 1-B.

Response 13-OO

The comment states that there is further feasible mitigation for GHG impacts that the project must adopt in the EIR; however, no specific measures are identified in this comment. Please see response 13-PP.

Response 13-PP

The County acknowledges the comment's assertion that all feasible mitigation must be adopted for significant and unavoidable impacts, and addresses each recommended measure below. As detailed below, many of the recommended measures are already addressed through existing regulations and/or are included as part of the proposed mitigation measures in the EIR, and/or are not feasible based on project-specific conditions.

Require tenants to use the cleanest technologies available, and to provide the necessary infrastructure to support zero-emission vehicles and equipment that will be operating on site in order to reduce NOx emissions. The project provides EV charging infrastructure for passenger vehicles and trucks through **Mitigation Measures MM 4.5-1** and **MM 4.5-2**, and electrical hookups at loading bays serving cold storage to enable plug-in operation of TRUs in **MM 4.2-7**. CEQA requires feasibility to be determined based on project-specific conditions, and the County notes that the comparison projects cited by the commenter involved different equipment mixes, different regional conditions, or voluntary negotiated settlement commitments rather than CEQA feasibility determinations applied to the conditions of this specific project. Please also see responses 1-E and 1-J.

Require all service equipment (e.g., yard hostlers, yard equipment, forklifts, and pallet jacks) used within the project site to be zero-emission in order to reduce NOx emissions. Please see response 1-E.

Require future tenants to exclusively use zero-emission light- and medium-duty delivery trucks and vans in order to reduce NOx emissions. Please see response 1-E.

Require all heavy-duty trucks entering or on the project site to be zero-emission vehicles, and be fully zero-emission in order to reduce NOx emissions. Please see responses 1-E and 1-J. Mobile source emissions are expected to continue to decline rapidly for future build-out years based on currently applicable regulations and mitigation measures adopted by the proposed project.

Restrict trucks and support equipment from idling longer than two minutes while on site in order to reduce NOx emissions. Please see response 1-J.

Construct zero-emission truck charging/fueling stations proportional to the number of dock doors at the project. Run conduit to designated locations for future electric truck charging stations. The project is required to comply with California Green Building Standards Code (CALGreen) 2022, Section 5.106.5.3, which requires one or more locations convenient to planned off-street loading spaces reserved for medium- and heavy-duty Zero-Emission Vehicle (ZEV) charging cabinets and dispensers. In addition, **MM 4.5-2** requires installation of EV charging infrastructure and capacity beyond minimum code requirements, further supporting transportation electrification. Moreover, **MM 4.5-2** has been revised in the Final EIR to incorporate measures to require construction to facilitate future installation of medium- and heavy-duty electric vehicle supply equipment (make-ready infrastructure) during initial construction, including a

conduit from the proposed electrical rooms to the truck court, reserved space and pads for future transformers and switchgear, ductbanks sized for future charging loads, and owner cooperation with any future tenant's PG&E application in relation to PG&E Electric Rule 29, EV Infrastructure, and the associated Flexible Service Connections tariff. The proposed make-ready infrastructure would allow chargers to be installed if and when sufficient utility capacity becomes available, while avoiding the premature installation of charging equipment that could become obsolete before energization. Please also see responses 1-E and 1-J. The County finds that the commenter's recommendation is substantially addressed through compliance with CALGreen 2022 mandatory nonresidential provisions and the existing mitigation framework.

Construct and maintain electric light-duty vehicle charging stations proportional to the number of employee parking spaces, for example, requiring at least 10 percent of all employee parking spaces to be equipped with electric vehicle charging stations of at least Level 2 charging performance. The project is required to comply with the California Green Building Standards Code (CALGreen) 2022 Tier 1 Nonresidential Mandatory Measures for electric vehicle charging, which establish minimum requirements for the number of EV-capable, EV-ready, and EV-installed charging spaces as a proportion of total parking spaces. In addition, **MM 4.5-2** requires installation of EV charging stations and additional capacity for passenger vehicles beyond minimum code requirements, including Level 2 or higher charging performance. The commenter recommends at least 10 percent of employee parking spaces be equipped with Level 2 charging. To address this comment, **MM 4.5-2** has been revised in the Final EIR to require 10 percent of employee parking spaces to be equipped with Level 2 charging.

Run conduit to an additional proportion of employee parking spaces for a future increase in the number of electric light-duty charging stations. CALGreen 2022 requires that construction documents include EV-capable spaces with raceway or wiring installed to accommodate future EV charging equipment installation. The CALGreen requirements establish minimum conduit and raceway provisions as a proportion of total parking spaces, providing for future expansion of light-duty charging capacity as EV adoption increases. The project is required to comply with these provisions as a condition of building permit issuance. The County finds that the commenter's recommendation for conduit to additional parking spaces is substantially addressed through CALGreen 2022 mandatory requirements, which already require conduit or raceway infrastructure beyond the number of initially installed charging stations to accommodate future EV charging expansion. Please also see response 1-J regarding energization at the site.

Design all project building roofs to accommodate the maximum future coverage of solar panels and install the maximum solar power generation capacity feasible. Please see response 11-C. The County finds that the commenter's recommended measure is addressed through the existing mitigation framework, and no revisions to the Draft EIR are required.

Oversize electrical rooms by 25 percent or provide a secondary electrical room to accommodate future expansion of electric vehicle charging capability. CALGreen 2022 Table 5.106.5.4.1 establishes minimum electrical capacity requirements to accommodate future installation of electric vehicle supply equipment. For warehouses with greater than 256,000 square feet, such as the proposed project, CALGreen requires 400 kilovolt-amperes (kVA) of additional capacity for raceway, busway, transformer, and panel infrastructure to support future EV charging expansion. The project is required to comply with these provisions as a condition of building permit issuance. The commenter recommends oversizing electrical rooms by 25 percent or providing a secondary electrical room. The CALGreen 2022 requirements represent the State's expert determination of the appropriate level of electrical capacity for future EV charging expansion at new nonresidential developments of this scale, and the 400 kVA additional capacity

requirement provides substantial electrical headroom for future charging infrastructure. **MM 4.5-2** has been revised in the Final EIR to oversize the electrical rooms by 25 percent in order to accommodate any future expansion of electric vehicle charging capability.

Require all stand-by emergency generators to be powered by a non-diesel fuel. The Draft EIR identifies that any future emergency generators at the project site would be subject to SJVAPCD permitting under Rule 4702, which requires the use of Tier 4 Final diesel engines and California Reformulated Diesel Fuel, and limits non-emergency operation to no more than 100 hours per year for maintenance and testing. The resulting emissions from permitted emergency generators are a minor fraction of the project's total operational emissions. The commenter recommends requiring all stand-by generators to be powered by non-diesel fuel. The County has considered this recommendation in the context of both localized and regional emissions. With respect to localized health risk, the operational HRA demonstrates that the project's health risk impacts, including the contribution from emergency generators, are below the SJVAPCD significance threshold of 20 in one million; accordingly, there is no significant localized impact requiring additional mitigation. Please see response 1-B. With respect to regional NOx and GHG emissions, emergency generators permitted under Rule 4702 contribute a very small fraction of the project's total emissions due to the 100-hour annual operating limitation. The project's significant and unavoidable regional criteria pollutant emissions, including the minor contribution from emergency generators, are mitigated on a pound-for-pound basis through the VERA/DMA under **MM 4.2-5**. Accordingly, the County finds that the existing regulatory requirements (Rule 4702, Tier 4 Final engines, 100-hour limitation), combined with the VERA's pound-for-pound regional emissions mitigation, adequately address the emissions from emergency generators, and that requiring non-diesel generators is not feasible for all generator applications at this project. No revisions to the Draft EIR are required.

Require every tenant to train staff responsible for maintaining vehicle records in diesel technologies and compliance with CARB regulations by attending CARB-approved courses. Also require facility operators to maintain records on site demonstrating compliance and make the records available for inspection by the local jurisdiction, air district, and State upon request. Such requirements are not necessary as mitigation measures under CEQA because compliance with applicable CARB regulations is already mandated and enforced through existing state regulatory programs. Operators and fleet owners are independently responsible for complying with CARB rules, including applicable reporting, registration, and inspection requirements, which are administered by the State and enforced by the appropriate regulatory agencies with established oversight mechanisms. The commenter's recommendation to require duplicative on-site recordkeeping would not result in additional, quantifiable emission reductions beyond those achieved through these existing regulatory programs because compliance or noncompliance with CARB regulations is not affected by whether a redundant set of records is maintained at the project site. CEQA does not require the imposition of mitigation measures that merely duplicate existing regulatory requirements to which the regulated parties are already independently subject. Accordingly, this recommendation does not constitute additional feasible mitigation, and no revisions are required.

Require tenants to enroll in the United States Environmental Protection Agency's SmartWay program, and require tenants who own, operate, or hire trucking carriers with more than 100 trucks to use carriers that are SmartWay carriers. SmartWay is a voluntary U.S. EPA partnership program that recognizes carriers for fuel efficiency and emissions-reduction practices. Enrollment in SmartWay is voluntary; it does not constitute an enforceable emission-reduction requirement that would directly and measurably reduce the project's regional NOx or GHG emissions. Moreover, the County does not have the legal authority to enforce participation in a federal voluntary program on third-party tenants through the

land-use permitting process. Accordingly, mandatory SmartWay enrollment does not constitute feasible mitigation that would substantially lessen the identified significant NOx or GHG impact, and no revisions are required.

Provide tenants with information on incentive programs, such as the Carl Moyer Program and Voucher Incentive Program, to upgrade their fleets. The Carl Moyer Program and Voucher Incentive Program are administered by CARB and the SJVAPCD to provide financial incentives for accelerated clean-vehicle adoption. Providing informational materials to tenants regarding available incentive programs is a reasonable administrative step that the County does not oppose; however, informational provision, standing alone, does not constitute a CEQA mitigation measure because it does not guarantee or directly produce measurable emission reductions attributable to the project. The County acknowledges this recommendation and will include a condition of approval requiring the project applicant to provide informational materials regarding available fleet incentive programs to tenants at the time of lease execution.

Response 13-QQ

The commenter states that their review is based on limited available information, may be updated if additional information becomes available, and includes standard disclaimers regarding the scope, completeness, and reliability of their findings. The comment consists of general disclaimers regarding the limitations of the reviewer's analysis and does not identify any specific deficiencies in the Draft EIR. Accordingly, no further response or revision to the Draft EIR is required.

Response 13-RR

This comment introduces Comment Letter 13, summarizes the commenter's professional qualifications, and states the commenter's general view that the Draft EIR mischaracterizes the existing environmental setting and that its impact analysis and mitigation measures are inadequate. The comment is introductory and does not itself identify a specific deficiency in the Draft EIR's analysis; under CEQA Guidelines section 15088(c), the level of detail in a response may correspond to the level of detail in the comment, and a general response is appropriate to a general comment. The County acknowledges that the letter is submitted by a biologist with relevant expertise, and the specific issues raised in the letter are therefore addressed in detail in Responses 13-SS through 13-TTT below, with reference to Draft EIR Section 4.3, Biological Resources, and the BRA included as Draft EIR Appendix C. To the extent the letter's general assertions regarding the environmental setting, impact analysis, and mitigation are elaborated later in the letter, they are addressed in those responses. No revision to the Draft EIR is required in response to this introductory comment.

Response 13-SS

This comment asserts that CEQA requires an assessment of impacts to all species, and not only special-status species, citing PRC Section 21001(c), while acknowledging that CEQA Guidelines Appendix G addresses candidate, sensitive, and special-status species. The comment also applies a broader definition of "special-status species" than the Draft EIR by treating all birds of prey as special-status, and states that a site visit was performed to inform the letter. The County does not agree that the scope of the Draft EIR's biological resources analysis was too narrow, for the following reasons. First, PRC Section 21001(c) is a declaration of state environmental policy; it does not establish a threshold of significance and does not require an EIR to inventory every species that may use a project site. The significance criteria applied in Draft EIR Section 4.3 are those identified in the Kern County CEQA Implementation Document and Kern

County Environmental Checklist, which incorporate the criteria in CEQA Guidelines Appendix G, and which ask whether the project would have a substantial adverse effect on candidate, sensitive, or special-status species; on riparian habitat or other sensitive natural communities; on state or federally protected wetlands; on wildlife movement corridors or native wildlife nursery sites; on local policies or ordinances protecting biological resources; or on an adopted habitat conservation plan. Second, consistent with CEQA Guidelines section 15380, the analysis was not limited to formally listed species. The BRA and Draft EIR also evaluated non-listed species, including CDFW Watch List species such as California horned lark, and common and migratory nesting birds protected under the Migratory Bird Treaty Act, the Migratory Bird Protection Act, and Fish and Game Code sections 3503, 3503.5, and 3513, and the Draft EIR imposes mitigation addressing nesting birds in **Mitigation Measures MM 4.3-9** through **MM 4.3-11**. Third, with respect to the definition of "special-status," the BRA relied on the CDFW Special Animals List, the CNPS Rare Plant Inventory, and USFWS listing and critical habitat resources rather than treating all raptors as special-status; that is the classification framework used by the resource agencies that administer the California Endangered Species Act and the Fish and Game Code, and it is the framework reflected in the Appendix G criteria. The observations recorded during the commenter's site visit are addressed in Response 13-TT. Accordingly, the Draft EIR analyzed the resource categories identified in the applicable significance criteria and did not omit non-listed species from consideration, and no revision to the Draft EIR is required.

Response 13-TT

This comment summarizes a site visit conducted by the commenter and reports that 30 wildlife species were observed on or adjacent to the project site, five of which the comment characterizes as special-status. The County has considered these observations and does not disregard them. Of the species reported, three are special-status under the CDFW Special Animals List: Swainson's hawk, San Joaquin kit fox, and loggerhead shrike. The remaining two are identified as special-status in the letter on the basis that they are birds of prey, which is not the classification used by CDFW or applied in the Draft EIR for purposes of the Appendix G significance criteria; see Response 13-SS. More importantly, the observations reported in the comment are consistent with, rather than contrary to, the Draft EIR's analysis. The BRA and Draft EIR Section 4.3 already identify Swainson's hawk and San Joaquin kit fox as species with the potential to occur on or adjacent to the project site and to be affected by the project, and the Draft EIR imposes species-specific mitigation for both, including **Mitigation Measure MM 4.3-8** for San Joaquin kit fox and **MM 4.3-9** through **MM 4.3-11** for Swainson's hawk and other nesting birds and raptors. Those measures have been further strengthened in the Final EIR Errata in response to CDFW's comments, including a one-half-mile no-work buffer for active Swainson's hawk nests and foraging habitat compensation consistent with Swainson's Hawk Technical Advisory Committee guidance; see Responses 2-I through 2-L. Potential impacts to loggerhead shrike, a CDFW Watch List species, would be addressed through the preconstruction special-status wildlife survey and agency consultation and take-authorization requirements of **MM 4.3-5** and through the nesting bird measures in **MM 4.3-9** through **MM 4.3-11**. Because the reported observations do not identify a species or impact mechanism that the Draft EIR failed to analyze or mitigate, they do not disclose a deficiency in the Draft EIR's analysis, and no revision to the Draft EIR is required.

Response 13-UU

This comment asserts that the project would result in the loss of habitat for the species observed during the commenter's site visit and presents a predictive analysis extrapolating from those observations to assume that 97 total species would use the site and that 17 of those would be special-status. The County has considered the comment's estimates but does not agree that they demonstrate a significant impact that the Draft EIR failed to disclose, and the County does not adopt the comment's methodology, for the following

reasons. First, the Draft EIR and BRA did not rely on visual observation alone or on a statistical extrapolation. As described in BRA Section 2, the special-status species evaluation was based on a literature and database review that included the CNDDB, the CDFW Special Animals List, the CNPS Rare Plant Inventory, Calflora, Jepson eFlora, the USFWS Information for Planning and Consultation (IPaC) system, USFWS designated and proposed critical habitat mapping, National Wetlands Inventory and National Hydrography Dataset data, NRCS soils data, and aerial imagery, using a nine-quadrangle search area surrounding the site; a field reconnaissance of the project site and a 500-foot buffer conducted on November 10, 2023, during which plant communities were mapped and habitat conditions were assessed; and a species-by-species evaluation of the potential for each special-status species identified through that review to occur in the habitats present on the site. That habitat-based occurrence-potential methodology is the approach relied on by CDFW and USFWS in evaluating project-level effects, and it is supported by substantial evidence in the record. Second, an EIR is not required to adopt a commenter's preferred methodology where the methodology used is reasonable, supported by substantial evidence, and sufficient to inform decision-makers of the project's potential impacts. Third, a generalized extrapolation of species richness does not, by itself, establish a significant effect under the applicable significance criteria, which turn on whether the project would substantially adversely affect a candidate, sensitive, or special-status species, a sensitive natural community, protected wetlands, wildlife movement, local biological resource policies, or an adopted conservation plan. Fourth, the Draft EIR's analysis is conservative in the direction the comment urges: notwithstanding the site's regularly disked and ruderal condition, the BRA and Draft EIR identify multiple special-status species as having potential to occur and impose preconstruction survey, avoidance, consultation, and take-authorization requirements in **Mitigation Measures MM 4.3-3**, **MM 4.3-5**, **MM 4.3-6, MM 4.3-8**, **MM 4.3-9**, and **MM 4.3-12** that apply if those species are detected. Finally, CEQA does not require an EIR to produce an inventory of every species that could occur on a site; the Appendix G criteria focus the assessment on those resource categories where project-level effects may rise to a level of significance. For these reasons, no revision to the Draft EIR is required in response to this comment.

Response 13-VV

This comment sets out the commenter's views on how a CEQA biological assessment should be conducted, including diagrams and flow charts describing the commenter's preferred method for assessing species occurrence at the project level and the position that focused surveys for all species should be required. The comment also states that the BRA relied on a reconnaissance-level survey and asserts that the survey was inadequate because a section of the BRA is headed "Plant and Animal Inventories" while reporting only the plants and animals observed during the reconnaissance. As to the heading, the County acknowledges the point and clarifies that the referenced BRA subsection describes the field method by which all plant and wildlife species and diagnostic sign observed during the reconnaissance were recorded; it does not present, and was not intended to present, a comprehensive inventory of all species using the site. That heading is a labeling matter that does not affect the Draft EIR's impact conclusions, because the special-status species analysis and the impact determinations in Draft EIR Section 4.3 rest on the literature and database review, the plant community mapping, and the habitat-based occurrence-potential evaluation described in Response 13-UU, not on the observation list. As to the request that focused surveys for all species be required before circulation of the Draft EIR, the County does not agree that CEQA compels that approach here. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended by a commenter, and the Draft EIR explains why the analysis is sufficient without those additional surveys: the occurrence-potential analysis conservatively identifies the special-status species that could be present, the Draft EIR treats potential impacts to those species as potentially significant, and

Mitigation Measures MM 4.3-3, **MM 4.3-5**, **MM 4.3-6**, **MM 4.3-8**, **MM 4.3-9**, and **MM 4.3-12** impose enforceable, species-appropriate survey, avoidance, consultation, and take-authorization requirements that must be satisfied before ground disturbance. The timing of protocol-level surveys is addressed further in Responses 13-LLL, 13-MMM, and 13-SSS. No revision to the Draft EIR is required in response to this comment.

Response 13-WW

This comment states that the reported methodology for the reconnaissance survey in the BRA and Draft EIR was inadequate because it does not include the survey start time and duration, does not describe the survey methodology, and does not include comparative findings from nearby surveys. The comment asserts that these omissions make it difficult for the public and decision-makers to contextualize the survey findings, particularly where the Draft EIR states that no special-status species were observed even though the survey timing fell outside the season in which certain species would be expected to be detectable. The comment also notes that only eight wildlife species were recorded during the reconnaissance conducted for the BRA, while the commenter recorded 30, and concludes that the BRA and Draft EIR are deficient and should be withdrawn until comparative context is added.

The County has considered these points and does not agree that they identify a deficiency requiring revision or withdrawal of the Draft EIR. As to the survey documentation, BRA Section 2 reports that the field reconnaissance of the project site and a 500-foot buffer was conducted on Friday, November 10, 2023, under clear to partly cloudy conditions with temperatures of 57 to 63 degrees Fahrenheit, wind speed of 3 miles per hour, and humidity of 66 to 67 percent, and describes the methods used, including hand-mapping of plant communities on aerial photographs at approximately 1:300 scale with subsequent digitizing in ArcGIS Pro, classification of plant communities following the Manual of California Vegetation, and recording of all plant and wildlife species and diagnostic sign observed, with the use of binoculars and regional field guides. The BRA expressly states that no focused surveys for special-status species were conducted. As to the significance of that fact, the reconnaissance was not the basis for determining whether special-status species could occur. The reconnaissance mapped plant communities and potential aquatic features and characterized habitat conditions; that information was then combined with the literature and database review to assess each special-status species' potential to occur and the potential for impacts to habitat or individuals, as described in Response 13-UU. The Draft EIR therefore does not treat the absence of an observation during a single November reconnaissance as evidence that a species is absent. To the contrary, the BRA and Draft EIR identify several special-status species as having potential to occur notwithstanding that they were not observed, and the Draft EIR imposes mitigation requiring surveys at the time of, and appropriate to, the anticipated impact: **Mitigation Measure MM 4.3-3** requires a preconstruction rare plant survey within 30 days before ground disturbance; **MM 4.3-5** requires a preconstruction special-status wildlife survey of the disturbance area and a 500-foot buffer within 30 days before grading permit issuance or ground disturbance, with agency consultation and take authorization if species are present; **MM 4.3-6** requires preconstruction burrowing owl surveys with seasonal buffers and CDFW consultation before any passive relocation; **MM 4.3-8** requires San Joaquin kit fox surveys, avoidance buffers, and take authorization; **MM 4.3-9** through **MM 4.3-11** require nesting bird and Swainson's hawk surveys, including protocol-level Swainson's hawk surveys consistent with Swainson's Hawk Technical Advisory Committee (2000) methods, with active-nest buffers and timing restrictions; and **MM 4.3-12** requires a CDFW-approved protocol survey for Crotch's bumble bee during the blooming period immediately before construction. This framework directly addresses the detectability and seasonality concerns the comment raises, because the operative surveys occur before the impact and during the

appropriate season for the species at issue. CEQA permits reliance on habitat-based assessment coupled with preconstruction surveys and enforceable avoidance and permitting obligations where, as here, the EIR identifies the potential for special-status species occurrence and commits to protective action if those species are detected. As to the request for comparative findings from nearby surveys, neither CEQA nor the Appendix G criteria require a lead agency to present a comparative regional survey context in order to determine whether a project would substantially adversely affect a special-status species, and the comment does not explain how such a comparison would change any impact conclusion in Draft EIR Section 4.3. Because the Draft EIR discloses the survey basis, does not infer species absence from the reconnaissance, and imposes enforceable species-appropriate mitigation, withdrawal or recirculation of the Draft EIR is not warranted, and no revision is required.

Response 13-XX

This comment states that CNDDB records are misused in the Draft EIR, asserts that the desktop review was performed incorrectly and that onsite habitat was assessed by speculation rather than evidence, states that the BRA did not address 81 percent of the species that could occur on the site based on the potential-to-occur table, disputes the potential-to-occur determinations for Swainson's hawk and San Joaquin kit fox, and concludes that the potential-to-occur analysis for special-status species is unreliable. The County has considered these points and does not agree, for the following reasons. First, the CNDDB was not the sole source relied upon, and the absence of a CNDDB occurrence record was not treated as proof that a species could not occur on the project site. As described in BRA Section 2 and in Response 13-UU, the BRA used multiple lines of evidence, including the CNDDB, the CDFW Special Animals List, the CNPS Rare Plant Inventory, Calflora, Jepson eFlora, USFWS IPaC, USFWS critical habitat mapping, National Wetlands Inventory and National Hydrography Dataset data, NRCS soils data, aerial imagery, and site-specific field reconnaissance. The County acknowledges, as CDFW noted in its comment letter, that CNDDB records reflect voluntary submissions and are not a complete census of occurrences; that limitation is precisely why the Draft EIR does not rely on CNDDB alone and instead couples the database review with habitat assessment and enforceable preconstruction survey requirements. This issue is addressed further in Response 2-U. Second, the habitat characterizations the comment disputes are supported by observed site conditions rather than speculation. The BRA's discussion addresses the site's limited habitat suitability for many special-status species in light of its regularly disked condition, ruderal vegetation, and absence of certain structural habitat features such as shrubs; those findings are based on the plant community mapping and habitat assessment conducted during the field reconnaissance and are documented in the BRA's plant community mapping and photographic exhibits. The BRA does not purport to present a quantitative ecological productivity analysis, and the Appendix G criteria do not require one. Third, the Draft EIR does not rely on those habitat characterizations in isolation. It takes a conservative approach by identifying multiple special-status species as having potential to occur notwithstanding the site's disturbed condition, treating potential impacts to those species as potentially significant, and imposing mitigation requiring preconstruction surveys, species-specific avoidance, agency consultation, and permitting where warranted.

Fourth, with respect to Swainson's hawk and San Joaquin kit fox specifically, the BRA and Draft EIR do not conclude that these species are absent or unaffected. The BRA finds that the project site supports suitable foraging habitat for Swainson's hawk and that adjacent lands within disturbance distance of approximately one-half mile could support nesting, and the Draft EIR identifies San Joaquin kit fox as having potential to occur. The Draft EIR accordingly imposes species-specific mitigation for both, including **Mitigation Measure MM 4.3-**8 for San Joaquin kit fox and **MM 4.3-9** for Swainson's hawk, which requires protocol-level Swainson's hawk surveys consistent with Swainson's Hawk Technical

Advisory Committee (2000) methods. Both measures have been further strengthened in the Final EIR Errata in response to CDFW's comments, including the one-half-mile active-nest avoidance buffer, take authorization if avoidance is infeasible, and foraging habitat compensation consistent with CDFW guidance for Swainson's hawk, and revised avoidance, consultation, and take-authorization requirements for San Joaquin kit fox; see Responses 2-I through 2-L. The commenter's disagreement with the potential-to-occur categories assigned to these two species therefore does not affect the outcome of the analysis, because both species are carried forward as potentially affected and are subject to enforceable mitigation.

Fifth, as to the assertion that the BRA failed to address 81 percent of the species that could occur on the site, the potential-to-occur analysis in BRA Appendix C evaluates each special-status species identified through the nine-quadrangle database and literature review against the habitat conditions documented on the site, and species determined to have no potential or low potential to occur are addressed by that documented rationale. That is the standard approach to focusing an EIR's biological analysis on the resource categories identified in the applicable significance criteria, and CEQA Guidelines section 15143 directs an EIR to focus on significant effects. An EIR is not required to adopt a commenter's preferred methodology where the methodology used is reasonable, supported by substantial evidence, and sufficient to inform decision-makers of the project's potential impacts. Here, the BRA and Draft EIR provide a reasoned, site-specific biological analysis supported by database and literature review, plant community mapping, habitat evaluation, and mitigation tailored to the species with potential to occur. The comment does not identify significant new information that would require recirculation under CEQA Guidelines section 15088.5, and it does not identify a deficiency requiring withdrawal or recirculation of the Draft EIR.

For the reasons stated above, the County has considered the methodological criticisms raised in this comment and concludes that the Draft EIR's biological resources analysis is supported by substantial evidence and adequately discloses the project's potential impacts. No revision to the Draft EIR is required in response to this comment.

Response 13-YY

This comment reiterates that the wildlife community is mischaracterized, that the CNDDB was not properly used, and that no protocol-level detection surveys were implemented, and it presents a list of species records located near the site drawn in part from iNaturalist and eBird. The County has reviewed the records identified in the comment. As explained in Responses 13-UU and 13-XX, the BRA did not rely on the CNDDB alone and did not treat the absence of a database record as evidence that a species is absent; occurrence potential was assessed using multiple databases and literature sources together with site-specific habitat conditions documented during the November 10, 2023 field reconnaissance. With respect to iNaturalist and eBird, the County acknowledges that community-science platforms can provide useful information about species presence in a region. These platforms are not, however, systematically verified or vetted in the manner of the CNDDB or the CDFW Special Animals List, and CDFW has not identified them as the basis for determining occurrence potential for CEQA purposes. More significantly, the records the comment identifies would not change any impact conclusion in Draft EIR Section 4.3. The records reflect occurrences in the vicinity of the site rather than documented use of the site, and the Draft EIR already treats the special-status species with potential to occur as potentially affected and imposes preconstruction survey, avoidance, agency consultation, and take-authorization requirements in **Mitigation Measure MM 4.3-3**, **MM 4.3-5**, **MM 4.3-6**, **MM 4.3-8**, **MM 4.3-9**, and **MM 4.3-12** that apply if those species are detected before or during ground disturbance. The timing and adequacy of protocol-level surveys are addressed in Responses 13-WW, 13-LLL, 13-MMM, and 13-SSS. No revision to the Draft EIR is required in response to this comment.

Response 13-ZZ

This comment states the commenter's views on how a biological impact assessment should be performed under CEQA and disagrees with the BRA's conclusion that compensatory mitigation is not required for the loss of disturbed areas that do not constitute habitat for special-status species. The comment also states that no take of listed species is allowed. The County agrees that no unauthorized take of listed species may occur, and the Draft EIR's mitigation program is structured to ensure that any take is either avoided or authorized: **Mitigation Measure MM 4.3-3**, **MM 4.3-5**, **MM 4.3-6**, **MM 4.3-8**, **MM 4.3-9**, and **MM 4.3-12** require preconstruction surveys, avoidance measures, consultation with CDFW or USFWS, and acquisition of an ITP under Fish and Game Code section 2081 where take cannot be avoided.

As to compensatory mitigation for the loss of onsite vegetation, the County does not agree that CEQA requires compensatory mitigation for the loss of the ruderal areas on this site on the current record if they are not inhabited by special-status species. However, the revised mitigation measures establish that habitats occupied by special-status species at the time of preconstruction surveys shall be mitigated at a minimum ratio of 1:1, with the final ratio determined by CDFW during the consultation and permitting process. Specifically, **MM 4.3-6** and **MM 4.3-8**, and related measures have been updated to describe the need for habitat mitigation at a ratio that is determined during consultation with the resource agencies if the species are determined to be present and impacted by the project, with a minimum ratio of 1:1 for occupied habitat.

Under the applicable significance criteria, mitigation for the loss of a vegetation community is required where the community constitutes habitat for a special-status species, is a sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS, or functions as an important wildlife movement corridor. The BRA documents that the approximately 107 acres of ruderal and regularly disked areas on the project site are not classified by CDFW as a sensitive natural community, do not have a Global or State rarity rank of 1 through 3, and lack native habitat, and the Draft EIR concludes at Impact 4.3-2 that the project would have no impact on riparian habitat or other sensitive natural communities. The BRA and Draft EIR also conclude, based on the site's fragmentation from larger habitat blocks, that the site does not function as a wildlife movement corridor or habitat linkage; that conclusion is addressed in Response 13-BBB.

Where these areas may function as habitat for a special-status species that is later determined to be present, the Draft EIR's mitigation framework requires consultation with CDFW or USFWS and, where an ITP is required, compensatory mitigation established through that permitting process at the ratios and in the form determined by the permitting agency. The revised measures further clarify that a minimum compensatory ratio of 1:1 shall apply for occupied habitat, ensuring that no occupied habitat is lost without agency-determined compensation. Accordingly, the Draft EIR does not leave habitat loss for special-status species unmitigated; it ties compensatory obligations to confirmed presence and to the agency permitting process, with an established minimum ratio. No revision to the Draft EIR is required in response to this comment.

Response 13-AAA

This comment asserts that the project would result in the loss of approximately 1,647 birds per year as a result of habitat loss, that these birds are protected under the Migratory Bird Treaty Act and the Migratory Bird Protection Act, and that this constitutes an unmitigated significant impact. The County has considered this estimate and does not agree that it establishes a significant impact that the Draft EIR failed to disclose or mitigate. First, the estimate is a generalized mortality calculation derived from assumed densities rather than a project-specific analysis of effects on a resource category identified in the applicable significance criteria. Under CEQA Guidelines section 15064(f)(5), an effect is not treated as significant in the absence

of substantial evidence, and argument, speculation, or unsubstantiated opinion does not constitute substantial evidence. The applicable criteria ask whether the project would have a substantial adverse effect on a candidate, sensitive, or special-status species, on a sensitive natural community, on protected wetlands, on wildlife movement corridors or nursery sites, on local biological resource policies, or on an adopted conservation plan. The comment's aggregate mortality figure is not tied to any of those categories. Second, the Draft EIR does not overlook the loss of potential nesting habitat. The BRA documents that the project site is generally devoid of shrubs for nesting but includes approximately 103 acres of ruderal area that could provide ground-nesting habitat for birds protected under the Migratory Bird Treaty Act, the Migratory Bird Protection Act, and the Fish and Game Code, and the Draft EIR analyzes the removal of that habitat. Third, the Draft EIR imposes enforceable mitigation directed at the impact mechanism the comment identifies and includes compensatory mitigation for loss of habitat occupied by special-status species, which are the target of the CEQA impacts analysis thresholds. **Mitigation Measure MM 4.3-9** requires preconstruction nesting bird surveys, including a 500-foot survey buffer, if construction occurs during the nesting bird season of February 15 through September 15, together with project modification or delay to avoid direct take of identified nests, eggs, or young, and establishment of buffers around active raptor and special-concern nests, typically 250 feet for passerines and 500 feet for raptors, with construction prohibited within the buffer until young have fledged. **MM 4.3-10** requires preconstruction surveys during the raptor and migratory bird breeding season of February 1 through August 31, with buffer distances or timing adjustments determined by a qualified biologist to prevent nest abandonment or destruction of eggs or young. **MM 4.3-11** prohibits vegetation removal in areas containing active nests and requires biological monitoring and reporting before site preparation. With these measures, the Draft EIR concludes that direct impacts to nesting migratory birds and raptors would be less than significant. Fourth, compliance with the Migratory Bird Treaty Act and the Migratory Bird Protection Act is an independent regulatory obligation that the project must satisfy; the measures identified above ensure that the project's activities are conducted consistent with those statutes. For these reasons, the County concludes that the Draft EIR's analysis and mitigation adequately address the loss of potential nesting bird habitat, and no revision to the Draft EIR is required.

Response 13-BBB

This comment states that the Draft EIR fails to address impacts to wildlife movement areas. The County does not agree, because the BRA and Draft EIR expressly analyze wildlife movement and habitat connectivity and reach a conclusion supported by mapped and narrative evidence. The BRA states that there is open space to the north of the study area that connects to the oil fields to the north and east and to the BCER to the west, and it acknowledges that the BCER supports local wildlife movement. The BRA further explains that the BCER, the project site, and the surrounding areas are isolated from larger areas of wildlife habitat and therefore provide no regional habitat linkages and limited wildlife movement opportunities. The BRA includes maps and a written description documenting that the nearest block of habitat that is not isolated and that provides connectivity for special-status wildlife is undeveloped land approximately three miles to the northeast of the study area, within the foothills of the Sierra Nevada, and that the intervening area consists of large expanses of oil field development that act as a barrier to movement. The BRA also documents that the BCER is located approximately 1,500 feet from the project boundary and that barriers exist between the project site and the reserve, including Petrol Road and large commercial and industrial developments visible in the aerial photographs in the BRA figures. On this evidence, the BRA concludes that the project site does not function as a valuable habitat linkage or wildlife movement corridor and that the project would not substantially interfere with an established or regionally significant wildlife movement corridor, habitat linkage, or stepping-stone habitat connecting substantial areas of natural habitat.

Draft EIR Impact 4.3-4 addresses this criterion directly and concludes that, with implementation of **Mitigation Measures MM 4.3-9** through **MM 4.3-11**, impacts related to interference with the movement of native resident or migratory wildlife species and with established wildlife corridors and nursery sites would be less than significant. The relevant inquiry under the applicable significance criteria is whether the project would interfere substantially with wildlife movement or with an established corridor, not whether any individual animal movement would be affected. Substantial evidence in the BRA and Draft EIR supports the conclusion that the project site is not an established wildlife movement corridor and that impacts related to movement in the immediate area would be less than significant.

With respect to the commenter's citation to federal recovery-planning documents, the County provides the following additional response.

First, the commenter refers to "Recovery Units 10 and 11" as encompassing the project site. This characterization is inaccurate. The USFWS 2010 Five-Year Review for the San Joaquin Kit Fox (USFWS 2010) designates S10 (Northeast Bakersfield) and S11 (Metropolitan Bakersfield) as "satellite areas" — not "Recovery Units." Satellite areas, as classified in the 2010 review, are smaller, geographically distinct subpopulations that are monitored for stability but do not carry the same conservation-priority designation as Core Areas (which are designated with a "C" prefix) or Linkage Areas. Both S10 and S11 were classified as "Stable" in the 2010 assessment. The correct classification matters because the commenter's use of the term "Recovery Units" implies a conservation-priority designation that these areas do not carry in the applicable federal recovery-framework documents.

Second, the commenter cites Cypher et al. (2013) for the proposition that mapped kit fox movement corridors include the project site. This fundamentally mischaracterizes that study. Cypher et al. (2013) is a GIS-based habitat suitability model; it does not map movement corridors, does not track animal movements, and does not assess functional connectivity between specific parcels. The model classifies the entire San Joaquin kit fox range into high, medium, and low suitability habitat categories using four remotely sensed variables: land use/land cover, terrain ruggedness, vegetation density, and oil-well density. Under this model, the project site's current conditions as a ruderal/grassland vegetation would be classified at most as medium suitability (grassland/ruderal cover receives a score of 75 on the 0-100 scale), with low suitability of the intervening oil-field areas (score of 65) between the project site and larger habitat blocks further reduced by the model's active-oil-well-density factor. The study does not demonstrate that a specific parcel currently functions as a movement corridor or habitat linkage.

More significantly, Cypher's own findings undermine the commenter's implied conclusion. The study reports that "the apparent absence of persistent kit fox populations in highly fragmented areas or in areas with primarily medium suitability habitat is striking." Cypher further states that "actual occupancy of suitable habitat by foxes should be confirmed through field surveys" because the model identifies potential habitat, not confirmed use. No persistent populations of kit foxes are known to occur in areas with only medium suitability habitat and the region has medium potential and large areas of low potential within the oil fields to the north. The project site, regularly disked ruderal land isolated from larger blocks of relatively intact habitat with demonstrated connectivity to other occupied special-status species habitat by approximately three miles of oil-field development, is precisely the type of fragmented, medium-suitability area where Cypher found kit fox populations do not persist.

Third, the textual descriptions and priority-locality designations in the 1998 Recovery Plan identify the Kern Fan Element and Kern River Alluvial Fan Area, located to the west and southwest of the Bakersfield metropolitan area, as the relevant Bakersfield-area linkages for San Joaquin kit fox (Recovery Tasks 2.1.3

and 5.1.6). The Recovery Plan does not name the project site or its immediate vicinity as a corridor, linkage, core area, or priority locality. The regional-scale maps in these documents cover multiple counties and do not support parcel-level determinations regarding functional connectivity.

Fourth, the 2010 Five-Year Review's discussion of "important kit fox linkage" concerns the connection between the Metropolitan Bakersfield sub-populations and the Western Kern County Core Area along the western city periphery, specifically, the Kern Water Bank and Coles Levee Ecosystem Preserve, not the eastern urban edge where the project site is located. The review's concern about development threatening this linkage relates to the Rosedale, Riverlakes, and Northwest Bakersfield growth areas, which are geographically and ecologically distinct from the project site. The County acknowledges that development on the western periphery of Bakersfield may pose concerns for the western linkage; that concern is not pertinent to a project site on the northeastern periphery separated from the nearest connected habitat by three miles of oil-field infrastructure.

Fifth, the 2010 Five-Year Review confirmed no change in listing status; the species remains Endangered. The BRA acknowledges that San Joaquin kit fox has potential to occur on and transiently use the project site, but transient use by individual animals does not establish that a site functions as an "established" movement corridor under the applicable CEQA significance criterion. The mitigation measures, including **MM 4.3-8** with its preconstruction kit fox surveys, avoidance buffers, CDFW/USFWS consultation, and take-authorization requirements, are specifically designed to address potential impacts to individual kit foxes that may use the site.

In summary, the County has reviewed the federal recovery-planning documents cited by the commenter and concludes that none of them identifies the project site as a corridor, linkage, core area, reserve area, or specialty reserve. The commenter's characterization of Cypher et al. (2013) as mapping "movement corridors" that include this site misrepresents what that study actually states. The BRA's site-specific analysis, based on field reconnaissance, aerial photograph interpretation, barrier mapping, and regional habitat connectivity assessment, constitutes substantial evidence that the project site does not function as an established wildlife movement corridor, and that finding is consistent with, rather than contradicted by, the federal recovery-framework documents. Related lighting and connectivity issues raised by CDFW are addressed in Responses 2-P and 2-Q; the expert opinion of the BRA author regarding site isolation and corridor function is set forth in the Technical Memorandum of Matthew South (August 2026), which is included in the administrative record. No revision to the Draft EIR is required in response to this comment.

Response 13-CCC

This comment states generally that traffic kills wildlife. The County acknowledges that vehicle collisions are a recognized source of wildlife mortality. The comment does not identify a project-specific effect, a roadway segment, or a species for which the Draft EIR’s analysis is asserted to be inadequate, and under CEQA Guidelines section 15088(c) the level of detail in a response may correspond to the level of detail in the comment. The comment’s quantified estimate of project-related wildlife mortality from traffic is addressed in Response 13-DDD, the associated cumulative assertions are addressed in Response 13-FFF, and the request for compensatory mitigation and funding for wildlife rehabilitation facilities is addressed in Response 13-TTT. No revision to the Draft EIR is required in response to this comment.

Response 13-DDD

This comment applies a predictive model to estimate that 1,479 wildlife fatalities would result from project-generated traffic and asserts that this would be a significant impact under CEQA. The County has

considered this estimate and does not agree that it establishes a significant impact requiring additional analysis or mitigation, for the following reasons. First, the applicable significance criteria, drawn from the Kern County CEQA Implementation Document and Kern County Environmental Checklist and CEQA Guidelines Appendix G, do not establish a numeric threshold for wildlife mortality from vehicle collisions. The criteria ask whether the project would have a substantial adverse effect on a candidate, sensitive, or special-status species, on a sensitive natural community, on protected wetlands, on wildlife movement corridors or native wildlife nursery sites, on local biological resource policies, or on an adopted conservation plan. Second, the comment's aggregate estimate is not tied to any of those categories. It does not identify a special-status species that would be affected, does not quantify effects on any local population, and does not identify a roadway segment or movement pathway where project traffic would substantially interfere with wildlife movement. Under CEQA Guidelines section 15064(f)(5), an effect is not treated as significant in the absence of substantial evidence, and argument, speculation, or unsubstantiated opinion does not constitute substantial evidence of a significant effect. Third, the record supports the conclusion that the potential for project traffic to substantially affect wildlife is low. As documented in the BRA and discussed in Response 13-BBB, the project site is surrounded by existing industrial, commercial, and oil field development, is separated from the nearest connected habitat block by approximately three miles of oil field development, and does not function as a wildlife movement corridor or habitat linkage; the roadways serving the site are existing roadways in a developed area already carrying vehicle traffic. Fourth, to the extent project traffic could affect special-status species that are later determined to be present, the Draft EIR's mitigation framework addresses that exposure through **Mitigation Measure MM 4.3-1**, which requires a CDFW-qualified Lead Biologist with authority to halt activities that violate species protection measures; **MM 4.3-2**, which requires worker environmental awareness training; and **MM 4.3-4**, which imposes construction avoidance and protective measures including confinement of activities to designated areas and inspection of equipment and stockpiles. Because CEQA does not require the analysis the comment presents and the comment does not supply substantial evidence of a significant effect on a resource category identified in the applicable criteria, no revision to the Draft EIR is required.

Response 13-EEE

This comment suggests that the proposed security fence would result in significant impacts to birds that would be killed getting tangled in the fence. The commenter extrapolates mortality data from security fencing at utility-scale solar projects to predict that the project's perimeter fence would kill approximately 46 birds per year and characterizes this as a significant unmitigated impact.

The County does not agree that the proposed security fence would result in a significant impact. Under CEQA Guidelines section 15064(f)(5), an effect shall not be considered significant in the absence of substantial evidence. The commenter's mortality estimate is derived entirely from fatality monitoring at utility-scale solar projects, where the "lake effect" created by solar panels draws birds — particularly waterfowl — to land on what appears to be water. That attractant mechanism does not exist at the project site; perimeter fencing would surround developed industrial warehouse buildings that do not constitute habitat for birds and would not attract birds in the manner of a solar facility. The commenter has not presented substantial evidence that fencing around an industrial facility would have a substantial adverse effect on any candidate, sensitive, or special-status species identified in local or regional plans, policies, or regulations or by CDFW or USFWS. The commenter's mortality estimate does not identify which, if any, special-status species would be affected, does not account for the absence of the solar-panel attractant mechanism at this site, and does not establish that the predicted mortality, even if it occurred, would constitute a substantial adverse effect on the species rather than incidental mortality of common, non-listed

birds. The extrapolation from an inapposite setting does not constitute substantial evidence of a significant effect. On this record, the impact is less than significant.

Although no mitigation is required, the project proponent has elected to implement bird-safe fencing design standards as an enforceable Project Design Feature (PDF-BIO-1), which will be included as a condition of approval for the project. PDF-BIO-1 further reduces the already less-than-significant potential for bird collision by requiring that project perimeter fencing be designed and installed consistent with the U.S. Fish and Wildlife Service Nationwide Avoidance and Minimization Measures (Version 2, Updated July 2024), including the following specific standards:

(a) No flexible nylon or polypropylene netting (sometimes marketed as "bird netting") shall be used, as such materials can entrap and kill birds;

(b) Any netting, fencing mesh, or exclusion material used shall have no opening or mesh size greater than 3/4 inch;

(c) All vertical pipes and holes less than 12 inches in diameter, including chain-link fence posts, shall be capped or sealed at the time of installation to prevent bird entrapment; and

(d) Anti-perching devices shall be installed on facilities and equipment where birds may commonly nest or perch in proximity to hazardous project features.

Because the impact is less than significant on the existing record, no CEQA mitigation measure is required. PDF-BIO-1 is adopted as an enforceable condition of approval that further reduces the potential for bird collision with project fencing. No revision to the Draft EIR's significance conclusion is warranted.

Response 13-FFF

This comment asserts that the Draft EIR's cumulative impacts analysis for biological resources is inadequate. The comment raises four principal points: that the cumulative projects list totals approximately 6,798 acres; that applying assumed nest densities to that acreage projects significant avian mortality; that habitat fragmentation is a distinct cumulative mechanism; and that the commenter's before-after study demonstrates project-level mitigation does not avoid cumulative impacts.

The County responds as follows:

As to disclosure, the Final EIR Errata revises Table 3-7 to include the total acreage of the listed cumulative projects, so that the scale of cumulative development is stated directly. As to the aggregate bird loss estimate, that figure is derived from generalized assumed densities rather than project-specific analysis tied to a resource category identified in the applicable significance criteria. Under CEQA Guidelines section 15064(f)(5), an effect is not treated as significant in the absence of substantial evidence. The applicable criteria ask whether the project would have a substantial adverse effect on a candidate, sensitive, or special-status species, on a sensitive natural community, on protected wetlands, on wildlife movement corridors or nursery sites, on local biological resource policies, or on an adopted conservation plan.

As to habitat fragmentation, the County agrees that fragmentation is a recognized cumulative mechanism distinct from the loss of habitat acreage. The relevant question under CEQA Guidelines section 15130 is whether this project's incremental contribution to that effect would be cumulatively considerable. As documented in the BRA and discussed in Response 13-BBB, the project site is separated from the nearest connected habitat block by approximately three miles of oil field development and is bounded by an existing tank farm, an industrial logistics facility, and surrounding development; the BRA concludes that the site

does not function as a wildlife movement corridor or habitat linkage. Because the site is already isolated from larger habitat blocks, its development would not sever a connection between habitat areas or further subdivide a contiguous habitat block, and the project's incremental contribution to regional fragmentation would not be cumulatively considerable. This conclusion is further supported by Cypher et al. (2013), whose own findings report the "apparent absence of persistent kit fox populations in highly fragmented areas or in areas with primarily medium suitability habitat," indicating that the loss of this type of regularly disked, isolated ruderal land would not meaningfully affect regional kit fox population dynamics.

As to the commenter's before-after study, the County has considered the study and does not disregard it. However, the study does not address the condition of this project site, does not identify the species or resource whose regional status is alleged to be affected, and does not establish that this project's incremental contribution would be cumulatively considerable.

With respect to compensatory mitigation, the County clarifies the following. For Swainson's hawk, **Mitigation Measure MM 4.3-9** as revised in the Final EIR Errata requires compensatory mitigation for permanent impacts to foraging habitat near an active nest at ratios keyed to the distance between the project site and the nearest active nest. For the other special-status species identified as having potential to occur, the revised mitigation measures establish that habitats occupied by special-status species at the time of preconstruction surveys shall be mitigated at a minimum ratio of 1:1, with the final ratio determined by CDFW during the consultation and permitting process. Where an ITP is required, the mitigation obligations, including any compensatory habitat requirements and ratios, are established by the permitting agency through that process and are required by statute to be roughly proportional to the impact and fully mitigating. The overall cumulative loss of fewer than 7,000 acres of ruderal or disturbed areas represents a very minor fraction of the undeveloped areas available in the region, considering the millions of acres of ruderal and undeveloped lands in the southern San Joaquin Valley. With the revision to Table 3-7 described above, no further revision to the Draft EIR is required in response to this comment.

Response 13-GGG

This comment states that the Draft EIR's mitigation strategy is flawed because it does not implement the assessment and mitigation approach depicted in the flow charts presented in the commenter's letter. The County has considered the recommended approach and does not adopt it. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended by a commenter, and an EIR need not adopt a commenter's preferred methodology where the methodology used is reasonable, supported by substantial evidence, and sufficient to inform decision-makers of the project's potential impacts. As described in Responses 13-UU, 13-VV, and 13-WW, the BRA and Draft EIR used a database and literature review across a nine-quadrangle search area, plant community mapping and habitat assessment from the November 10, 2023, field reconnaissance, and a species-by-species occurrence-potential evaluation to identify the special-status species that could be affected. The Draft EIR then imposes **Mitigation Measure MM 4.3-1** through **MM 4.3-12** that are specific, enforceable, and tied to identified performance standards and agency requirements, including a CDFW-qualified Lead Biologist with stop-work authority, worker environmental awareness training, construction avoidance and protective measures, preconstruction rare plant and special-status wildlife surveys, species-specific burrowing owl, San Joaquin kit fox, Swainson's hawk, nesting bird, and Crotch's bumble bee measures with defined survey timing and buffer distances, and consultation with CDFW or USFWS and acquisition of an ITP where take cannot be avoided. Several of these measures were further strengthened in the Final EIR Errata in response to CDFW's recommendations; see Responses 2-I through 2-N. To the extent the comment identifies specific recommended revisions to individual measures, those recommendations are addressed measure by measure

in Responses 13-HHH through 13-SSS, and the County has accepted certain of them, including the revisions to **MM 4.3-6**. No further revision to the Draft EIR is required in response to this general comment.

Response 13-HHH

This comment restates **Mitigation Measure MM 4.3-1**, states that the commenter agrees with the measure in principle, and recommends that the measure be revised to specify the qualifications CDFW must require when approving a Lead Biologist. The County does not agree that the recommended revision is necessary, because **MM 4.3-1** already establishes an objective qualification standard. **MM 4.3-1** requires that, prior to the issuance of grading permits, the project operator retain a Lead Biologist who meets the qualifications of an Authorized Biologist as defined by CDFW, to oversee compliance with protection measures for all listed and other special-status species that may be affected by construction and operation of the project, and requires that the resume and contact information for the Lead Biologist be provided in writing to the Kern County Planning and Natural Resources Department. The measure further requires that the Lead Biologist or a designee be present on the project site during all construction activities, including installation of perimeter fencing, vegetation clearing, grading, and facility construction, and grants the Lead Biologist or designee the right to halt any activity that violates special-status species protection measures or any regulatory permit issued by USFWS or CDFW, with work resuming only after hazards to special-status species are removed and the species is no longer at risk. Because the measure incorporates CDFW's own Authorized Biologist standard, provides for County review of the biologist's qualifications, and includes enforceable stop-work authority, it is not vague or unenforceable, and restating CDFW's qualification criteria within the measure would not increase its effectiveness. The measure also appropriately reflects CDFW's role as the trustee agency for the State's fish and wildlife resources, including in approving biologists who implement species protection measures. CDFW concurred with **MM 4.3-1** in its comment letter; see Response 2-F. No revision to the Draft EIR is required in response to this comment.

Response 13-III

This comment restates **Mitigation Measure MM 4.3-2** and asserts that the Worker Environmental Awareness Training Program would not reduce project impacts, that the Draft EIR is misleading in suggesting that the measure would increase worker awareness, and that workers should not be expected to adhere to the measures in the program. The County does not agree. **MM 4.3-2** requires that, prior to the issuance of grading permits, the Lead Biologist develop a Worker Environmental Awareness Training Program containing life history and identification information for the special-status wildlife and plant species with potential to occur on the site. The program must address responsibilities for all on-site personnel, including trash control, checking under and around vehicles and heavy equipment before starting, scanning for wildlife resources, contacting the Lead Biologist in the unanticipated event that special-status wildlife is encountered, and the prohibition of pets and firearms, and all on-site personnel are required to attend the training. The measure functions in combination with **MM 4.3-1**, which requires a CDFW-qualified Lead Biologist or designee to be present during all construction activities with authority to halt any activity that violates species protection measures, and with **MM 4.3-4**, which imposes preconstruction visual surveys, delineation of sensitive biological resources with stakes or flagging, confinement of activities to designated construction areas, and inspection of stockpiles for special-status wildlife. Worker awareness training is therefore not a standalone behavioral request; it is one component of a program in which compliance is monitored and enforced by the Lead Biologist and is a condition of project approval enforceable by the County. Training of this kind is a recognized avoidance and minimization measure, and CDFW concurred with the Worker Environmental Awareness Training Program in its comment letter; see Response 2-F. Because the measure has identified content, mandatory

attendance, and independent onsite monitoring and enforcement, the County concludes that it contributes to reducing the potential for inadvertent impacts to special-status species, and no revision to the Draft EIR is required.

Response 13-JJJ

This comment states that the preconstruction survey required by **Mitigation Measure MM 4.3-3** is inadequate because it is not a protocol-level rare plant survey conducted before circulation of the Draft EIR and asserts that a preconstruction survey cannot substitute for a protocol-level detection survey consistent with CDFW's 2018 rare plant survey protocols. The County has considered this recommendation and concludes that **MM 4.3-3** is adequate for the species at issue, for reasons specific to the biology of Bakersfield cactus. **MM 4.3-3** requires that, no more than 30 days prior to the start of ground disturbance or the issuance of any grading permits, a qualified biologist knowledgeable in the identification of rare plant species conduct a preconstruction plant survey of the areas proposed for disturbance within the project site and a 100-foot buffer, where legally accessible, to determine whether special-status plant species are present, and that if special-status plants are identified their locations be mapped and the project proponent confer with CDFW or USFWS as required by applicable law to facilitate salvage or seed collection. The seasonal detectability concern that underlies the CDFW protocols for rare plants does not apply to Bakersfield cactus in the same way it does to annual or ephemeral species: Bakersfield cactus is a perennial succulent that is present and visually identifiable year-round, so a survey conducted immediately before ground disturbance will reliably detect and allow mapping of any individuals present within the disturbance footprint. As recommended in the BRA, the preconstruction rare plant survey is to be conducted to the standard of the USFWS Guidelines for Conducting and Reporting Botanical Inventories of Federally Listed, Proposed, and Candidate Plants (2000) and the CDFW 2018 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities, with particular focus on identification of any Bakersfield cactus on the project site. In addition, and consistent with the BRA's recommendation, the Final EIR Errata revises **MM 4.3-3** to require that, if impacts to a listed plant species including Bakersfield cactus cannot be avoided, the project proponent obtain take authorization through an ITP prior to the impact, and to require a no-disturbance buffer of at least 50 feet around any special-status plant population identified during the survey where avoidance is feasible. With these requirements, the measure would ensure that Bakersfield cactus is identified, mapped, and avoided where feasible, and that any unavoidable impact is authorized and mitigated through the applicable permitting process. No further revision to the Draft EIR is required in response to this comment.

Response 13-KKK

This comment restates the best management practices in **Mitigation Measure MM 4.3-4**, states that the commenter concurs with their implementation, and adds that these measures would not avoid habitat loss, habitat fragmentation, or wildlife mortality from vehicle collisions, and that their conservation benefit would be minimal relative to project impacts. The County acknowledges the commenter's concurrence with **MM 4.3-4** and clarifies the role the measure plays in the analysis. **MM 4.3-4** is directed at avoiding and minimizing construction-related impacts to special-status species that may be present in or adjacent to the work area, and it requires, among other things, a preconstruction visual survey by the Lead Biologist or designee immediately prior to vegetation clearing with daily reports retained and provided to the County, USFWS, or CDFW on request; delineation of sensitive biological resources with stakes or flagging in the vicinity of construction activities; confinement of all construction activities within the designated construction area, including temporary access roads, haul roads, and staging areas, with no equipment or personnel permitted to affect areas outside the project site; stockpiling of spoils in disturbed areas lacking

native vegetation to the maximum extent practicable, with inspection by a qualified biologist of stockpiles inactive for more than 24 hours before they are moved or disturbed; and restrictions on herbicide use consistent with applicable federal and State requirements and any additional restrictions imposed by USFWS or CDFW. **MM 4.3-4** is not the measure on which the Draft EIR relies to address the loss of potential habitat or effects on wildlife movement. Habitat loss for special-status species is addressed through the preconstruction survey, avoidance, consultation, compensatory occupied habitat mitigation, and take-authorization requirements of **MM 4.3-3**, **MM 4.3-5**, **MM 4.3-6**, **MM 4.3-8**, **MM 4.3-9**, and **MM 4.3-12**, under which compensatory obligations are established through the applicable permitting process; wildlife movement and connectivity are addressed in Draft EIR Impact 4.3-4 and Response 13-BBB; and wildlife mortality from vehicle collisions is addressed in Responses 13-DDD and 13-TTT. No revision to the Draft EIR is required in response to this comment.

Response 13-LLL

This comment states that **Mitigation Measure MM 4.3-5** does not achieve CEQA's objectives of accurately characterizing the environmental setting, disclosing impacts, and formulating an effective mitigation strategy, because it substitutes a preconstruction survey conducted after circulation of the Draft EIR for the protocol-level detection surveys the commenter believes should have been completed beforehand. The comment also notes that the measure directs a single biologist to survey for all special-status species simultaneously, whereas protocol-level detection surveys are typically species-specific. The County has considered these points and does not agree that **MM 4.3-5** is inadequate, for the following reasons. First, the Draft EIR does not rely on **MM 4.3-5** to characterize the environmental setting or to disclose impacts. The setting and impact analysis rest on the database and literature review, the plant community mapping and habitat assessment from the November 10, 2023, field reconnaissance, and the species-by-species occurrence-potential evaluation described in Responses 13-UU and 13-WW. Based on that analysis, the Draft EIR discloses that multiple special-status species have the potential to occur, treats the resulting impacts as potentially significant, and does not assume absence. The public and decision-makers were therefore informed of the potential for these species to be present and of the mitigation that would apply. Second, the function of **MM 4.3-5** is to confirm conditions at the time of the impact and to trigger agency-directed protection if species are present. **MM 4.3-5** requires that, no more than 30 days prior to the issuance of any grading permits or the start of ground disturbance, a qualified biologist knowledgeable in the identification of all special-status wildlife species conduct a preconstruction survey of the areas proposed for disturbance within the project site and a 500-foot buffer, where legally accessible, to determine whether special-status species are present, and that if special-status species are present the project proponent confer with USFWS or CDFW, as required by applicable law, for proper avoidance measures or for take authorization through acquisition of an ITP under Fish and Game Code section 2081(d). Because habitat conditions and species occupancy can change between environmental review and construction, a survey immediately preceding ground disturbance provides information that a survey conducted years earlier could not. Third, **MM 4.3-5** does not stand alone or substitute for species-specific survey requirements. The Draft EIR separately requires species-appropriate, season-appropriate surveys for the species where detectability is a genuine concern, including burrowing owl surveys under **MM 4.3-6**, San Joaquin kit fox surveys under **MM 4.3-8**, protocol-level Swainson's hawk surveys consistent with Swainson's Hawk Technical Advisory Committee (2000) methods and nesting bird surveys under **MM 4.3-9** through **MM 4.3-11**, and a CDFW-approved protocol survey for Crotch's bumble bee during the blooming period under **MM 4.3-12**. Fourth, CEQA does not require a lead agency to conduct every study a commenter requests; where the EIR identifies the potential for special-status species to occur, treats the impact as potentially significant, and imposes enforceable survey, avoidance, consultation, and permitting

requirements that must be satisfied before ground disturbance, the analysis is sufficient without protocol-level surveys for every species during the review period. Related comments regarding survey timing and CNDDB limitations are addressed in Responses 2-U and 13-WW. No revision to the Draft EIR is required in response to this comment.

Response 13-MMM

This comment restates **Mitigation Measure MM 4.3-6** and asserts that the measure is inadequate because it does not require a protocol-level breeding season survey for western burrowing owl and does not require two preconstruction surveys, recommending one no fewer than 14 days prior to and one within 24 hours of the commencement of ground-disturbing activities, each conducted by a CDFW-approved qualified biologist. The County accepts the recommendation in part. As reflected in the Final EIR Errata, **MM 4.3-6** has been revised to require two preconstruction surveys, timed as the comment recommends, conducted by a qualified, CDFW-approved biologist. **MM 4.3-6** also continues to require that surveys locate active breeding or wintering burrowing owl burrows, permits phased surveys so that each survey occurs within the applicable period before disturbance of that portion of the site, establishes seasonal no-disturbance buffers around occupied burrows that vary by season and level of disturbance, and provides that where burrow avoidance is infeasible a qualified biologist shall implement passive relocation in accordance with Appendix E1 of the 2012 CDFW Staff Report on Burrowing Owl Mitigation, with preparation of a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan for CDFW review prior to passive relocation. In response to CDFW's comments, **MM 4.3-6** has been further revised in the Final EIR Errata to provide that passive relocation may occur only after the project proponent has consulted with CDFW regarding how to implement the project and avoid take of burrowing owl, and that if take cannot be avoided, take authorization through acquisition of an ITP is required to comply with CESA; see Responses 2-M and 2-N. The County does not agree that a protocol-level breeding season survey must be completed before certification of the EIR. The Draft EIR does not assume that burrowing owl is absent; it concludes that burrowing owl has a high potential to occur based on the habitat assessment, treats potential impacts as potentially significant, and imposes the survey, buffer, consultation, and take-authorization requirements described above. The two preconstruction surveys, conducted immediately before disturbance of each area, are the surveys that determine whether owls are present at the time of the impact, which is when avoidance and take authorization obligations attach. Because the Draft EIR discloses the potential for occupancy and imposes enforceable, agency-coordinated protection, an additional protocol-level breeding season survey during the review period is not required to support the impact conclusion. With the revisions described above, no further revision to **MM 4.3-6** is required in response to this comment.

Response 13-NNN

This comment restates **Mitigation Measure MM 4.3-7** and recommends that it be consolidated into the best management practices measure, **MM 4.3-4**. The County does not adopt this recommendation, because **MM 4.3-7** addresses a distinct impact mechanism and is more effective as a standalone requirement. **MM 4.3-7** requires that, if nighttime lighting for construction activities or operations is required within 50 feet of the outside edge of areas containing habitat for special-status wildlife, as determined by the qualified biologist, that lighting be directed away from those habitat areas. Unlike the construction-phase avoidance practices in **MM 4.3-4** and **MM 4.3-7** applies to both construction and long-term operations and addresses indirect lighting effects on special-status wildlife. Draft EIR Section 4.3 relies on **MM 4.3-7** as part of the basis for concluding that potential indirect impacts to burrowing owl and other special-status wildlife would be less than significant, and **MM 4.3-7** operates together with **MM 4.1-4**, which requires submittal of a lighting plan before building permits demonstrating continuous compliance with the County's Outdoor

Lighting and Dark Skies Ordinance, minimum illumination for safety and security, downward direction and shielding, focused illumination, and avoidance of light trespass onto adjacent properties and roadways. Maintaining **MM 4.3-7** as a separate, independently monitored measure preserves the clarity of the MMRP and the traceability between the identified indirect lighting impact and the required mitigation. Related lighting comments from CDFW are addressed in Responses 2-P and 2-Q. Because the comment does not identify a deficiency in the substance of **MM 4.3-7** and consolidation would not increase its effectiveness, no revision to the Draft EIR is required.

Response 13-OOO

This comment restates **Mitigation Measure MM 4.3-8** and asserts that the measure is largely redundant of other measures, that it defers detection surveys, that it would not avoid the permanent loss of habitat or productive capacity for San Joaquin kit fox, and that its conservation benefit would be minimal relative to project impacts. The comment also references the project's security fencing and the commenter's citation to Cypher et al. (2013) regarding kit fox movement corridors.

The County has considered these points. First, **MM 4.3-8** is not redundant. It imposes San Joaquin kit fox specific requirements that do not appear in the other measures, including preconstruction den surveys, establishment of no-disturbance buffers around dens in accordance with the Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011), management of the security fence to allow kit fox passage during construction, capping of vertical tubes, notification of USFWS and CDFW under specified circumstances, and acquisition of an ITP if take of San Joaquin kit fox cannot be avoided. In response to CDFW's comments, **MM 4.3-8** has been revised in the Final EIR Errata to reflect these agency guidance and permitting requirements; see Responses 2-I and 2-J.

Second, as to the permanent loss of habitat and productive capacity, the revised mitigation measures now establish that habitats occupied by special-status species at the time of preconstruction surveys shall be mitigated at a minimum ratio of 1:1, with the final ratio determined by CDFW during the consultation and permitting process. This ensures that if kit foxes are confirmed present and take cannot be avoided, compensatory habitat will be secured at a ratio determined by the permitting agency, with a floor of 1:1.

Third, with respect to the commenter's citation to Cypher et al. (2013) and the USFWS recovery-planning documents, the County provides the following clarification. The commenter's reference to "Recovery Units 10 and 11" mischaracterizes the 2010 Five-Year Review for the San Joaquin Kit Fox (USFWS 2010), which designates S10 (Northeast Bakersfield) and S11 (Metropolitan Bakersfield) as "satellite areas" — not "Recovery Units." Satellite areas are smaller, geographically distinct subpopulations monitored for stability; they do not carry the same conservation-priority designation as Core Areas or Linkage Areas. Both S10 and S11 were classified as "Stable" in the 2010 assessment. Further, Cypher et al. (2013) is a GIS-based habitat suitability model that classifies landscape into suitability categories; it does not map movement corridors, does not track animal movements, and does not assess functional connectivity between specific parcels. The model's own findings report the "apparent absence of persistent kit fox populations in highly fragmented areas or in areas with primarily medium suitability habitat." A detailed analysis of these federal recovery-planning documents and their relationship to the project site is set forth in Response 13-BBB. Fourth, the fencing concern is addressed in Response 13-EEE and by the kit fox passage and vertical tube capping requirements of **MM 4.3-8**. No revision to the Draft EIR is required in response to this comment.

Response 13-PPP

This comment restates **Mitigation Measure MM 4.3-9** and states that the measure requires no compensatory mitigation for the loss of approximately 110 acres of Swainson's hawk foraging habitat. The County has considered this point and has strengthened **MM 4.3-9** in response to related comments from CDFW. **MM 4.3-9** requires that, if construction activities occur during the typical nesting bird season of February 15 through September 15, preconstruction surveys be conducted by a qualified biologist prior to any site preparation or construction activity to identify potential nesting bird activity, with a survey area including a 500-foot buffer surrounding the property, and that Swainson's hawk protocol-level surveys be consistent with the survey methods developed by the Swainson's Hawk Technical Advisory Committee (2000). If active nests are identified, the measure requires that the project be modified or delayed as necessary to avoid direct take of identified nests, eggs, or young; that appropriate buffers be established around active raptor and special-concern nest sites, with construction prohibited within the buffer until the young have fledged and achieved independence; and that active nests be documented and a letter report submitted to the Kern County Planning and Natural Resources Department documenting compliance with the Migratory Bird Treaty Act and the Fish and Game Code. As reflected in the Final EIR Errata and in response to CDFW's comments, **MM 4.3-9** has been revised to increase the no-work buffer for active Swainson's hawk nests from 500 feet to one-half mile; to require additional protocol-level surveys if the project start is delayed to a subsequent nesting season; to require acquisition of an ITP if an active nest cannot be avoided by the one-half-mile buffer; and to require compensatory mitigation for foraging habitat where active nests are present near the project site, consistent with the applicable CDFW guidance, including the Swainson's Hawk Technical Advisory Committee guidance; see Responses 2-K and 2-L. Accordingly, the measure now expressly addresses foraging habitat compensation where the record supports it, and the amount and form of that compensation would be established through consultation with CDFW and, where required, the ITP process. The County does not agree that the measure must restate the CDFW guidance in full; incorporation of the guidance by reference establishes an objective performance standard against which compliance can be measured. No further revision to the Draft EIR is required in response to this comment.

Response 13-QQQ

This comment restates **Mitigation Measure MM 4.3-10** and asserts that the measure includes no compensatory mitigation for habitat loss, does not require enough surveys to identify all potential nests, repeats the commenter's statistical estimates of lost nests, and is unenforceable because it refers to a qualified biologist without specifying the required qualifications in detail. The County has considered these points and does not agree that revision is required. First, as to survey scope and frequency, **MM 4.3-10** requires preconstruction protocol-level surveys by a qualified biologist for nesting birds if construction activities are scheduled to occur during the breeding season for raptors and other migratory birds, February 1 through August 31, conducted within 30 days of ground disturbance activities, and requires that if any nesting birds or raptors are observed a qualified biologist determine buffer distances or the timing of project activities so that the project does not cause nest abandonment or destruction of eggs or young. MM 4.3-10 does not operate alone: **MM 4.3-9** requires preconstruction nesting bird surveys with a 500-foot buffer during the February 15 through September 15 nesting season, together with avoidance, buffer, and reporting requirements, and **MM 4.3-11** requires that areas required for construction be surveyed for actively nesting birds prior to any vegetation removal, prohibits vegetation removal in areas containing active nests, requires that wildlife encountered during construction be allowed to leave the area unharmed, and requires biological monitoring and submittal of a report to the County before site preparation. Taken together, these measures

require surveys before each phase of vegetation removal and site preparation during the nesting season. Second, as to qualifications, the surveys required by **MM 4.3-9** through **MM 4.3-11** are conducted under the oversight of the Lead Biologist retained under **MM 4.3-1**, who must meet the qualifications of an Authorized Biologist as defined by CDFW, whose resume and contact information must be provided to the County, and who has authority to halt activities that violate species protection measures. The measures are therefore not unenforceable for lack of a qualification standard. Third, as to compensatory mitigation for the loss of potential nesting habitat, the County's position and the basis for it are set out in Responses 13-AAA, 13-ZZ, and 13-FFF: the applicable significance criteria require mitigation for loss of a vegetation community where it constitutes habitat for a special-status species, is a sensitive natural community, or functions as an important movement corridor; the ruderal areas on this site are not a CDFW sensitive natural community; and where a special-status species is determined to be present, compensatory obligations are established through consultation with CDFW or USFWS and, where required, the ITP process. Fourth, the commenter's statistical nest loss estimates are addressed in Response 13-AAA. Related CDFW recommendations regarding nesting season avoidance and buffers are addressed in Responses 2-R, 2-S, and 2-T. No revision to the Draft EIR is required in response to this comment.

Response 13-RRR

This comment states that **Mitigation Measure MM 4.3-11** duplicates other nesting bird measures in the Draft EIR. The County acknowledges that **MM 4.3-9**, **MM 4.3-10**, and **MM 4.3-11** are related and are intended to operate together, and clarifies that **MM 4.3-11** imposes requirements that the other measures do not. **MM 4.3-11** requires that, prior to any vegetation removal during site preparation, the areas required for construction be surveyed for actively nesting birds; prohibits removal of vegetation in areas that contain actively nesting birds; requires that any wildlife encountered during the course of construction be allowed to leave the construction area unharmed; and requires that a biological monitor survey the areas of vegetation slated for removal and that a report be submitted to the Kern County Planning and Natural Resources Department for review prior to site preparation. **MM 4.3-11** therefore applies to each vegetation removal activity regardless of the nesting season windows that trigger **MM 4.3-9** and **MM 4.3-10**, and it adds an independent monitoring and County reporting requirement before site preparation proceeds. Draft EIR Section 4.3 relies on **MM 4.3-9** through **MM 4.3-11** collectively in concluding that direct impacts to nesting migratory birds and raptors, and impacts related to interference with wildlife movement under Impact 4.3-4, would be less than significant. Retaining the measures separately preserves the clarity and enforceability of the MMRP. No revision to the Draft EIR is required in response to this comment.

Response 13-SSS

This comment restates **Mitigation Measure MM 4.3-12**, asserts that the protocol survey for Crotch's bumble bee should have been conducted before the environmental analysis, states that Crotch's bumble bee has been observed onsite, and recommends that the project obtain an ITP now, before determining whether the species occurs on the site. The County has considered these points and does not agree that revision is required, for the following reasons. First, the County has reviewed the record and has not identified documentation of Crotch's bumble bee on the project site. The BRA and Draft EIR evaluate the species based on the database and literature review and the habitat assessment, and Draft EIR Section 4.3 states that Crotch's bumble bee is presumed absent from the project site and that impacts would be less than significant, while nonetheless imposing **MM 4.3-12** to ensure that CDFW's current best practices are followed given the species' candidate status. Records of the species in the vicinity of the site indicate regional presence rather than documented use of the project site, and the survey required by **MM 4.3-12** is designed to determine use of the site before any impact occurs. Second, **MM 4.3-12** requires a qualified

biologist to conduct a survey for Crotch's bumble bee and its requisite habitat using the CDFW-approved protocol during the blooming period immediately prior to project construction, in order to detect bumble bees and potential nesting sites; requires that the survey area include a 50-foot buffer around the project footprint and that results be submitted to CDFW at least seven days prior to commencing any project activities; and requires that, if Crotch's bumble bee is identified during surveys or at any time during construction, the project proponent confer with CDFW to determine whether take can be avoided, with take authorization through an ITP under Fish and Game Code section 2081(b) required prior to ground-disturbing activities if avoidance of nests is not feasible. Because Crotch's bumble bee detectability depends on the blooming period and on conditions at the time of survey, a survey conducted immediately before construction is more informative for purposes of avoidance and permitting than one conducted during the review period, which would need to be repeated before construction in any event. Third, **MM 4.3-12** already provides the alternative the comment requests: it expressly permits the project proponent, in the absence of surveys, to assume presence and to apply for and acquire an ITP for Crotch's bumble bee prior to initiating project activities. The measure therefore does not foreclose obtaining a permit in advance; it establishes an enforceable path under which either presence is ruled out through a CDFW-approved protocol survey or take is authorized. CDFW concurred with the Crotch's bumble bee mitigation in its comment letter; see Response 2-F. Fourth, special-status species detected during the surveys required by **MM 4.3-12** and the other preconstruction survey measures will be reported to the CNDDB consistent with applicable CEQA and CDFW guidance; see Response 2-V. No revision to the Draft EIR is required in response to this comment.

Response 13-TTT

This comment states that compensatory mitigation is required for impacts to wildlife resulting from road mortality and recommends that such mitigation include funding for wildlife rehabilitation facilities. The County has considered this recommendation and does not adopt it, for the following reasons. First, as explained in Responses 13-CCC and 13-DDD, the applicable significance criteria drawn from the Kern County CEQA Implementation Document and Kern County Environmental Checklist and CEQA Guidelines Appendix G do not establish a numeric threshold for wildlife mortality from vehicle collisions, and the comment does not provide substantial evidence that project traffic would have a substantial adverse effect on a candidate, sensitive, or special-status species, on a sensitive natural community, or on established wildlife movement. Under CEQA Guidelines section 15064(f)(5), an effect is not treated as significant in the absence of substantial evidence. Second, the record supports the conclusion that this potential effect would be less than significant: the project site is surrounded by existing industrial, commercial, and oil field development; is separated from the nearest connected habitat block by approximately three miles of oil field development; does not function as a wildlife movement corridor or habitat linkage; and would be served by existing roadways in a developed area that already carry vehicle traffic. Third, because the Draft EIR does not identify a significant impact from road mortality, compensatory mitigation for that effect is not required; CEQA requires mitigation for significant effects, and a lead agency is not required to adopt mitigation for effects that are less than significant. Fourth, funding for wildlife rehabilitation facilities would not reduce the identified physical effect of vehicle collisions and would not satisfy the requirement that a mitigation measure have an essential nexus and rough proportionality to the impact it addresses. To the extent special-status species are determined to be present, exposure during construction is addressed through the Lead Biologist and stop-work authority in **Mitigation Measure MM 4.3-1**, the worker environmental awareness training in **MM 4.3-2**, the construction avoidance and protective measures in **MM 4.3-4**, and the kit fox passage and vertical tube capping requirements in **MM 4.3-8**. No revision to the Draft

EIR is required in response to this comment. The County thanks the author for their comments and participation in the public review of the environmental document.

Comment Letter 14: Center for Biological Diversity (CBD) (April 10, 2026)

April 10, 2026

Sent via email

Ms. Nicole Menchaca
Advanced Planning Division Chief
Kern County Planning and Natural Resources Department
2700 M St., STE 100, Bakersfield, CA 93301
(661) 862-8738
HuiskenN@kerncounty.com

Re: Comments on the Draft Environmental Impact Report for the Airport Commerce Center Industrial Project, SCH# 2025030498

Dear Ms. Menchaca:

These comments are submitted on behalf of the Center for Biological Diversity (the "Center") regarding the Airport Commerce Center Industrial Project ("Project"). The Center has reviewed the Draft Environmental Impact Report ("DEIR") for the Project closely and is concerned that Kern County ("County") has failed to adequately analyze and mitigate the potential environmental impacts of the Project. Critical deficiencies in the DEIR include, but are not limited to, the analysis of and mitigation for the Project's emissions of air pollutants and greenhouse gases, impacts on biological resources, and noise generation. Further, the Center is concerned that the County inadequately analyzed feasible alternatives to the Project as proposed, foreclosing the possibility of substantially avoiding or reducing the above impacts. The Center urges the County to recirculate a revised DEIR that, *inter alia,* sufficiently analyzes Project impacts related to air quality, greenhouse gas emissions, biological resources, and noise, and includes a legally sufficient assessment of less harmful alternative means of realizing the Project objectives. 14-A

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.8 million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in the south San Joaquin Valley, including unincorporated Kern County.

I. THE DEIR FAILS TO ADEQUATELY ANALYZE AND MITIGATE PROJECT-RELATED AIR QUALITY IMPACTS

Warehouse projects are well-documented sources of air emissions that create negative health outcomes for communities. Warehouses (and related truck traffic) are a significant public health concern in the San Joaquin Valley due primarily to the air quality impacts associated with the thousands of heavy-duty trucks that serve warehouses within the region each day. Like other facilities of this type, the Project would result in the emission of particulate matter sized ten micrometers or less ("PM_{10}") and two-and-one-half (2.5) micrometers or less ("$PM_{2.5}$"), nitrogen oxides ("NOx"), volatile organic compounds ("VOCs"), carbon monoxide, heavy metals, and 14-B

other toxic or otherwise dangerous pollutants in significant quantities (Betancourt & Vallianatos, 2012). Emissions from diesel vehicles that carry goods to and from warehouses cause health problems, including cancer, asthma, decreased lung function and capacity, and harm to reproductive health. (*Id*. at 5.) The deleterious effects of warehouses on air quality have only become more clear as time has gone by. (Becker & Brinkley, 2025 [finding that warehouses in New York create 13,500 new pediatric asthma cases each year]; deSouza et al., 2022 [finding that census tracts with warehouses had significantly higher $PM_{2.5}$ levels and diesel particulate than those without]; Kerr et al., 2024 [finding that communities near warehouses are subjected to 20 percent more nitrous oxide pollution]; Yang et al., 2024 [finding that communities near warehouses are exposed to higher amounts of harmful $PM_{2.5}$].)

Air pollution and its impacts are experienced disproportionately by young children, the elderly, people of color, pregnant women, and people with existing medical conditions like heart and lung disease. (American Lung Association, 2024.) People living in poverty are also more susceptible to air pollution, as they are less able to relocate to less polluted areas and their homes and places of work are more likely to be located near sources of pollution, such as freeways or ports, where housing tends to be more affordable. (*Id*.) The decisions that the County makes vis-à-vis this proposed Project, therefore, will have significant implications for nearby residences for decades to come. 14-B cont.

The air quality impacts of warehouses throughout the state have become so dire that numerous cities in California have imposed moratoriums on warehouse development (K. Lee, 2022), and in 2022, a bill was proposed to prohibit all warehouse development within 1,000 feet of residences within California. (Assem. Bill No. 2840 (2021-2022 Reg. Sess.) as amended February 18, 2022.) The California Air Resources Board ("CARB") also recommended a rule requiring new warehouses be located at least 1,000 feet away from homes. (California Air Resources Board, 2005.) These concerns are particularly critical here, as the Project would add thousands of vehicle trips to roads that run fewer than 500 feet from residences, and the DEIR does not sufficiently analyze the impacts of the Project's air pollution on nearby sensitive receptors. Likewise, the County also fails to adequately mitigate the Project's significant air quality impacts, despite the availability of commonplace, feasible measures to minimize the Project's pollutant emissions. The County must amend the DEIR to remediate the deficiencies in the DEIR's analysis of, and mitigation for, the Project's significant air quality impacts.

A. The DEIR's Environmental Setting for Air Quality Unlawfully Excludes Sensitive Receptors at the California Aeronautical University Campus

The California Environmental Quality Act ("CEQA") Guidelines require an EIR to include a description of the existing physical conditions within the project's vicinity, in order to fully inform decisionmakers and the public of the "environmental setting" of the project and to establish the "baseline" against which a lead agency will make significance determinations regarding project impacts. (CEQA Guidelines §§ 15125, subd. (a), 15064 subd. (b)(1); *Buena Vista Water Storage Dist. v. Kern Water Bank Authority* (2022) 76 Cal.App.5th 576, 591.) Where the description of a project's environmental setting is "inaccurate, incomplete or misleading[,]" the Environmental 14-C

Impact Report ("EIR") violates these requirements. (*Id.* at 592, quoting *Cadiz Land Co. v. Rail Cycle* (2000) 83 Cal.App.4th 74, 87.) An environmental setting which is inadequate due to a failure to accurately and completely describe existing environmental conditions that might be impacted by the project precludes legally adequate determinations of both the significance of the project's impacts on these conditions and the sufficiency of proposed mitigation for these impacts. (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722 [impact analysis and mitigation conclusions in a project FEIR were legally inadequate where the environmental setting excluded information regarding the extent of wetland habitat within the project area].)

The DEIR's description of the Project's environmental setting is inaccurate, incomplete, and misleading because the County failed to include any description of sensitive receptors associated with the main campus of California Aeronautical University ("CAU"), located approximately 2,000 feet southwest of the Project boundary. Incorrectly, the DEIR states that "the nearest existing schools" to the Project site are North High School and Wingland Elementary School, located "about 1 mile southeast" and "about 1.15 miles southeast" of the Project site, respectively. (DEIR at 1-6.) The only reference to the CAU campus is in the DEIR's discussion of the Kern County Airport Land Use Compatibility Plan, where the DEIR identifies the CAU campus as one of several land uses in the vicinity of Meadows Field Airport. (*Id*. at 4.10-4.) This sole cursory reference fails to adequately describe the CAU campus for the purpose of the Project's air quality impacts analysis.

14-C cont.

CAU is a post-secondary educational institution which offers undergraduate and graduate programs in aviation and aeronautics, as well as related professional certifications. (California Aeronautical University, 2026b) Importantly, in addition to educational and administrative facilities, the CAU campus also includes 168 double-occupancy rooms of onsite housing, as well as outdoor recreational amenities and athletic facilities. (California Aeronautical University, 2026c) Students attending CAU may be as young as 17 years of age. (California Aeronautical University, 2026a) These characteristics of the CAU campus are highly relevant to the environmental analysis of the Project, because as identified in the Project Air Quality Report, "children…are more susceptible" to air quality-related health problems, and both residential and recreational areas are associated with "greater exposure to ambient air quality." (DEIR Appendix B at 20.) However, nowhere in the DEIR description of the Project's environmental setting, neither in the context of air quality impacts on sensitive receptors nor anywhere else, is any reference to the hundreds of students who would live and study within half a mile of the Project.

The CAU campus houses young occupants and includes educational, residential, and recreational uses, and therefore includes a large concentration of sensitive receptors within the Project vicinity. For this reason, exclusion of the CAU campus sensitive receptors from the Project's environmental setting means that the DEIR fails to adequately describe the location, extent, and character of physical conditions surrounding the Project. (*See San Joaquin Raptor/Wildlife Rescue Center, supra,* 27 Ca.App.4th at 729.) Thus, the DEIR fails to meet the informational requirements of CEQA. (*King County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 718 [holding an EIR inadequate as an informational document where relevant

evidence of air quality impacts was excluded from the EIR and the discussion of these impacts was misleading].) To render the Project's environmental setting adequate under the requirements of CEQA, the DEIR should be revised to reflect the presence of these sensitive receptors.

In addition, the exclusion of the CAU campus from the environmental setting is indicative of serious deficiencies in the air quality analysis of the proposed Project. The included Air Quality Analysis Report fails to reflect the existence of the campus in the Project vicinity, instead restating the approximate distances between the Project site and North High School and Wingland Elementary School and incorrectly asserting that "[n]o other schools are located within 1 mile of the proposed project site." (DEIR, Appendix B at 20.) Critically, the one-half mile radius AERMOD modeling of Project sources and sensitive receptors clearly shows the absence of any residential receptors located at the CAU campus. (*Id*. at 226.) As a result, no residential receptors are identified to the southwest of the Project site despite the presence of potentially hundreds of CAU students in this area. Thus, there is no evidence that CAU students were considered in the analysis of Project impacts on air quality. 14-C cont.

For this reason, as drafted, the DEIR does not support a legally adequate analysis of the Project's air quality impacts. Consequently, the DEIR is inadequate to support determinations of the significance of these impacts, or conclusions regarding their mitigation. Following the required revisions to the environmental setting, the DEIR analysis of the Project's air quality impacts emissions should specifically describe whether the Project would result in significant air quality impacts in relation to the CAU campus and then commit to all feasible mitigation that might be required to reduce these impacts.

B. The Air Quality Impact Mitigation Measures Imposed by the DEIR are Inadequate

The DEIR concludes that operation of the Project would result in significant and unavoidable air quality impacts. (*See e.g.,* DEIR at 1-27 – 1-28.) Despite this, the County fails to mandate the adoption of mitigation measures to adequately reduce these significant impacts, as required by law. (Pub. Res. Code §§ 21002.1, subd. (b), 21081 subd. (a)(1); CEQA Guidelines § 15021 subd. (a).) The County must amend the mitigation measures mandated in the DEIR to minimize Project-related air emissions. (Pub. Res. Code §§ 21002.1, subd. (b), 21081, subd. (a)(1) [requiring significant project-related impacts be mitigated to the maximum extent feasible]; CEQA Guidelines § 15021(a) ["A public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen any significant effects that the project would have on the environment."].) The DEIR must be revised to address the deficiencies in air quality mitigation, outlined below. 14-D

i. *The Developer Mitigation Agreement Constitutes Impermissibly Vague and Unlawfully Deferred Mitigation*

The DEIR relies on an inadequate mitigation measure to support the conclusion that all feasible mitigation measures have been adopted to reduce Project air quality impacts. The DEIR implausibly claims that after implementation of the "Developer Mitigation Agreement" 14-E

(synonymous with a "Voluntary Emission Reduction Agreement") net emissions of reactive organic gases, NOx, PM_{10}, and $PM_{2.5}$ will all be reduced to zero, through "a menu of options" including the funding of unspecified "emissions reductions projects." (DEIR at 4.2-46.) This improperly deferred and overly vague mitigation violates CEQA. (*See San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670 [EIR inadequate where the success or failure of mitigation efforts "may largely depend upon management plans that have not yet been formulated and have not been subject to analysis and review within the EIR"].). In the limited circumstances in which deferred mitigation is appropriate, the agency must meet all of the following elements: (1) practical considerations prevented the formulation of mitigation measures during the planning process; (2) the agency committed itself to developing mitigation measures in the future; (3) the agency adopted specific performance criteria prior to project approval; and (4) the EIR lists the mitigation measures to be considered, analyzed, and possibly incorporated into the mitigation plan. (*See POET, LLC v. State Air Resources Bd.* (2013) 218 Cal.App.4th 681, 736 – 737 [review denied].) Here, the DEIR fails to meet these criteria. It does not attempt to explain why it is not possible to formulate and disclose a mitigation plan now, and it does not list the mitigation measures to be considered. 14-E cont.

Even more concerning is that the emissions reduction projects funded through VERA might be off-site projects anywhere in the air district boundaries with no connection to the Project or the communities most impacted by the Project. Offset schemes must be carefully tailored to comply with CEQA's requirements and must be evaluated as a last option for mitigation where no other options are available or feasible. (*See generally Golden Door Properties, LLC v. County of San Diego* (2020) 50 Cal.App.5th 467, 506.) In this case, the County has not considered all other feasible options. Allowing a Project to emit without limit as long as the developer pays for some mitigation project somewhere else raises serious environmental justice concerns. The EIR has not established that this vague, undefined plan will effectively reduce the impact of the Project. (*Banning Ranch Conservancy v. City of Newport* (2012) 211 Cal.App.4th 1209, 1232 – 1234.)

ii. ***The DEIR Must Require Truck Routes, and Site Ingress and Egress, to Avoid Sensitive Land Uses***

Despite the close proximity of the Project to residential and other sensitive vicinity land uses, the DEIR does not commit to routing truck traffic away from sensitive receptors to the east and south of the Project site. In analyzing the Project's consistency with applicable land use policies, the DEIR does state that Mitigation Measure MM 4.16-1 would "require specific truck routes away from sensitive land uses. . . ." (DEIR at 4.10-26.) However, the language of Mitigation Measure 4.16-1 does not actually specify truck travel routes, nor does it establish particular points of ingress and egress for trucks visiting the site. In fact, site design appears to facilitate truck ingress and egress from any direction, with access provided on each of the frontages. (*Id*. at 4.16-6 ["Truck ingress and egress to the site is provided via the 35' driveway on Petrol, the (2) 35' wide drive aisles on Airport drive, the (2) 35' wide driveways on Merle Haggard provide ingress {western driveway) and egress {eastern driveway) and lastly the 35' driveway on Landings way will also provide ingress/egress to the site for trucks."].) Further, because the Air Quality Analysis failed to model the impacts of the Project on residential receptors associated with the CAU campus, 14-F

described *supra*, the County lacks substantial evidence to support the appropriate routing of truck traffic to avoid sensitive land uses. (Pub. Res. Code § 21168.5; *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 512.) The County should require the Project to implement enforceable controls on truck travel to ensure traffic is routed away from sensitive land uses, including those associated with the CAU campus. (Pub. Res. Code §§ 21002.1, subd. (b), 21081, subd. (a)(1); CEQA Guidelines § 15021(a).) 14-F cont.

iii. *The Project Must Require Zero-Emission Equipment and Facilitate Electric Vehicles*

The County includes several mitigation measures in the DEIR aimed at reducing Project air quality impacts. For example, mitigation measure MM 4.2-3 would require the use of Tier 4 engines for offroad equipment where available. (DEIR at 1-30 – 1-31.) Mitigation measure MM 4.2-7 would commit the Project's developer, ACC Bakersfield JV, LLC ("Project Applicant"), to requiring, via the terms of leases with future tenants, that any transport refrigeration units ("TRUs") used onsite be plug-in capable, and for tenants to improve loading bays with electrical hookups where refrigerated uses are required. (*Id*. at 1-32.) Mitigation measure MM 4.5-2 would require the construction of chargers for 22 percent of the electric vehicle-capable spaces with electric vehicle ("EV") supply equipment. (*Id*. at 1-54.) Ultimately, the Project proposes 102 electric vehicle charging sites upon operation, out of 2,001 total stalls. (DEIR Appendix B at 9.) Though the Center commends the County for including measures to facilitate the Project's transition to a zero-emission vehicle fleet, in light of the DEIR's conclusion that Project air quality impacts will be significant and unavoidable after all onsite mitigation is implemented, the mitigation measures provided for in the DEIR must be amended and made more stringent.

In order to further reduce emissions, mitigation measure MM 4.2-3 must be amended to require *all* construction equipment to be zero-emission and to remove the opportunity for the County to grant an exemption to the Tier 4 mandate. Likewise, mitigation measure MM 4.2-3 must be amended to prohibit the use of diesel-fueled generators and to instead require the use of battery-electric backup generators for all Project-related construction equipment. Other, similarly situated warehouses throughout California have committed to analogous requirements. (*See, e.g*., City of Beaumont, 2023 [banning the use of diesel-powered backup generators]; Contra Costa County, 2021 [requiring all construction equipment 50 horsepower and up to be Tier 4 compliant and banning the use of diesel-powered backup generators]; *Compass Danbe Settlement*, 2021 [requiring that all construction equipment be electric and compliant with the strictest standards imposed by the California Air Resources Board].) It is therefore feasible for the Project Applicant to comply with such measures. (*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 600 [holding that whether a mitigation measure is economically unfeasible "is not measured by increased cost or lost profit, but upon whether the effect of the proposed mitigation is such that the project is rendered impractical"]; *Citizens of Goleta Valley v. Board of Supervisors* (1988) 197 Cal.App.3d 1167, 1180 [same].) 14-G

Under mitigation measures MM 4.2-7, MM 4.5-1, and MM 4.5-2, the County commits to reducing air quality impacts by facilitating electric vehicle use through the inclusion of charging

infrastructure onsite. However, this falls short of the commitments necessary to substantially lessen the emissions associated with the Project by expanding the EV infrastructure for *all* vehicles associated with the Project, in particular the medium- and heavy-duty trucks. Other, similarly situated warehouse projects throughout California have committed to installing Level 2 charging stations in at least 15 percent of onsite passenger spaces, to increasing that figure after the issuance of the first Certificate of Occupancy for the warehouse, and to affirmatively installing heavy-duty electric truck charging infrastructure. (*See, e.g.*, City of Beaumont, 2023; *Compass Danbe Settlement*, 2021; *Majestic Thousand Palms Settlement*, 2025; World Logistics Center Settlement Agreement, 2021.)

Moreover, heavy-duty truck charging infrastructure is already being deployed at scale. As of September 2025, the California Energy Commission announced that there are 20,093 charging and hydrogen fueling points for medium- and heavy-duty zero-emission vehicles across the state, marking an increase of 3,766 (or 23 percent) since the last update in February 2025. (California Energy Commission, 2025.) The company Greenlane recently unveiled plans for a 280-mile electric truck charging corridor along Interstate 15, with initial sites in Colton, Barstow, and Baker, and additional charging sites expected to extend to San Pedro. (Amol Phadke et al., 2021; Colin Campbell, 2024.) NFI Industries and Prologis Mobility also recently launched an electric truck charging depot in Ontario, California that offers ten charging ports that can charge up to 20 heavy-duty electric trucks daily. (NFI, 2025.) And Prologis' facility in Torrance, California—the largest heavy-duty electric truck charging facility in North America—operates 96 high-powered charging stalls. (Prologis, 2024.) The Port of Long Beach also offers 44 high-speed chargers delivering nine megawatts of power with the capability of supporting of 200 trucks per day. (Forum Mobility, 2025.) Therefore, amending the mitigation measures related to electric vehicle charging, especially the MM 4.2-7 terms governing truck charging infrastructure, as suggested, would be feasible for the Project Applicant. (*Uphold Our Heritage,* 147 Cal.App.4th at 600; *Citizens of Goleta Valley,* 197 Cal.App.3d at 1180.)

14-G cont.

Additionally, the County must also amend mitigation measures MM 4.5-1 and MM 4.5-2 to prohibit the use of diesel-fueled backup generators entirely. As proposed, the Project includes six onsite emergency backup generators, one 300-horsepower generator located at each warehouse for Buildings 1 through 3, and two 300-horsepower generators and one 1,475-horsepower generator located at Building 4. (DEIR at 4.7-23.) Mitigation measures MM 4.5-1 and MM 4.5-2 should be strengthened to require onsite renewable energy storage as backup generation. Distributed energy systems, such as rooftop solar, on-site batteries, and modular microgrids, would make the Project's operations more resilient and strengthen the grid by bringing power closer to the point of use. Industrial projects in Southern California have already begun adopting microgrid technology. (Sean Wolfe, 2024.) Prologis operates a warehouse facility near the Ports of Los Angeles and Long Beach, which, as noted, is also the state's biggest heavy-duty truck charging hub, that is an example of a facility that runs entirely on behind-the-meter microgrids. (Prologis, 2025.) That microgrid allowed the site to open in May 2024, several years before Los Angeles Department of Water and Power would have been able to expand the grid to serve it. (Jeff St. John, 2025.) The company Scale Microgrid Solutions is also building a microgrid for the logistics company Quality Custom Distribution in La Puente, California that will combine 1.45 megawatts

14-H

of rooftop and carport solar with three megawatt-hours of battery storage to cover most charging needs, including the site's refrigerated warehouses. (*Id*.) Amending MM 4.5-1 and MM 4.5-2 as suggested would therefore be feasible for the Project Applicant. (*Uphold Our Heritage,* 147 Cal.App.4th at 600; *Citizens of Goleta Valley,* 197 Cal.App.3d at 1180.) If the County declines to amend mitigation measures MM 4.2-3, MM 4.2-7, MM 4.5-1, and MM 4.5-2 as suggested herein, it must explain the basis for its decision as to each measure. (*Los Angeles Unified Sch. Dist. v. City of Los Angeles* (1997) 58 Cal.App.4th 1019, 1029.) Failure to do so would violate CEQA. 14-H cont.

iv. *The County Must Require the Project Applicant and Any Subsequent Lessees of the Project to Utilize Electric Vehicles, Including Heavy-Duty Electric Trucks, as Often and as Quickly as Possible*

The County must require that Project Applicant and subsequent tenants and/or lessees of the Project to utilize electric vehicles, including medium- and heavy-duty electric trucks, as often and as quickly as possible, in order to mitigate the Project's air quality impacts. (Pub. Res. Code §§ 21081; 21100; CEQA Guidelines § 15021(a).) Substantial evidence shows that requiring the usage of zero-emission heavy-duty trucks in lieu of diesel trucks is an effective means of reducing the air quality implications of heavy-duty truck traffic. (Union of Concerned Citizens, 2025.) Zero-emission trucks produce no tailpipe air emissions; the only significant air pollutant associated with the operation of battery-electric medium- and heavy-duty trucks is the particulate matter emitted from brake wear and according to CARB, zero-emission vehicles produce 50 percent less particulate matter from brake wear than equivalent diesel vehicles primarily because they utilize "regenerative braking," which reduces brake usage. (California Air Resources Board, 2020.)

Heavy-duty electric trucks are already available for purchase, and many freight facilities and other distribution centers have committed to utilizing such vehicles. (The International Council on Clean Transportation, 2024.) Based on company announcements, there are at least ten Class 7 or 8 models with ranges up to 550 miles that have already been commercially deployed or are slated for commercial deployment in the coming years. (Fadhil & Xie, 2025; Good Car, Bad Car, 2024) Tesla is projecting to complete construction of its "Tesla Semi" production line so that it can begin volume production in 2026, and the company expects to produce 50,000 semi-trucks per year upon reaching full capacity. (Fred Lambert, 2025.) And several international companies, including the Chinese manufacturer BYD and the German manufacturer Daimler, produce heavy-duty electric trucks and have already sold hundreds of zero-emission electric heavy-duty trucks in the United States. (Fred Lambert, 2020.) As a result, sales of new medium- and heavy-duty electric trucks in California jumped from just a few hundred in 2021 to one in 12 medium- and heavy-duty trucks sold in 2022, one in six in 2023, and one in four in 2024. (California Air Resources Board, 2023, 2024, 2025.) Many companies involved in the warehousing industry, including UPS, Fedex, Anheuser-Busch, Frito-Lay, PepsiCo, and IKEA, have already purchased thousands of heavy-duty electric trucks and are on pace to purchase even more such vehicles. (*See, e.g*., Fedex, 2025; Frito-Lay, 2019; IKEA, 2025; Mark Matousek, 2018; Nora Manthey, 2022; WattEV, 2025.) 14-I

Moreover, many other similarly situated warehouse and distribution facilities throughout California have committed to requirements mandating that medium- and heavy-duty truck electrification be attained and maintained early in the occupancy process, including the Beaumont Pointe Project in Beaumont, California, the Compass Danbe Centerpointe Project in Moreno Valley, California, the Citrus and Oleander Project in Fontana, California, among others. (City of Beaumont, 2023 [referring mitigation measures B-41 and B-42 therein and stating that they require that "all heavy-duty vehicles engaged in drayage to or from the project site to be zero-emission beginning in 2030" and that "tenants to use zero-emission light- and medium-duty vehicles as part of business operations"]; City of Fontana, 2023; *Compass Danbe Settlement*, 2021 [requiring that all heavy-duty trucks serving the warehouse be electric within three years of occupancy or whenever "widely commercially available" and establishing an enforceable, aggressive schedule by which specified portions of all other warehouse-related commercial vehicles must be electric by dates certain].) In 2022, Walmart opened a fulfillment center in Canada which will feature a fully electric fleet. (Walmart, 2022.) And the South Coast Air Quality Management District has committed to deploying 23 Class 8 Volvo battery-electric trucks to move freight across the Inland Empire and another 100 Battery-electric trucks broadly throughout California via a partnership with NFI Industries and Schneider. (NFI, 2021.)

Additionally, government regulators are increasingly investing in programs to facilitate medium- and heavy-duty truck electrification. CARB has developed strategies to completely electrify heavy-duty trucks in the state by 2045, and specifically to achieve 100 percent zero-emissions drayage trucks by 2035. (CARB, 2022.) California offers significant incentives to assist warehousing companies attain and utilize heavy-duty electric trucks, with the most prominent being the Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project, which provides $150,000 as a voucher to offset some of the purchase price for certain vehicles. (*See, e.g.*, California Air Resources Board, 2020, 2018, 2019, 2024; California Public Utilities Commission, 2018; San Diego Gas & Electric Co., 2024.) And California utilities have already committed to support the development of heavy-duty charging infrastructure and are likely to continue to do so in the future as well. (California Public Utilities Commission, 2018.) The South Coast Air Quality Management District, for instance, allows for the purchase and use of electric heavy-duty trucks as one way to comply with its indirect source rule for warehouses (referred to as the Warehouse Actions and Investments to Reduce Emissions or WAIRE program). (South Coast Air Quality Management District, 2020.) (In fact, in enacting that rule, that Air District expressly found that battery-electric heavy-duty trucks are commercially available.) And on June 12, 2025, Governor Newsom signed Executive Order N-27-25, reaffirming California's commitment to deploying zero-emission vehicle technologies to improve air quality.

14-I cont.

As a result of these programs, in part, the total cost of ownership for electric heavy-duty trucks is likely to be less than for analogous diesel trucks. (California Air Resources Board, 2021.) One study found that when incentives and utilities' investments were incorporated into a total-cost-of-ownership analysis, battery-electric heavy-duty trucks currently have a favorable total cost of ownership compared to diesel equivalents. (ICF, 2019.) That study further indicates that battery-electric trucks should be able to compete with equivalent diesel trucks on a total-cost-of-ownership basis without regulatory incentives by 2030. (*Id*. at 32.)

It is therefore feasible for the Project Applicant and subsequent tenants and/or lessees of the Project to utilize medium- and heavy-duty electric trucks as often and as quickly as possible. (*Uphold Our Heritage,* 147 Cal.App.4th at 600; *Citizens of Goleta Valley,* 197 Cal.App.3d at 1180.) If the County declines to adopt a mitigation measure requiring the Project Applicant and subsequent tenants and/or lessees of the Project to utilize medium- and heavy-duty electric trucks as often and as quickly as possible, it must explain the basis for its decision as to each measure. (*Los Angeles Unified Sch. Dist.,* 58 Cal.App.4th at 1029.) Failure to do so would violate CEQA. 14-I cont.

II. THE DEIR FAILS TO DISCLOSE, ANALYZE, OR MITIGATE GREENHOUSE GAS EMISSIONS IMPACTS

The climate crisis is an immediate and significant threat to Californian communities. Climate change is already transforming California, increasing ambient temperatures and the frequency and severity of wildfires, reducing the quantity and longevity of snowpack, and changing water availability patterns. (Turco et al., 2023.) Climate change is causing sea level rise, extreme weather events, and "irreversible losses" at the species and ecosystem levels. (IPCC, 2023; US Global Change Research Program, 2023.) And it is increasing stress on species and ecosystems, causing species-level changes in morphology, behavior, phenology, and geographic range shifts, and ecosystem-level changes such as the increasing frequency of extreme weather events, widespread changes in productivity, species interactions, and vulnerability to biological invasions. (Weiskopf et al., 2020.) In fact, climate-change-related local extinctions are already widespread and have occurred for hundreds of species. (Wiens, 2016.) And catastrophic levels of species extinctions are projected in the coming decades if climate change continues unabated. (Maclean & Wilson, 2011; Thomas et al., 2004; Urban, 2015.)

14-J

Despite the fact that the United States has contributed more to the climate crisis than any other country, neither domestic nor international climate policy is on pace to avert catastrophic levels of warming. (Climate Action Tracker, 2023; Friedlingstein et al., 2023; Friedrich et al., 2023.) As a result, California has taken steps through legislation and regulation to fight climate change and reduce statewide greenhouse gas ("GHG") emissions in lieu of competent federal or international action. The California Climate Crisis Act (AB 1279) requires the State to achieve net zero GHG emissions by no later than 2040, to achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, statewide GHG emissions are reduced to 85 percent the level in 1990. (AB 1279 (2022).) And Governor Newsom has issued several executive orders to help the State meet this mandate. (*See, e.g.*, Executive Order N-19-19 (2019); Executive Order N-79-20 (2020).)

However, the State's climate goals require the active involvement of local governments like the County when considering industrial projects with potentially far-reaching climate impacts. Indeed, "the extent to which current and future generations will experience a hotter and different world depends on [the] choices [made at the local level] now and in the near term." (IPCC, 2023.) Given this background, and the increasingly urgent need for drastic action to reduce GHG emissions, the DEIR's failure to adequately analyze and mitigate Project-related GHG emissions

is alarming. The County must amend the DEIR in the following ways to more thoroughly analyze and more comprehensively minimize Project-related GHG emissions. 14-J cont.

A. The DEIR's Analysis of Project GHG Impacts Improperly Excludes Numerous Sources of Emissions

The DEIR analyzes Project GHG impacts based on CalEEMod modeling estimates of anticipated GHG emissions and mitigation. (DEIR at 4.7-20.) The modeling was based on specific source categories: construction, area sources, energy, mobile, waste, water, refrigerants, stationary sources, on-site cargo equipment, and TRUs. (*Id.*) However, as detailed below, the DEIR's analysis of Project GHG emissions omits key categories of GHG emissions, including due to the conversion of carbon-sequestering undeveloped grasslands, the use of refrigerants associated with cold-storage facilities, and from the heavy-duty truck trips to be generated by the Project. Failure to include these categories in the DEIR's GHG analysis means the assumptions of Project GHG impacts are inaccurate. The DEIR therefore precluded informed decision-making about the Project's effects. (*See Cleveland National Forest Found. v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497, 515) ["An adequate description of adverse environmental effects is necessary to inform the critical discussion of mitigation measures and project alternatives at the core of the EIR."].) 14-K

i. *The DEIR Fails to Analyze GHG Impacts Resulting from Vegetation Changes*

The DEIR's GHG analysis omits one of the key sources of Project construction GHG emissions: the conversion of undeveloped grasslands into developed areas. Currently, the approximately 110-acre Project site is undeveloped and consists largely of ruderal grasslands made up of various native and non-native plant species. (DEIR at 4.3-2.) The DEIR identifies that, due to on- and offsite development, the Project would impact approximately 107 acres of grasslands. (*Id.*) Despite this, the DEIR does not reflect any accounting of the GHG impacts associated with the loss of above and below ground carbon storage, or any consideration of how altering the land cover of this acreage will change the carbon sequestration potential of the area.

As detailed in a 2023 Center report, "Hidden in Plain Sight: California's Native Habitats are Valuable Carbon Sinks" (Yap et al., 2023), California habitats, including grasslands, are important carbon sinks that should be included in carbon calculations. Although the carbon storage and sequestration potential of such habitats are often overlooked, carbon in these systems is stored in the form of soil organic carbon (e.g., extensive root networks, soil microbial communities, and mycorrhizae), soil inorganic carbon (e.g., calcite/caliche), and above-ground vegetation. (Janzen, 2004; Meyer, 2012; Mi et al., 2008; Thomey et al., 2014; Wang et al., 2010; Zamanian et al., 2016.) Non-native grasslands, like the majority of the Project site, have been found to store, on average, 38.4 to 60.3 metric tons of carbon per acres in their soils, and to sequester an estimated 1.3 to 1.8 metric tons of carbon per acre, per year (Koteen et al., 2011). 14-L

Estimating the quantity of existing carbon stock can be done using RePlan, a core component of the California Strategic Growth Council's ("SGC") Integrated Regional

Conservation and Development ("IRCAD") initiative. (California Strategic Growth Council, 2026b)This sophisticated online tool provides a myriad of functionality, including the ability to estimate carbon stocks throughout California. The tool takes as input a shapefile or drawn polygonal map area and outputs an estimate of the total carbon over the defined acreage. The data backing this tool comes from the California Natural and Working Lands Inventory conducted by CARB. (California Strategic Growth Council, 2026a). The County thus has no excuse for overlooking emissions associated with the loss of vegetation, topsoil, and wetlands, all of which sequester carbon.

14-L cont.

Because the DEIR does not account for either carbon emissions resulting from land use conversion or the loss of carbon sequestration capacity that would result from such land use conversion, the estimate of total emissions is inaccurate, and the true amount of GHG emissions resulting from the proposed Project is likely to be higher than stated in the DEIR. The omission of any sequestration analysis is particularly concerning, as the loss of the sequestration ability of existing landscapes will lead to a continued increase in net emissions into the future. The DEIR fails to account for these decades of lost sequestration opportunity, in violation of CEQA, and the County must consequently amend its analysis and recirculate an updated DEIR to account for this deficiency. (CEQA Guidelines §§ 15126, 15378.)

ii. *The DEIR's Changes to the CalEEMod Default Refrigerant Assumptions Are Not Based on Substantial Evidence*

The DEIR's air quality analysis reflects changes in the default CalEEMod assumptions which removed from the modeling any consideration of the leakage of refrigerants from the Project. (DEIR at 4.7-23.) The County's justification for this alteration of the emissions defaults fails to clearly explain why this modification resulted in changes to the analysis of greenhouse gas emissions of the Project. For example, although this section of the DEIR presumably is intended to pertain to GHG emissions, the discussion of the modification appears to relate only to building energy use. The DEIR discusses this modification of the defaults in terms of "total building energy use" being modeled under the "nonresidential electricity category" to reflect the "full operational energy profile of the facility." (*Id*. at 4.7-24.) In addition, although the DEIR claims that this modification is "consistent with ARB and SJVACPD" guidance allowing for modifications of defaults, it does so without referencing any relevant agency guidance. (*Id*.) The compounds used as industrial refrigerants are potent greenhouse gases, and in order to conservatively model the operational GHG potential of the Project, the DEIR should include refrigerants associated with the cold storage portion of the Project, or else justify this exclusion with substantial evidence. (Pub. Res. Code § 21168.5; *Sierra Club* 6 Cal.5th 502, 512.)

14-M

B. The DEIR Inaccurately Claims the Project Implements Warehouse Best Practices

The DEIR's discussion of greenhouse gas emissions mitigation measures is misleading as to the Project's consistency with the California Attorney General's Bureau of Environmental Justice memorandum detailing best practices for warehouse developments. (Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act,

14-N

2022.) The DEIR summarizes the recommendations and Project implementation of the best practices guidance in *Table 4.7-4: Project Incorporation of Warehouse Best Practices*, including the following best practice measure: "Constructing electric truck charging stations proportional to the number of dock doors at the project." (DEIR at 4.7-30.) The DEIR states that his measure is "[i]ncorporated." (*Id.*) However, mitigation measure MM 4.5-2, which is referenced in Table 4.7-4 to evidence implementation of the best practice, fails to support the conclusion.

Mitigation measure MM 4.5-2 only requires that the Project provides EV chargers for an additional 22 percent of the electric vehicle-capable spaces with electric vehicle supply equipment. (*Id*. at 4.5-17.) Mitigation measure 4.5-2 clearly does not commit the Project to the measure recommended as a best practice. Namely, MM 4.5-2 does not specifically refer to electric truck charging stations but instead relates to electric vehicle charging for passenger vehicles. In fact, nowhere in the DEIR is a commitment to include truck charging infrastructure in the Project. For this reason, the DEIR misleadingly claims to implement warehouse best practices regarding truck electrification. As recommended *infra*, the County should require the Project to support a fully electric fleet of trucks and other vehicles or must justify the infeasibility of this measure with appropriate analysis. Absent this requirement, the DEIR should be amended so that its conclusion regarding the consistency of the Project with the identified best practices accurately reflects the Project's commitments. 14-N cont.

C. The DEIR Fails to Adequately Mitigate Greenhouse Gas Emissions

The Center recognizes that the County has already identified several mitigation measures that relate to GHG emission reductions, including those analyzed in the discussion of air quality impacts, *supra*. Additional measures include mitigation measure MM 4.2-7, which would restrict idling time and require the posting of idling limit information onsite. (DEIR at 1-54.) Mitigation measure MM 4.5-1 and MM 4.5-2 would also require the incorporation of energy-efficient building design and CALGreen Standards into Project design and operation, including through construction of rooftop, ground-mounted, or parking-stall covering photovoltaic panels. (*Id*.) Mitigation measure MM 4.7-2 would require either the installation of a clean energy generation source sufficient to meet 100 percent of the Project's energy demand, or procurement of 100 renewable energy through participation in Pacific Gas & Electric's Solar Choice Program. (*Id*.) However, despite these measures, the DEIR concludes that the Project would result in significant and unavoidable GHG emissions without mandating feasible, commonsense mitigation to the maximum extent possible, as required. (DEIR at 4.7-35 – 4.7-44; Pub. Res. Code §§ 21002.1(b); 21081(a)(1); CEQA Guidelines § 15021(a).) 14-O

The County should require, at a minimum, current common GHG emission mitigation measures for new warehouse developments that have been used throughout the state. Examples of such measures include those listed in the Fontana Ordinance No. 1891, which were specifically formulated to mitigate impacts from warehouse development and protect residents and the air basin from cumulative environmental impacts. (Fontana Warehouse Ordinance, 2022) The California Office of the Attorney General memorandum detailing warehouse best practices should also assist the County in comply with its mitigation requirements. Nearly all the example mitigation measures

in this document have been adopted in a warehouse project in California, demonstrating their feasibility.

In particular, the County should amend the mitigation measures related to renewable energy use to require sufficient photovoltaic generation capacity to meet not just 100 percent of the Project energy demand as analyzed in the DEIR, but the total demand of expanded electric vehicle charging onsite as well. To achieve this, the Project should be required to build out the maximum available photovoltaic coverage consistent with the California Attorney General's recommendation that new warehouses be built "to accommodate the maximum future coverage of solar panels and installing the maximum solar power generation capacity feasible." (Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act, 2022.) The County must therefore strengthen mitigation measures MM 4.2-7, MM 4.5-1, and MM 4.5-2 to require the Project Applicant to install the maximum feasible solar generation capacity, sufficient to meet any demand attendant to medium- and heavy-duty electric truck charging onsite. (*Uphold Our Heritage,* 147 Cal.App.4th at 600; *Citizens of Goleta Valley,* 197 Cal.App.3d at 1180.) If the County declines to adopt such a measure, it must explain the basis for its decision. (*Los Angeles Unified Sch. Dist.,* 58 Cal.App.4th at 1029.) Failure to do so would violate CEQA.

14-O cont.

Further, the County must require the Project Applicant and subsequent lessees of the Project to utilize zero-emission medium- and heavy-duty electric trucks as often and as quickly as possible, as discussed *supra*. (Pub. Res. Code §§ 21081; 21100; CEQA Guidelines § 15021(a).) Substantial evidence shows that requiring the usage of zero-emission heavy-duty trucks in lieu of diesel trucks is an effective means of reducing the GHG implications of heavy-duty truck traffic. (Union of Concerned Citizens, 2025.) Battery-electric trucks have lower lifecycle GHG emissions than diesel trucks no matter the operating characteristics of the vehicle or the electric grid. (*Id*.) Battery-electric heavy-duty trucks operating in the United States result in only 18 percent of the lifecycle GHG emissions associated with analogous diesel trucks. (*Id*.) This is notable because although battery-electric vehicles do not have tailpipe GHG emissions like diesel vehicles, there are still GHG emissions associated with the generation of the electricity used to charge and thereby power the vehicles. California has a larger proportion of renewable electricity generation sources than the national average, so electric heavy-duty trucks operating and charging in California would reduce the GHG emissions associated with Project-related truck traffic even more. (Nuclear Energy Institute, 2022) And as discussed *supra*, it would be feasible for the Project Applicant to comply with a mitigation measure requiring it (and subsequent lessees of the Project) to utilize medium- and heavy-duty electric trucks as often and as quickly as possible. (*Uphold Our Heritage,* 147 Cal.App.4th at 600; *Citizens of Goleta Valley,* 197 Cal.App.3d at 1180.)

III. THE DEIR'S ANALYSIS OF VEHICLE MILES TRAVELLED VIOLATES CEQA

The Project would generate over 800 truck trips per day. (DEIR at 4.2-51.) And many of these trucks would drive long distances and through areas with significant air pollution problems. (*Id*. at 4.2-30.) Yet, the DEIR unlawfully excludes medium- and heavy-duty truck trips from its

14-P

vehicle miles travelled ("VMT") analysis. (*Id*. at 4.7-43 ["Furthermore, the VMT analysis does not account for truck trips, which represent a significant portion of GHG emissions (as shown in Tables 4.7-2 and 4.7-3)."].) The DEIR evaluates Project-related VMT almost as though this were an office project, limiting its analysis primarily to employee trips to and from their homes to the Project site and light-truck trips associated with the proposed warehousing operations. (*Id*.) This violates CEQA. (*Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1109 [a method of analysis "cannot be applied in a way that would foreclose the consideration of other substantial evidence tending to show the environmental effect to which the threshold relates might be significant"]; *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 829 – 831 [EIR for mining operation failed to include extension of water facilities, obscuring from view an important aspect of the project].) Given that the medium- and heavy-duty truck trips associated with Project operations would involve long trips to and from southern California ports, the County's decision to exclude medium- and heavy-duty trucks from its VMT analyses is particularly problematic and means that the DEIR likely underestimates Project-related VMT impacts. The County must amend its analyses to account for the VMT impacts associated with Project-related medium- and heavy-duty trucks. 14-P cont.

The County's decision here to exclude heavy-duty trucks from its VMT analyses is similar to the assessment in the Giovannoni Industrial Project EIR challenged in *Center for Biological Diversity v. City of American Canyon et al*., No. 23CV000511. There, too, the City of American Canyon failed to consider emissions generated by truck VMT. As the result of a legal challenge, however, the City of American Canyon enacted a resolution setting a 10,000 MT CO_2e per year threshold to determine if a project has a significant GHG impact, including truck-related emissions. (Am. Canyon, Cal. Municipal Code § 19.01.061.) American Canyon subsequently applied this resolution in the DEIR for DG Commerce 220 Project to include emissions from both passenger VMT and truck VMT. (DEIR DG Commerce at 3.13-2.) The County must add this critical analysis to the DEIR in determining the significance of Project-related VMT and the attendant air and GHG emissions.

IV. THE DEIR FAILS TO ADEQUATELY ANALYZE AND MITIGATE IMPACTS TO BIOLOGICAL RESOURCES

The DEIR fails to adequately describe and analyze the Project's impacts on biological resources, including special-status species, in and near the Project area. The DEIR also fails to mitigate the Project's significant impacts on local and regional wildlife connectivity. The County must revise the DEIR to fully assess the Project's potential impacts on wildlife species and commit to mitigation that adequately addresses these impacts. 14-Q

A. The DEIR's Analysis of and Mitigation for Project-Related Impacts on Bakersfield Cactus is Legally Inadequate

The Bakersfield cactus (*Opuntia basilaris var. treleasi*) is a plant species that was formerly abundant in the area around Bakersfield, but has become threatened throughout its historical range due to the destruction and fragmentation of its habitat resulting from development and other human 14-R

activities. (CDFW, 2013). Bakersfield cactus has been classified as endangered under both the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) since 1990, and a 2024 review by the U.S. Fish and Wildlife Service concluded continued listing was appropriate. (US Fish and Wildlife Service, 2024). Killing or otherwise taking the plant is therefore prohibited. The DEIR concludes that there is a high potential for Bakersfield cactus to occur within the project site. (DEIR at 4.3-7.) However, the DEIR fails to adequately characterize the existing environmental setting or existing baseline conditions for Bakersfield cactus. The DEIR states that there is "moderate potential for Bakersfield cactus to occur on the project site" (DEIR Appendix C at 25), relying solely on records from the California Native Diversity Database (CNDDB) without doing any on-the-ground, systematic surveys. Without providing more specific information regarding the presence or potential presence of Bakersfield cactus, it is impossible to know the extent of the species in the Project area or the Project's potential impacts to the species. Systematic surveys following the California Department of Fish and Wildlife (CDFW) protocols should be conducted across the entire Project area to adequately describe and assess the existing baseline conditions for Bakersfield cactus (CDFW, 2018).

The DEIR also fails to describe the proximity of the Project site to the Bakersfield Cactus Ecological Reserve. Although the DEIR acknowledges generally that the Bakersfield Cactus Ecological Reserve is in the vicinity of the Project site, it fails to disclose that the Reserve is in fact located directly to the northwest of the Project site, bounded by Petrol Road to the south and Landings Way to the east. (The Project site is bounded by Petrol Road to the north and Landings Way to the west.) Further, where the DEIR does describe this portion of the Project vicinity, it actively obscures its status by referring to it just as "undeveloped land." (*Id*. at 4.10-3.) The proximity of the Project to the Reserve is critical for understanding the potential for the species to occur in the Project area as well as the Project's impacts to the species in and near the Project area. Accurate information detailing the presence of the Bakersfield Cactus Ecological Reserve is only presented in a map included in the Project's Biological Resource Assessment. (DEIR Appendix C at 3.) However, simple inclusion of the map in Appendix C is inadequate to meet the informational purposes of CEQA. (*Banning Ranch Conservancy v. City of Newport Beach* (2017) 2 Cal.5th 918, 941; *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 442 ["[I]nformation 'scattered here and there in EIR appendices,' or a report 'buried in an appendix,' is not a substitute for 'a good faith reasoned analysis. . . .'"].) By failing to disclose that the Bakersfield Cactus Ecological Reserve is essentially adjacent to the Project site, and by misleadingly describing the area merely as undeveloped land, the DEIR fails to adequately inform readers of the environmental setting and undermines its analysis of Project impacts on baseline conditions. The DEIR should be revised to adequately reflect and analyze the existing conditions of the Project site as relevant to Bakersfield cactus.

14-R cont.

In addition, the DEIR fails to adequately mitigate potential impacts to Bakersfield cactus. In order to mitigate the potentially significant impacts to Bakersfield cactus, the DEIR commits to Mitigation Measure 4.3-3, which it concludes will reduce potential impacts to special status plant species, including the Bakersfield cactus, to less than significant. (DEIR at 4.3-19.) However, as written, mitigation measure MM 4.3-3 falls short of California Department of Fish and Wildlife ("CDFW") survey protocols and is inadequate to support the conclusion that Project impacts on

Bakersfield cactus will be less than significant. Mitigation measure MM 4.3-3 states that a preconstruction survey for special-status plant species will be limited to areas of proposed disturbance within the proposed Project site and 100-foot buffer where legally accessible, and surveys would be conducted by "a qualified biologist knowledgeable on the identification of rare plant species." (*Id*. at 4.3-23.) However, consistent with CDFW guidelines (CDFW, 2018), such surveys should be conducted by qualified biologists that possess the following qualifications:

- Knowledge of plant taxonomy and natural community ecology;
- Familiarity with plants of the region, including special status plants;
- Familiarity with natural communities of the region, including sensitive natural communities;
- Experience with the CNDDB, BIOS, and Survey of California Vegetation Classification and Mapping Standards; Experience conducting floristic botanical field surveys as described in this document, or experience conducting such botanical field surveys under the direction of an experienced botanical field surveyor;
- Familiarity with federal, state, and local statutes and regulations related to plants and plant collecting; and
- Experience analyzing the impacts of projects on native plant species and sensitive natural communities.

14-R cont.

MM 4.3-3 should be modified to require appropriately qualified surveyors, as described in the CDFW guidelines (CDFW, 2018).

Further, although mitigation measure MM 4.3-5, which pertains to special status wildlife species, and mitigation measure MM 4.3-12, which pertains to Crotch's bumble bee, include provisions requiring the Project Applicant to receive take authorization through issuance of an Incidental Take Permit where species avoidance is infeasible or presence onsite is assumed, mitigation measure MM 4.3-3, which pertains to special status plant species, does not contain an equivalent requirement. The DEIR should revise mitigation measure MM 4.3-3 to specify that, where avoidance of special status plant species is infeasible, or presence of species onsite is assumed due to the absence of surveys, take must be authorized through the issuance of an Incidental Take Permit prior to the initiation of the construction activity. This would comply with CDFW's recommendation in their April 11, 2025 comment letter (DEIR at 2-6). MM 4.3-3 should also be amended to require that a 50-foot or greater no-disturbance buffer be established from the outer edge of the plant population or specific habitat required by the species, as recommended in the CDFW comment letter. (*Id.*) The County should revise the DEIR to remedy the identified failures to adequately assess and mitigate the Project's impacts to Bakersfield cactus.

B. The DEIR's Analysis of Mitigation for Project-Related Impacts on Burrowing Owls is Legally Inadequate

14-S

Burrowing owls in Kern County are part of the Southern Central Valley population, which are currently a candidate species under CESA. (*Notice of Findings, Western Burrowing Owl*, 2024). Burrowing owls in this region are declining due to a high rate of habitat destruction and fragmentation resulting from development pressures in the region.

Historically, burrowing owls were found broadly across California in wide lowland valley bottoms, flat coastal lowlands, and interior deserts. However, burrowing owls have been eliminated or nearly wiped out as a breeding species from about one-third of their former California range. (Miller, 2024.) Burrowing owl populations are being impacted by urbanization, which destroys nesting and foraging habitat and increases the likelihood of vehicle collisions (Desmond et al., 2000; Haug et al., 1993; Haug & Oliphant, 1987; D. K. Rosenberg et al., 1998); pesticide use (Baril, 1993; Hjertaas, 1997; James et al., 1990; D. K. Rosenberg & Haley, 2003; Sheffield, 1997); efforts to eliminate burrowing rodents (Anderson et al., 2001; Gordon, 1996); and predation by non-native species (Green & Anthony, 1989).

The DEIR fails to adequately analyze and mitigate the Project's impacts to burrowing owls in several respects. First, although the DEIR concludes that there is a high potential for the burrowing owl to occur within the Project site (DEIR at 4.3-7), it also states that no special status species were observed onsite during the initial field reconnaissance survey completed on November 10, 2023. (*Id*. at 4.3-18.) However, the timing of this survey fell outside the burrowing owl breeding season (February 1 to August 31), which makes it far less likely to provide adequate information. (CDFW, 2012). Moreover, CDFW protocols for non-breeding season surveys call for four separate site visits throughout the non-breeding season. (*Id.*) The Project's Biological Resources Assessment describes only one field reconnaissance visit to the site. (DEIR Appendix C at 6.) As a result, by failing to perform species-specific CDFW protocol-level surveys for burrowing owls during the breeding season, the DEIR fails to appropriately characterize the baseline environmental conditions of the Project site. The County must therefore conduct targeted burrowing owl surveys *during the breeding season* following CDFW guidelines and amend the DEIR based on the findings thereof. 14-S cont.

Likewise, the DEIR fails to mandate sufficient mitigation to prevent significant impacts on burrowing owls. Mitigation measure MM 4.3-6 requires the Project Applicant to conduct preconstruction surveys for burrowing owls 14 days prior to the commencement of construction activities and provides that if owls are located during such surveys, avoidance buffers must be established with distance dependent on the level of disturbance and time of year. (DEIR at 4.3-27 – 4.3-27.) This is not sufficient. Such surveys must be conducted by a CDFW-approved, qualified biologist and must be conducted no fewer than 14 days prior to the start of Project-related activities *and* within 24 hours prior to ground disturbance, in accordance with CDFW directives. (CDFW, 2012.) Further, depending on the time between the initial survey efforts conducted in support of the DEIR and project construction, CDFW recommends that additional surveys be repeated throughout the survey season immediately prior to construction. (*Id*.) Habitat assessments and surveys must continue to occur throughout Project construction, as conditions may change annually and suitable refugia for burrowing owls, such as small mammal burrows, can be created within a few hours or days.

Further, mitigation measures MM 4.3-5, MM 4.3-6, and MM 4.3-12 should be modified to specify a 5:1 ratio for compensatory habitat if an Incidental Take Permit is required by CDFW for any special status species. Multiple scientific studies specifically address the need for higher mitigation ratios (along with long-term monitoring, identified and measurable success criteria, and adaptive management strategies) to improve chances of adequately mitigating impacts to habitats and species. (*See, e.g.*, Matthews & Endress, 2008; Mitsch & Wilson, 1996; Moilanen et al., 2009; Stein et al., 2018; Sudol & Ambrose, 2002; Windmiller & Calhoun, 2007; Zedler & Callaway, 1999.) For example, Moilanen et al. (2009) found that "very high offset ratios may be needed to guarantee a robustly fair exchange" and that "considerations of uncertainty, correlated success/failure, and time discounting should be included in the determination of the offset ratio to avoid a significant risk that the exchange is unfavorable for conservation in the long run." The preservation of high-quality habitat in and near the Project area should be prioritized, the minimum acreage of habitat mitigation should be greater if habitat is being restored or created, and mitigation should be planned in a way that is protective from edge effects and fragmentation to improve the probability of ecologically functional mitigation. Created and restored habitat mitigation ratios should be much higher than preservation mitigation ratios, and they should be coupled with extended years of effective monitoring and adaptive management strategies. (Ambrose et al., 2006; Moilanen et al., 2009; Sudol & Ambrose, 2002.) Scientists recommend 15-20 years or more of monitoring and adaptive management to determine the success, or lack thereof, of enhanced, restored, or created habitat. (Mitsch & Wilson, 1996; Zedler & Callaway, 1999.) In addition, in light of the high likelihood that the Project site serves as habitat for burrowing owls, the County should amend MM 4.3-6 to require preparation of a Burrowing Owl Exclusion Plan pursuant to CDFW guidance and the acquisition and protection of mitigation lands through conservation easements to mitigate for loss of habitat *before* any activities that may impact owls begin. (State of California Department of Fish and Game, 2012.) Such a plan and the potential mitigation lands should be provided in the EIR so that the public and decision makers can evaluate the effectiveness of the mitigation.

14-S cont.

C. The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Wildlife Movement and Habitat Connectivity

Habitat connectivity is vital for wildlife movement and biodiversity conservation. As detailed in a 2021 Center Report (Yap et al., 2021), limiting movement and dispersal with barriers (e.g., development, roads, or fenced-off croplands) can affect animals' behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individuals, populations, communities, and landscapes (Ceia-Hasse et al., 2018; Cushman, 2006; Haddad et al., 2015; Trombulak & Frissell, 2000; Van Der Ree et al., 2011). Individuals can die off, populations can become isolated, sensitive species can become locally extinct, and important ecological processes like plant pollination and nutrient cycling can be lost. Habitat loss and fragmentation also severely impacts plant communities. An 18-year study found that reconnected landscapes had nearly 14% more plant species compared to fragmented habitats, and that number is likely to continue to rise as time passes (Damschen et al., 2019). The authors conclude that efforts to preserve and enhance connectivity will pay off over the long-term (Damschen et al.,

14-T

2019). In addition, connectivity between high quality habitat areas in heterogeneous landscapes is important to allow for range shifts and species migrations as climate changes (Cushman et al., 2013; Heller & Zavaleta, 2009).

Lack of wildlife connectivity results in decreased biodiversity and degraded ecosystems. The DEIR concludes that Project impacts to wildlife movement would be less than significant. (DEIR at 4.3-11.) However, this conclusion is unsupported and erroneous, and the DEIR fails to accurately assess and mitigate impacts on wildlife connectivity. (Pub. Res. Code § 21168.5; *Sierra Club* 6 Cal.5th 502, 512.)

The DEIR's description of the environmental setting relevant to wildlife movement within the Project area is inaccurate and misleading for several reasons. First, the DEIR's discussion of wildlife movement corridors contradictorily asserts that the Project site is "surrounded by commercial and residential development in every direction," before acknowledging that "large areas" surrounding the Project remain undeveloped. (DEIR at 4.3-10.) Second, although the DEIR acknowledges the general location of the Bakersfield Cactus Ecological Reserve in relation to the Project site, as described *supra*, it omits from this description the fact that the Reserve is directly to the northwest of the Project site, across the intersection of Petrol Road and Landings Way. Third, the DEIR concludes without evidence that surrounding lands, including agricultural lands, are unsuitable for wildlife movement. (*Id*. at 4.3-10 ["These developed areas are low quality as wildlife migration corridors due to oil wells and agriculture and are far from high quality habitat where special-status species would more likely occur."].) This conclusion is unjustified. Under CEQA, an environmental review document must evaluate the potential environmental impacts of the project as compared to the existing environmental conditions (i.e., the "environmental baseline"), so that the project's impacts can be meaningfully analyzed and compared to alternatives. (CEQA Guidelines § 15125(a); *see County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 952; *Neighbors for Smart Rail v. LA County Metropolitan Transit Authority* (2013) 57 Cal.4th 310, 315.) While the agricultural lands in the Project vicinity may not be prime habitat for many species, that does not mean that species do not regularly occupy and/or pass through them. In fact, numerous wildlife species—especially birds—use agricultural areas as permanent and migratory habitat. This inaccurate, incomplete, and misleading language obscures the environmental setting and fails to support adequate analysis of Project impacts.

14-T cont.

Also, the DEIR does not consider the potential impact on wildlife connectivity resulting from the loss of undeveloped areas or the introduction of new buildings, traffic, and other human impacts that would result from the proposed Project. Construction and operation of the proposed Project would impact any species that are present in these agricultural areas. Edge effects, including but not limited to increased traffic, noise, light, and human presence, can disrupt wildlife within and near the Project footprint. The edge effects of development can impact key wide-ranging predators, such as mountain lions, bobcats, and American badgers (Crooks, 2002; Delaney et al., 2010; J. S. Lee et al., 2012; Riley et al., 2006; Smith et al., 2015, 2017; Vickers et al., 2015; Wang et al., 2017), as well as smaller species with smaller home ranges, such as song birds, bats and other small mammals, and herpetofauna (Benítez-López et al., 2010; Bunkley & Barber, 2015; Cushman, 2006; Delaney et al., 2010; Gray, 2017; Kociolek et al., 2011; McClure et al., 2013a;

Slabbekoorn & Ripmeester, 2008; Ware, McClure, et al., 2015). The federally endangered and state threatened San Joaquin kit fox is extremely vulnerable to roads and development in their already-declining habitat. Limiting movement and dispersal can affect species' ability to find food, shelter, mates, and refugia after disturbances like fires or floods. The proposed Project would result in habitat loss and edge effects due to increased human presence and activities that would degrade undeveloped areas. Additionally, the increased traffic, noise, and activity on roads serving the Project that would result from Project operations would hinder wildlife movement, impairing local connectivity. Increased traffic could also lead to elevated atmospheric nitrogen deposition, which can be harmful to nitrogen-limited ecosystems like the endangered Bakersfield cactus's habitat (USFWS, 2011). The DEIR fails to adequately disclose, assess, and mitigate the Project's edge effects on wildlife connectivity and therefore fails to comply with CEQA.

Light pollution at night affects many nocturnal species, including bats, birds, insects, and terrestrial mammals, among others. The impacts of light pollution are varied, and different species respond to artificial light at night in different ways. Individual impacts of light pollution include numerous physiological (e.g., hormone levels) and behavioral changes (e.g., shifts in activity patterns) that can impact an animal's ability to survive and thrive in their environment (Aulsebrook et al., 2020; Dominoni, 2015; Gaston et al., 2014; Kempenaers et al., 2010). These individual impacts can cascade into ecological changes like phenological mismatches and shifts in predation patterns that can disrupt population and ecosystem-level dynamics, including mortality, fecundity, and community productivity, among others (Ditmer et al., 2021; Gaston et al., 2013; Sanders et al., 2020). Light pollution was only considered in the context of aesthetics in the DEIR, and its impacts on wildlife were not analyzed or mitigated at all, in violation of CEQA. (DEIR at 4.1-36.) This must be remedied through a full analysis. Also, although the DEIR includes mitigation measure MM 4.1-4, which calls for the later development and approval of a lighting plan, there is no justification for the deferral of the preparation and review of a lighting plan for the Project. (*San Joaquin Raptor Rescue Center,* 149 Cal.App.4th at 670; *POET, LLC,* 218 Cal.App.4th at 736-737.) Following the expansion of the Project lighting analysis to reflect the potential for light related impacts on area wildlife, mitigation measure MM 4.1-4 should be amended to require an implementable lighting plan at the time of environmental review. 14-T cont.

Development of new buildings in open spaces (including agricultural areas) can also significantly impair movement of many wildlife species. For example, collisions with buildings are one of the primary sources of mortality for birds (Basilio et al., 2020; Klem, 2009). Recent studies have shown that birds are experiencing significant declines, with estimates indicating losses of up to three billion birds in the past half-century (K. V. Rosenberg et al., 2019). This potential impact must be analyzed and mitigation for the proposed Project must be considered and mandated. Mitigation must include the implementation of bird collision reduction measures to prevent further decline of avian biodiversity.

V. THE DEIR FAILS TO ADEQUATELY ANALYZE AND MITIGATE PROJECT-RELATED NOISE IMPACTS 14-U

Noise is the second largest environmental cause of health problems, just after air pollution. (Angelo, 2023; Dutchen, 2022.) Large-scale studies show that, over time, noise exposure increases the risk of high blood pressure, coronary heart disease, and heart attacks, as well as strokes, diabetes, dementia, and depression. (Bosker, 2019; Kim et al., 2012; Park et al., 2018; Passchier-Vermeer & Passchier, 2014.) Noise pollution not only drives hearing loss, tinnitus, and hypersensitivity to sound, but it can cause or exacerbate cardiovascular disease, type 2 diabetes, sleep disturbances, stress, mental health and cognition problems, including memory impairment and attention deficit disorders, childhood learning delays, and low birth weight. (Dutchen, 2022.) For children, noise pollution interferes with behavioral and cognitive development and speech and language development, and it decreases concentration, impairs memory retention, and increases blood pressure. (Angelo, 2023; Ferguson et al., 2013; Raess et al., 2022.) For adolescents, it can interfere with mental health. (Lim et al., 2018.) The DEIR completely ignores these issues and fails to connect Project-related noise emissions with real-world impacts on nearby residents, in violation of CEQA. (*Sierra Club* 6 Cal.5th 502, 510.)

14-U cont.

Despite these risks, the DEIR's discussion of Project-related noise impacts suffers from critical deficiencies that preclude informed public review and decision making under CEQA. (Pub. Res. Code § 21061; *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 392.) The proposed Project would build a massive industrial warehouse development in an area already experiencing elevated noise levels. Yet, the DEIR fails to adequately disclose the Project's noise impacts on nearby residents and sensitive receptors. (CEQA Guidelines § 15151.) The County cannot approve this Project until these deficiencies are remedied through the preparation of a revised environmental document with adequate noise analysis and enforceable mitigation measures.

A. The DEIR Fails to Adequately Analyze and Mitigate Construction Noise Impacts

The DEIR relies exclusively on fixed numeric thresholds derived from Federal Transit Administration guidance without considering the increase above ambient noise levels that construction would cause. (DEIR at 4.12-15.) Specifically, the DEIR uses an 80 dBA equivalent continuous noise level ("dBA Leq") threshold for daytime noise. (*Id*.) California courts have repeatedly rejected exclusive reliance on absolute noise standards because such standards fail to assess actual impacts on receptors by ignoring baseline conditions and relative increases. (*King & Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814, 892 – 894 [EIR's exclusive reliance on absolute threshold does not provide complete picture of noise impacts]; *Berkeley Keep Jets Over the Bay v. Board of Port Commrs*. (2001) 91 Cal.App.4th 1344, 1373 – 1382 [EIR must analyze increases over ambient levels, not just absolute levels]; *Keep Our Mountains Quiet v. Cty. of Santa Clara* (2015) 236 Cal.App.4th 714, 733 [agency failed to "consider both the increase in noise level and the absolute noise level associated with a project," and thus ignored evidence of significant increases].) The DEIR's own analysis implicitly acknowledges this deficiency, stating that "[t]he Project's construction activities, in combination with the construction of any other past, present, or reasonably foreseeable projects in the area could result in increased short-term construction noise levels in the Project area (depending upon the specific timing of the construction of those other projects and proximity to the Project site)." (DEIR at 4.12-26.) Yet, the DEIR fails

14-V

to apply this cumulative impact analysis methodology to evaluate the noise impacts associated with Project construction. This inconsistency renders the construction noise significance determination unsupported by substantial evidence, as required. (CEQA Guidelines § 15064(f)(1).)

14-V cont.

B. The DEIR Fails to Analyze the Impacts of Project Noise on Wildlife

The DEIR fails to acknowledge noise impacts on wildlife. Undoubtedly, ongoing noise from industrial uses will impact wildlife in the project area. (*See, e.g., Keep Our Mountains Quiet,* 236 Cal.App.4th at 734 [requiring an EIR before authorizing project because substantial evidence indicated that noise may impact surrounding residents and biological resources, even if the project would not generate noise in excess of the county's noise ordinance and general plan].) Impacts from noise include altered vocal behavior to mitigate masking (where elevated noise levels interfere with an animal's ability to perceive a sound), changes in vigilance and foraging behavior, and impacts on individual fitness and the structure of ecological communities. (Shannon et al., 2016.) And these impacts do not always improve over time; researchers have postulated that some species in areas with chronic noise pollution may become more sensitive to noise stressors instead of becoming habituated or less sensitive to them. (Goudie & Jones, 2004.) Therefore, special-status and sensitive species and other native wildlife in and around the Project site could be significantly adversely affected by ongoing noise from the Project.

14-W

Additionally, other studies show that high levels of anthropogenic noise harm wildlife and plants across diverse taxa. For example, field observations and controlled laboratory experiments have shown that traffic noise can significantly degrade habitat value for migrating songbirds. (Ware et al., 2015.) Subjects exposed to 55 and 61 dBA of traffic noise exhibited decreased feeding behavior and duration, as well as increased vigilance behavior. (*Id*.) Such behavioral shifts increase the risk of starvation, thus decreasing survival rates. Another study found a 28 percent decrease in bird abundance in areas when traffic noise was present compared to when there was no traffic noise. (McClure et al., 2013.) The Project would result in increased traffic and industrial noise, suggesting that Project-related noise could have significant adverse impacts on special-status and sensitive species. Yet, the DEIR fails to adequately analyze noise impacts on biological resources, in violation of CEQA. (CEQA Guidelines § 15064(f)(1); *see also No Oil, Inc. v. Los Angeles* (1974) 13 Cal.3d 68, 75.)

C. The DEIR Must Include Feasible and Enforceable Noise Impact Mitigation Measures

Had the County adequately analyzed Project-related noise impacts, it likely would have concluded that Project-related noise impacts would be significant, and it would have therefore been required to consider and, where feasible, adopt mitigation measures to reduce such impacts. (Pub. Res. Code §§ 21002, 21081(a)(2); CEQA Guidelines § 15370.) Numerous feasible mitigation measures exist that would substantially reduce Project noise impacts but are conspicuously absent from the DEIR's mitigation program. The California Attorney General's guidance document for lead agencies considering warehouse projects under CEQA identifies numerous feasible noise mitigation measures specifically developed for warehouse projects.

14-X

(Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act, 2022.) At minimum, the County must:

- Require the Project Applicant to construct acoustical barriers and/or berms at the eastern project edge;
- Require the Project Applicant to orient and fully shield loading docks away from receptors with a doors-closed operations plan;
- Prohibit nighttime loading/queuing within 600 feet of residences;
- Require the Project Applicant to implement truck-route restrictions that avoid the nearest homes;
- Require the Project Applicant to use broadband (quiet) backup alarms;
- Impose active enforcement of a strict less-than-or-equal to 2-minute idling rule;
- Require on-site queuing so trucks do not stage on public streets;
- Pave access roads with low-noise asphalt and post reduced speed signage nearby;
- Verify mufflers and acoustic shrouds are equipped on stationary equipment and surround any combustion equipment with temporary noise enclosures during construction;
- Conduct post-occupancy noise monitoring if Leq/Lmax at receptors exceed modeled levels.

14-X cont.

(*Id*.) These measures are recommended by the Attorney General and are frequently implemented across the warehousing industry in California.

Further, the use of electric trucks would dramatically reduce Project-related noise impacts while simultaneously addressing the Project's significant air and GHG emissions. Battery-electric heavy-duty trucks produce substantially less noise than diesel trucks, with studies documenting noise reductions of up to 10 dBA compared to diesel equivalents. (Ibarra et al., 2017.) Given that the Project would generate 6,885 vehicle trips per day[1] (DEIR at 4.2-29) with over 800 daily trips being from heavy-duty trucks (DEIR at 4.2-51), transitioning these trips from diesel to electric propulsion would substantially reduce noise, air pollution, and climate impacts. As discussed in detail *supra*, requiring electric truck usage is feasible. The County must therefore require the Project Applicant to mandate in its leases with subsequent tenants and/or lessees of the site that commercial operators purchase and/or utilize battery-electric medium- and heavy-duty trucks for all on-site operations to the maximum extent feasible. Such a requirement is legally permissible and practically achievable given the rapid commercialization of heavy-duty electric trucks and California's regulatory trajectory toward zero-emission freight. (Pub. Res. Code §§ 21081, 21100;

[1] The DEIR provides two different figures for the total number of vehicle trips to be generated by the Project on a daily basis without explanation. At one point the DEIR asserts that the Project would generate 6,885 total daily vehicle trips but elsewhere insists that it would generate only 6,405 daily vehicle trips. (Compare DEIR at 4.2-29 ["The Project-related motor vehicle emissions were calculated primarily from 6,885 total daily vehicle trips generated by the Project, including employee trips to and from the site and truck trips associated with the proposed land use."] with DEIR at 4.16-15.) The County must explain this discrepancy and redo its analyses where any inaccuracy resultant from this discrepancy may have affected its calculations.

CEQA Guidelines § 15021(a).) Again, if the County declines to adopt such a measure, it must explain the basis for its decision. (*Los Angeles Unified Sch. Dist.,* 58 Cal.App.4th at 1029.) Failure to do so would violate CEQA. 14-X cont.

VI. THE DEIR'S DISCUSSION OF PROJECT ALTERNATIVES IS LEGALLY INSUFFICIENT UNDER CEQA

The DEIR's alternatives analysis violates CEQA in multiple ways. First, the DEIR relies on an unlawfully narrow set of objectives to conduct its alternatives review. (14 C.C.R. § 15126.6(a); *North Coast Rivers Alliance v. Kawamura* (2015) 243 Cal.App.4th 647, 668; *In re Bay-Delta* (2008) 43 Cal.4th 1143, 1163; *Save San Francisco Bay Assn. v. San Francisco Bay Conservation Com*. (1992) 10 Cal.App.4th 908, 924 – 925.) The DEIR states that the Project's objectives are to, among other things, "[d]evelop state of the art warehouses and quick service restaurants near major transportation corridor [,]" and "[p]romote land use compatibility with, and in proximity to, adjacent airport related uses by developing warehouses and quick service restaurants." (DEIR at 6-5.) To the extent these objectives require the development of a particularized configuration of a warehouse and quick service restaurant complex that meets specific requirements, they are unlawfully narrow and cannot be relied upon. (*Kawamura*, 243 Cal.App.4th at 668; *In re Bay-Delta*, 43 Cal.4th at 1163.)

The DEIR also refused to meaningfully consider alternative sites within the Bakerfield metropolitan area that could help to reduce Project-related impacts, in violation of CEQA. (DEIR at 6-8 – 6-9 [alternatives considered include a reduced footprint alternative within the same site, an Eastern Kern alternative location, and alternatives considered and rejected are limited to sites that would qualify as "infill" or "transit-oriented development" ("TOD")].) In this unreasonably constrained consideration of alternative sites, the County relied on "there being no suitable infill sites for the size of the land area located in the administrative boundaries of unincorporated Kern County" and similarly "no suitable TOD sites within the administrative boundaries of unincorporated Kern County for siting the Project." (*Id*. at 6-9.) This reasoning misunderstands CEQA's mandates. Consideration of alternative sites that could potentially reduce Project-related impacts should be governed by the "rule of reason". (*Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 407; *Citizens of Goleta Valley*, 197 Cal.App.3d at 1181.) It is unreasonable for the County to limit the range of alternative sites considered to those that meet arbitrary standards, which resulted in the failure to actually consider any alternative locations within the Project vicinity. There may be sites in the area (or elsewhere) that could accommodate a Project that meets the Project objectives outlined in the DEIR without impacting special status species or sensitive receptors to the same degree as would the proposed Project. The County must therefore amend its alternatives analysis to evaluate the feasibility of such alternative sites. (*Citizens of Goleta Valley*, 197 Cal.App.3d at 1167; *see also Banning Ranch Conservancy,* 2 Cal.5th at 936 – 937 [requiring consideration of alternative sites that may lessen impacts on endangered species, wherever possible].) 14-Y

Further, the DEIR's alternatives review also relies on unsubstantiated objectives. As noted, the DEIR states that the Project Objectives are to "[p]ositively contribute to the local economy

through new capital investment, the creation of new employment opportunities, expansion of the tax base, economic growth and development, and payment of development fees[,]" and to "[p]rovide new general commercial opportunities for the surrounding area including existing residents, employees, and airport users." (DEIR at 6-5.) Nowhere in the DEIR does the County interrogate the premise that the proposed Project would actually result in the "creation of new employment opportunities" (*Id*.) This is telling, because it is not clear that the proposed Project is needed in the community or likely to provide the kind of jobs the County has envisioned. There are hundreds of vacant warehouse facilities throughout California. (*See, e.g*., Phillips & McCarthy, 2024) Any claim that this Project is needed to meet demand for warehousing is therefore entirely speculative and likely incorrect, and the County should amend its analyses to account for this.

Neither is it clear that the Project would generate or sustain the kinds of jobs contemplated. Non-supervisory blue-collar warehouse workers in California earn less than the average annual earnings of other workers. (David Mickey-Pabello et al., 2025; Living Wage Institute, 2023.) Warehouse workers at Amazon, for example, frequently cannot pay their bills, suffer from housing and food insecurity, and often need to rely on public assistance programs. (Beth Gutelius & Sanjay Pinto, 2024.) The prospects for career advancement within the logistics industry also tend to be low for blue-collar warehouse workers. (*Id*.) And turnover rates tend to be high, primarily due to poor working conditions. (National Employment Law Project, 2020). Moreover, these jobs may not remain viable in the long term; automation is already and will continue to decrease the amount of jobs associated with warehousing operations. (Bridget McCrea, 2019; Taylor Herzlich, 2025.) Warehouse jobs also tend not to include basic benefits like health insurance, which is concerning given that transportation and warehouse are some of the most dangerous industry groups in the country according to federal regulators. (Juliann Allison Emmons & Ellen Reese, 2023; Steve Viscelli, 2016; Tejpaul Singh Bainiwal et al., 2024; U.S. Bureau of Labor Statistics, 2024.) National surveys of Amazon warehouse workers, for instance, found that 69 percent of respondents reported using unpaid time off to recover from work-related pain or exhaustion. (Beth Gutelius & Sanjay Pinto, 2024.) It is therefore speculative that the Project, at least as proposed, would supply the kind of jobs contemplated by the County.

14-Y cont.

A. The DEIR's Discussion of the "Eastern Kern" Alternative is Inconsistent and Misleading

The County refers to the third alternative selected for comparison to the proposed Project as the "Eastern Kern/Mojave Specific Plan Project Alternative Site." (DEIR at 6-32.) This alternative proposes to develop essentially the same facility, but to site the complex in the eastern part of Kern County within the Mojave Specific Plan area, rather than in the Bakersfield metropolitan area. (DEIR at 6-33.) Ultimately, however, a meaningful consideration of a potential Eastern Kern location is undermined by the DEIR's inconsistent and misleading analysis of this alternative.

14-Z

For example, DEIR Table 6-2, *Comparison of Alternatives*, summarizes and compares the environmental impacts of each analyzed alternative to those of the Project. (*Id*. at 6-10.) This summary refers to both the relative impact of the alternative as compared to the Project ("less,

similar, or greater") and an abbreviated significance determination of the specific alternative itself (e.g., "LTS" for less than significant impact). (*Id.*) In Table 6-2, the Eastern Kern location is summarized as having "less" of an air quality impact than the Project but is still shown to have a significant and unavoidable impact. (*Id*. at 6-11.) However, this is contradicted by the expanded analysis of the Eastern Kern location alternative included under Section 6.7.3 of the DEIR. There, the DEIR describes the air quality impacts of construction and operation of the Eastern Kern location alternative as less than significant. (*Id*. at 6-34 – 6-35.) Also, the analysis concludes with the determination that cumulative impacts to air quality would likewise be less than significant. (*Id.*) This contrasts with those of the proposed Project, which the DEIR determines will have significant unavoidable operational and cumulative air quality impacts. (*See e.g*., *Id*. at 1-33.)

The only significant and unavoidable air quality impacts associated with the Eastern Kern location identified in the alternatives analysis are based on the potential for exposure to sensitive receptors. (*Id*. at 6-34.) In support of this conclusion, the DEIR offers confusing and unsubstantiated analysis. For example, the DEIR admits that "[w]ith regard to exposure to sensitive receptors, the impact of [the Eastern Kern alternative] cannot be predicted without knowledge of the specific alternative site and the locations of nearby sensitive receptors" because the Project applicant does not own property within the Mojave Specific Plan area. (*Id*.) However, the DEIR goes on to assume, based on the largely undeveloped state of much of the Specific Plan area, that air quality impacts due to exposure to sensitive receptors would be significant and unavoidable, an impact the DEIR concludes is similar to that of the proposed Project. (*Id.*) 14-Z cont.

First, this conclusion regarding the Eastern Kern alternative is misleading because the County's significance determination for the Project's emissions impacts on sensitive receptors is *not* significant and unavoidable. Rather, the DEIR concludes that this impact of the proposed Project would be less than significant with mitigation. (*Id*. at 1-33.) Therefore, the Eastern Kern alternative can either be assumed to have similar impacts to the proposed Project *or* significant and unavoidable impacts, but not both. Second, this conclusion is illogical and not based on substantial evidence. Substantial evidence consists of "facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts" and not "argument, speculation," or "unsubstantiated opinion." (CEQA Guidelines § 15064 subd. (f)(5); *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal.4th 204, 228.) Here, the DEIR does not provide any factual evidence in support of the assertion that a Project location within the Mojave Specific Plan area would be largely undeveloped. Further, the assumption that an alternative location within a largely undeveloped region of Kern County would result in significant and unavoidable exposure of sensitive receptors to emissions is unreasonable. Rather, if the proposed Project, which is located approximately 400 feet from residential uses, is determined to have a less than significant impact on sensitive receptors with mitigation, then the same mitigation measures should be considered effective for any Eastern Kern alternative location with similar or greater proximity to sensitive receptors. Also, it is likely that an alternative location in a less densely developed setting would minimize the likelihood of sensitive receptor exposure, due to the possibility of selecting a site with fewer adjacent residential or other sensitive uses overall as compared to the proposed Project. For these reasons, the analysis and conclusions regarding Alternative 3 are unsubstantiated, misleading and should be revised to allow for a meaningful

comparison of the proposed Project and the environmentally superior alternative Eastern Kern location.

14-Z cont.

VII. CONCLUSION

Thank you for the opportunity to submit comments on the DEIR for the Project. As detailed above, the Center is concerned that the DEIR lacks an adequate analysis of, and mitigation for, Project impacts related to air quality, greenhouse gas emissions, species and habitat, and noise, and that the DEIR analyzes an impermissibly narrow range of Project alternatives. The Center urges the County to revise the DEIR to correct these deficiencies, consistent with the County's obligations as a lead agency under CEQA, and to recirculate the revised DEIR for public review and comment.

Given the possibility that the Center will be required to pursue legal remedies in order to ensure that the County complies with its legal obligations including those arising under CEQA, we would like to remind the County of its statutory duty to maintain and preserve all documents and communications that may constitute part of the "administrative record" of this proceeding. (Pub. Res. Code § 21167.6(e); *Golden Door Properties, LLC v. Superior Court* (2020) 53 Cal.App.5th 733, 763) The administrative record encompasses any and all documents and communications that relate to any and all actions taken by the County with respect to the Project, and includes "pretty much everything that ever came near a proposed [project] or [] the agency's compliance with CEQA. . . ." (*County of Orange v. Superior Court* (2003) 113 Cal.App.4th 1, 8.) The administrative record further includes all correspondence, emails, and text messages sent to or received by the County's representatives or employees, that relate to the Project, including any correspondence, emails, and text messages sent between the County's representatives or employees and the Applicant's representatives or employees. Maintenance and preservation of the administrative record requires that, *inter alia*, the County (1) suspend all data destruction policies; and (2) preserve all relevant hardware unless an exact replica of each file is made.

14-AA

Please add the Center to your notice list for all future updates to the Project, using the contact information below, and do not hesitate to contact the Center with any questions.

Sincerely,



Seth Alston, Associate Attorney
2100 Franklin St., Suite 375
Oakland, CA 94612
Tel: (510) 844-7100
salston@biologicaldiversity.org

References

Ambrose, R. F., Callaway, J. C., & Lee, S. F. (2006). An evaluation of compensatory mitigation projects permitted under Clean Water Act Section 401 by the Los Angeles Regional Quality Control Board, 1991-2002. In *California State Water Resources Control Board* (Issue August).

American Lung Association. (2024). *State of the Air Report*. American Lung Association. https://www.lung.org/getmedia/dabac59e-963b-4e9b-bf0f-73615b07bfd8/State-of-the-Air-2024.pdf

Amol Phadke, Aditya Khandekar, Nikit Abhyankar, David Wooley, & Deepak Rajagopal. (2021). *Why Regional and Long-Haul Trucks are Primed for Electrification Now*. Lawrence Berkeley National Laboratory. https://eta-publications.lbl.gov/sites/default/files/updated_5_final_ehdv_report_033121.pdf

Anderson, S. H. L., Ayers, W., Dechant, J. A., Green, M. T., Howe, W. H., Jones, S. L., Klute, D. S., Rosenberg, D. K., Sheffield, S. R., & Zimmerman, T. S. (2001). *Draft status assessment and conservation plan for the western burrowing owl in the United States Administrative Report*. U. S. Department of the Interior, Fish and Wildlife Service.

Angelo, A. (2023, March 3). *Could everyday noise be affecting your health?* UC Davis Environmental Health Sciences Center. https://environmentalhealth.ucdavis.edu/blog/could-everyday-noise-be-affecting-your-health

Aulsebrook, A. E., Connelly, F., Johnsson, R. D., Jones, T. M., Mulder, R. A., Hall, M. L., Vyssotski, A. L., & Lesku, J. A. (2020). White and Amber Light at Night Disrupt Sleep Physiology in Birds. *Current Biology*, *30*(18), 3657-3663.e5. https://doi.org/10.1016/j.cub.2020.06.085

Baril, A. (1993). Pesticides and wildlife in the prairies: Current regulatory issues. In G. L. Holyrod, H. L. Dickson, M. Regnier, & H. C. Smith (Eds.), *Proceedings of the third endangered species and prairie conservation workshop. Natural History Occasional Paper 19* (pp. 44–48). Provincial Museum of Alberta, Edmonton, Alberta.

Basilio, L. G., Moreno, D. J., & Piratelli, A. J. (2020). Main causes of bird-window collisions: A review. *Anais Da Academia Brasileira de Ciências*, *92*(1), e20180745. https://doi.org/10.1590/0001-3765202020180745

Becker, S., & Brinkley, G. (2025). *New York Warehouse Boom*. Environmental Defense Fund.

Benítez-López, A., Alkemade, R., & Verweij, P. A. (2010). The impacts of roads and other infrastructure on mammal and bird populations: A meta-analysis. *Biological Conservation*, *143*(6), 1307–1316. https://doi.org/10.1016/j.biocon.2010.02.009

Betancourt, S., & Vallianatos, M. (2012). *Storing Harm: The Health and Community Impacts of Goods Movement Warehousing and Logistics* (THE Impact Project Policy Brief Serie). Trade, Health and Environment Impact Project.

Beth Gutelius & Sanjay Pinto. (2024). *Handling Hardship: Data on Economic Insecurity Among Amazon Warehouse Workers*. Center for Urban Economic Development at the University of Illinois, Chicago. https://indigo.uic.edu/articles/report/Handling_Hardship_Data_on_Economic_Insecurity_Among_Amazon_Warehouse_Workers/25823068?file=46334659

Bosker, B. (2019). Why Is Everything Getting Louder? *The Atlantic*. https://www.theatlantic.com/magazine/archive/2019/11/the-end-of-silence/598366/

Bridget McCrea. (2019, May 15). Annual Warehouse and Distribution Center Automation Survey: More automation, please. *Modern Materials Handling*. https://www.mmh.com/article/annual_warehouse_and_distribution_center_automation_survey_more_automation

Bunkley, J. P., & Barber, J. R. (2015). Noise Reduces Foraging Efficiency in Pallid Bats (*Antrozous pallidus*). *Ethology*, *121*(11), 1116–1121. https://doi.org/10.1111/eth.12428

California Aeronautical University. (2026a). *Admission Requirements* [Webpage]. https://calaero.edu/admissions/

California Aeronautical University. (2026b). *Aviation Programs* [Webpage]. https://calaero.edu/degree-programs/

California Aeronautical University. (2026c). *Bakersfield, CA - CAU Main Campus* [Webpage]. https://calaero.edu/flight-schools/california/bakersfield-main-campus/

California Air Resources Board. (2005). *AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE*. https://www.aqmd.gov/docs/default-source/ceqa/handbook/california-air-resources-board-air-quality-and-land-use-handbook-a-community-health-perspective.pdf

California Air Resources Board. (2018, September 26). *CARB Announces More than $200 Million in New Funding for Clean Freight Transportation*. https://ww2.arb.ca.gov/news/carb-announces-more-200-million-new-funding-clean-freight-transportation

California Air Resources Board. (2019). *Heavy-Duty Investment Strategy*. https://ww2.arb.ca.gov/sites/default/files/2019-09/fy1920fundingplan-appd.pdf

California Air Resources Board. (2020). *Updated Costs and Benefits Analysis for the Proposed Advanced Clean Truck Regulation*. https://ww3.arb.ca.gov/regact/2019/act2019/30dayattc.pdf

California Air Resources Board. (2021). *Draft Advanced Clean Trucks Total Cost of Ownership Discussion Document*. https://ww2.arb.ca.gov/sites/default/files/2021-08/210909costdoc_ADA.pdf

California Air Resources Board. (2023, October 23). *California Meets its Target for Zero-Emissions Truck Sales Two Years Ahead of Schedule*. California Air Resources Board. https://ww2.arb.ca.gov/news/california-meets-its-target-zero-emissions-truck-sales-two-years-ahead-schedule

California Air Resources Board. (2024, June 6). *1 in 6 New Trucks, Buses, and Vans in California are Zero-Emission*. California Air Resources Board. https://ww2.arb.ca.gov/news/1-6-new-trucks-buses-and-vans-california-are-zero-emission

California Air Resources Board. (2025, September 23). *Nearly 1 in 4 New Trucks, Buses and Vans in California go Zero-Emission, 2 Years Ahead of Schedule*. California Air Resources Board. https://ww2.arb.ca.gov/news/nearly-1-4-new-trucks-buses-and-vans-california-go-zero-emission-2-years-ahead-schedule

California Air Resources Board. (2026). *Drive Forward*. https://ww2.arb.ca.gov/drive-forward

California Attorney General. (2022). *Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act*. State of California Department of Justice.

California Energy Commission. (2025, September 24). *California Exceeds 200,000 Electric Vehicle Chargers*. https://www.energy.ca.gov/news/2025-09/california-exceeds-200000-electric-vehicle-chargers

California Public Utilities Commission. (2018). *Transportation Electrification Activities Pursuant to Senate Bill 350*. https://www.cpuc.ca.gov/sb350te/

California Strategic Growth Council. (2026a). *About the Data*. RePlan: Regional Conservation and Development Planning Tool. https://replan-tool.org/

California Strategic Growth Council. (2026b). *Background and Overview*. RePlan: Regional Conservation and Development Planning Tool. https://replan-tool.org/

CARB. (2022). *2022 Scoping Plan for Achieving Carbon Neutrality*. California Air Resources Board. https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf

CDFW. (2012). *Staff Report on Burrowing Owl Mitigation*. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843

CDFW. (2013, January 17). *Bakersfield Cactus (Opuntia basilaris var. Treleasei)*. https://wildlife.ca.gov/Conservation/Plants/Endangered/Opuntia-basilaris-var-treleasei

CDFW. (2018). *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. California Department of Fish and Wildlife.

Ceia-Hasse, A., Navarro, L. M., Borda-de-Água, L., & Pereira, H. M. (2018). Population persistence in landscapes fragmented by roads: Disentangling isolation, mortality, and the effect of dispersal. *Ecological Modelling*, *375*, 45–53. https://doi.org/10.1016/j.ecolmodel.2018.01.021

City of Beaumont. (2023). *Beaumont Pointe Specific Plan Final Environmental Impact Report (SCH No. 2020099007)*. https://www.beaumontca.gov/DocumentCenter/View/38586/Final-Environmental-Impact-Report

City of Fontana. (2023). *Final Environmental Impact Report for Citrus & Oleander Avenue at Santa Ana Avenue Project (SCH No. 2022110389)*. https://fonopengislayers.fontana.org/WebLink/DocView.aspx?id=1764544&dbid=0&repo=FontanaRecords&cr=1

Climate Action Tracker. (2023). *Warming Projections Global Update*.

Colin Campbell. (2024, April 2). Greenlane unveils EV truck charging corridor. *Trucking Dive*. https://www.truckingdive.com/news/greenlane-electric-truck-charging-corridor-interstate-15-california/711953/

Contra Costa County. (2021). *Environmental Impact Report for the CenterPoint Properties Project (State Clearninghouse No. 2019110003)*. https://files.ceqanet.lci.ca.gov/256802-3/attachment/3ntW1kfqcVbzgoQdoNVv726ko6HRswUxmNWQ_yoZq4lO9XUaRXthhKb14ky-QneGDR5TcQq2Dip2JT5x0

Crooks, K. R. (2002). Relative Sensitivities of Mammalian Carnivores to Habitat Fragmentation. *Conservation Biology*, *16*(2), 488–502. https://doi.org/10.1046/j.1523-1739.2002.00386.x

Cushman, S. A. (2006). Effects of habitat loss and fragmentation on amphibians: A review and prospectus. *Biological Conservation*, *128*(2), 231–240. https://doi.org/10.1016/j.biocon.2005.09.031

Cushman, S. A., McRae, B., Adriaensen, F., Beier, P., Shirley, M., & Zeller, K. (2013). Biological corridors and connectivity. In D. W. Macdonald & K. J. Willis (Eds.), *Key Topics in Conservation Biology 2* (1st ed., pp. 384–404). Wiley.

Damschen, E. I., Brudvig, L. A., Burt, M. A., Jr, R. J. F., Haddad, N. M., Levey, D. J., Orrock, J. L., Resasco, J., & Tewksbury, J. J. (2019). Ongoing accumulation of plant diversity through habitat connectivity in an 18-year experiment. *Science*, *365*(6460), 1478–1480.

David Mickey-Pabello, Ellen Reese, & Jesus Flores. (2025). *State of the Unions: California Labor in 2024*. UC Berkeley Labor Center. https://irle.ucla.edu/wp-content/uploads/2025/08/state-of-the-unions-2024.pdf

Delaney, K. S., Riley, S. P. D., & Fisher, R. N. (2010). A Rapid, Strong, and Convergent Genetic Response to Urban Habitat Fragmentation in Four Divergent and Widespread Vertebrates. *PLoS ONE*, *5*(9), e12767. https://doi.org/10.1371/journal.pone.0012767

Desmond, M. J., Savidge, J. A., & Eskridge, K. M. (2000). Correlations between Burrowing Owl and Black-Tailed Prairie Dog Declines: A 7-Year Analysis. *The Journal of Wildlife Management*, *64*(4), 1067. https://doi.org/10.2307/3803217

deSouza, P. N., Ballare, S., & Niemeier, D. A. (2022). The environmental and traffic impacts of warehouses in southern California. *Journal of Transport Geography*, *104*, 103440. https://doi.org/10.1016/j.jtrangeo.2022.103440

Ditmer, M. A., Stoner, D. C., Francis, C. D., Barber, J. R., Forester, J. D., Choate, D. M., Ironside, K. E., Longshore, K. M., Hersey, K. R., Larsen, R. T., McMillan, B. R., Olson, D. D., Andreasen, A. M., Beckmann, J. P., Holton, P. B., Messmer, T. A., & Carter, N. H. (2021). Artificial nightlight alters the predator–prey dynamics of an apex carnivore. *Ecography*, *44*(2), 149–161. https://doi.org/10.1111/ecog.05251

Dominoni, D. M. (2015). The effects of light pollution on biological rhythms of birds: An integrated, mechanistic perspective. *Journal of Ornithology*, *156*(S1), 409–418. https://doi.org/10.1007/s10336-015-1196-3

Dutchen, S. (2022). Noise and Health: Noise pollution is more than a nuisance. It's a health risk. *Harvard Medicine*. https://magazine.hms.harvard.edu/articles/noise-and-health

Fadhil, I., & Xie, Y. (2025). *Zero-Emission Bus and Truck Market in the United States (January—December 2024)*. The International Council on Clean Transportation.

Fedex. (2025). *2025 Corporate Responsibility Report*. https://www.fedex.com/content/dam/fedex/us-united-states/sustainability/gcrs/FedEx_2025_CR_Report.pdf

Ferguson, K. T., Cassells, R. C., MacAllister, J. W., & Evans, G. W. (2013). The physical environment and child development: An international review. *International Journal of Psychology*, *48*(4), 437–468. https://doi.org/10.1080/00207594.2013.804190

Fontana Warehouse Ordinance, Ordinance No. 1891, City of Fontana (2022).

Forum Mobility. (2025, January 23). *Forum Mobility Celebrates Grand Opening of FM Harbor, the Largest Port-Based Electric Truck Charging Depot in the U.S.* https://forummobility.com/news/forum-mobility-celebrates-grand-opening-of-fm-harbor-the-largest-port-based-electric-truck-charging-depot-in-the-us/

Fred Lambert. (2020, March 4). Daimler delivers more electric Freightliner eCascadia semi-trucks. *Eletrek*. https://electrek.co/2020/03/04/daimler-electric-freightliner-semi-trucks-ecascadia/;

Fred Lambert. (2025, April 28). Tesla gives update on Tesla Semi factory, says on track for volume production in 2026. *Eletrek*. https://electrek.co/2025/04/28/tesla-gives-update-semi-factory-on-track-volume-production-2026/

Friedlingstein, P., O'Sullivan, M., Jones, M. W., Andrew, R. M., Bakker, D. C. E., Hauck, J., Landschützer, P., Le Quéré, C., Luijkx, I. T., Peters, G. P., Peters, W., Pongratz, J., Schwingshackl, C., Sitch, S., Canadell, J. G., Ciais, P., Jackson, R. B., Alin, S. R., Anthoni, P., … Zheng, B. (2023). Global Carbon Budget 2023. *Earth System Science Data*, *15*(12), 5301–5369. https://doi.org/10.5194/essd-15-5301-2023

Friedrich, J., Ge, M., Pickens, A., & Vigna, L. (2023). *This Interactive Chart Shows Changes in the World's Top 10 Emitters*. World Resources Institute.

Frito-Lay. (2019, October 3). *Frito-Lay Transforms California Production Site into First-of-its-Kind Showcase for Sustainability*. https://www.fritolay.com/news/frito-lay-transforms-california- production-site-into-first-of-its-kind-showcase-for-sustainability

Gaston, K. J., Bennie, J., Davies, T. W., & Hopkins, J. (2013). The ecological impacts of nighttime light pollution: A mechanistic appraisal. *Biological Reviews*, *88*(4), 912–927. https://doi.org/10.1111/brv.12036

Gaston, K. J., Duffy, J. P., Gaston, S., Bennie, J., & Davies, T. W. (2014). Human alteration of natural light cycles: Causes and ecological consequences. *Oecologia*, *176*(4), 917–931. https://doi.org/10.1007/s00442-014-3088-2

Good Car, Bad Car. (2024, October 2). *A Look at Every Major EV Semi-Truck Actually in Customer Hands*. https://www.goodcarbadcar.net/a-look-at-every-major-ev-semi-truck-actually-in-customer-hands/

Gordon, B. L. (1996). *Monterey Bay area: Natural history and cultural imprints* (3rd ed.). Boxwood Press, Pacific Grove, California.

Goudie, R. I., & Jones, I. L. (2004). Dose-response relationships of harlequin duck behaviour to noise from low-level military jet over-flights in central Labrador. *Environmental Conservation*, *31*(4), 289–298.

Gray, M. (2017). *The influence of land use and habitat fragmentation on landscape connectivity*. University of California Berkeley.

Green, G. A., & Anthony, R. G. (1989). Nesting Success and Habitat Relationships of Burrowing Owls in the Columbia Basin, Oregon. *The Condor*, *91*(2), 347. https://doi.org/10.2307/1368313

Haddad, N. M., Brudvig, L. A., Clobert, J., Davies, K. F., Gonzalez, A., Holt, R. D., Lovejoy, T. E., Sexton, J. O., Austin, M. P., Collins, C. D., Cook, W. M., Damschen, E. I., Ewers, R. M., Foster, B. L., Jenkins, C. N., King, A. J., Laurance, W. F., Levey, D. J., Margules, C. R., … Townshend, J. R. (2015). Habitat fragmentation and its lasting impact on Earth's ecosystems. *Science Advances*, *1*(2), e1500052.

Haug, E. A., Millsap, B. A., & Martell, M. S. (1993). The burrowing owl (Speotyto cunicularia). In A. Poole & F. Gill (Eds.), *The birds of North America* (Vol. 61). Philadelphia: The Academy of Natural Sciences.

Haug, E. A., & Oliphant, L. W. (1987). Breeding biology of burrowing owls in Saskatchewan. In G. L. Holroyd, W. B. McGillivray, P. H. R. Stepney, D. M. Ealey, G. C. Trottier, & K. E. Eberhart (Eds.), *Endangered species in the Prairie Provinces. Provincial Museum of Alberta Occasional Paper, No. 9* (pp. 269–271).

Heller, N. E., & Zavaleta, E. S. (2009). Biodiversity management in the face of climate change: A review of 22 years of recommendations. *Biological Conservation*, *142*(1), 14–32.

Hjertaas, D. G. (1997). Recovery plan for the burrowing owl in Canada. In J. L. Lincer & K. Steenhoff (Eds.), *The burrowing owl: Its biology and management. Raptor Research Report Number 9* (pp. 107–111).

Ibarra, D., Ramírez-Mendoza, R., & López, E. (2017). Noise emission from alternative fuel vehicles: Study case. *Applied Acoustics*, *118*, 58–65. https://doi.org/10.1016/j.apacoust.2016.11.010

ICF. (2019). *Comparison of Medium- and HeavyDuty Technologies in California*. https://caletc.com/wp-content/uploads/2024/04/ICF-Truck-Report_Final_December-2019.pdf

IKEA. (2025, October 31). *New Volvo long-range electric trucks for IKEA zero emissions deliveries*. https://www.fedex.com/content/dam/fedex/us-united-states/sustainability/gcrs/FedEx_2025_CR_Report.pdf

IPCC. (2023). *Climate Change 2023 Synthesis Report: Summary for Policymakers*. Intergovernmental Panel on Climate Change (IPCC).

James, P. C., Fox, G. A., & Ethier, T. J. (1990). Is the Operational Use of Strychnine to Control Ground Squirrels Detrimental to Burrowing Owls? *Journal of Raptor Research*, *24*(4), 120–123.

Janzen, H. H. (2004). Carbon cycling in earth systems—A soil science perspective. *Agriculture, Ecosystems and Environment*, *104*, 399–417.

Jeff St. John. (2025, January 17). Without enough utility power, California EV-truck depots try microgrids. *Canary Media*.

Juliann Allison Emmons & Ellen Reese. (2023). *Unsustainable: Amazon, Warehousing, and the Politics of Exploitation*. University of California Press.

Kempenaers, B., Borgström, P., Loës, P., Schlicht, E., & Valcu, M. (2010). Artificial Night Lighting Affects Dawn Song, Extra-Pair Siring Success, and Lay Date in Songbirds. *Current Biology*, *20*(19), 1735–1739. https://doi.org/10.1016/j.cub.2010.08.028

Kerr, G. H., Meyer, M., Goldberg, D. L., Miller, J., & Anenberg, S. C. (2024). Air pollution impacts from warehousing in the United States uncovered with satellite data. *Nature Communications*, *15*(1), 6006. https://doi.org/10.1038/s41467-024-50000-0

Kim, M., Chang, S. I., Seong, J. C., Holt, J. B., Park, T. H., Ko, J. H., & Croft, J. B. (2012). Road Traffic Noise. *American Journal of Preventive Medicine*, *43*(4), 353–360. https://doi.org/10.1016/j.amepre.2012.06.014

Klem, D. (2009). Avian Mortality at Windows: The Second Largest Source of Bird Mortality on Earth. *Proceedings of the Fourth International Partners in Flight Conference: Tundra to Tropics*, 244–251.

Kociolek, A. V., Clevenger, A. P., St. Clair, C. C., & Proppe, D. S. (2011). Effects of Road Networks on Bird Populations: Effects of Roads on Birds. *Conservation Biology*, no-no. https://doi.org/10.1111/j.1523-1739.2010.01635.x

Koteen, L. E., Baldocchi, D. D., & Harte, J. (2011). Invasion of non-native grasses causes a drop in soil carbon storage in California grasslands. *Environmental Research Letters*, *6*.

Lee, J. S., Ruell, E. W., Boydston, E. E., Lyren, L. M., Alonso, R. S., Troyer, J. L., Crooks, K. R., & VandeWOUDE, S. (2012). Gene flow and pathogen transmission among bobcats (*Lynx rufus*) in a fragmented urban landscape. *Molecular Ecology*, *21*(7), 1617–1631. https://doi.org/10.1111/j.1365-294X.2012.05493.x

Lee, K. (2022, October 10). As Warehouses Multiply, Some Cities Say: Enough. *New York Times*. https://www.nytimes.com/2022/10/10/business/economy/warehouses-moratorium-california.html?action=click&pgtype=Article&state=default&module=styln-

Lim, J., Kweon, K., Kim, H.-W., Cho, S. W., Park, J., & Sim, C. S. (2018). Negative impact of noise and noise sensitivity on mental health in childhood. *Noise & Health*, *20*(96), 199–211. https://doi.org/10.4103/nah.NAH_9_18

Living Wage Institute. (2023). *Living Wage Calculation for Riverside County*. https://web.archive.org/web/20230928064826/https:/livingwage.mit.edu/counties/06065

Maclean, I. M. D., & Wilson, Robert. J. (2011). Recent ecological responses to climate change support predictions of high extinction risk. *Proceedings of the National Academy of Sciences*, *108*(30), 12337–12342.

Majestic Thousand Palms Settlement. (2025).

Mark Matousek. (2018, April 25). Tesla has a new customer for its electric Semi—Here are all the companies that have ordered the big rig. *Business Insider*. https://www.businessinsider.com/companies-that-ordered-tesla-semi-2017-12

Matthews, J. W., & Endress, A. G. (2008). Performance criteria, compliance success, and vegetation development in compensatory mitigation wetlands. *Environmental Management*, *41*(1), 130–141.

McClure, C. J. W., Ware, H. E., Carlisle, J., Kaltenecker, G., & Barber, J. R. (2013a). An experimental investigation into the effects of traffic noise on distributions of birds: Avoiding the phantom road. *Proceedings of the Royal Society B: Biological Sciences*, *280*(1773), 20132290.

McClure, C. J. W., Ware, H. E., Carlisle, J., Kaltenecker, G., & Barber, J. R. (2013b). An experimental investigation into the effects of traffic noise on distributions of birds: Avoiding the phantom road. *Proceedings of the Royal Society B: Biological Sciences*, *280*.

Meyer, S. E. (2012). Restoring and managing cold desert shrublands for climate change mitigation. In D. M. Finch (Ed.), *Climate Change in grasslands, shrublands, and deserts of the interior American West: A review and needs assessment. General Technical Report RMRS-GTR-285* (pp. 21–34). USDA Forest Service.

Mi, N., Wang, S., Liu, J., Yu, G., Zhang, W., & Jobbágy, E. (2008). Soil inorganic carbon storage pattern in China. *Global Change Biology*, *14*, 2380–2387.

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.

Mitsch, W. J., & Wilson, R. F. (1996). Improving the success of wetland creation and restoration with know-how, time, and self-design. *Ecological Applications*, *6*(1), 16–17.

Moilanen, A., Van Teeffelen, A. J. A., Ben-Haim, Y., & Ferrier, S. (2009). How much compensation is enough? A framework for incorporating uncertainty and time discounting when calculating offset ratios for impacted habitat. *Restoration Ecology*, *17*(4), 470–478.

National Employment Law Project. (2020). *Amazon's Disposable Workers: High Injury and Turnover Rates at Fulfillment Centers in California*. https://www.nelp.org/insights-research/amazons-disposable-workers-high-injury-turnover-rates-fulfillment-centers-california/

NFI. (2021, September 2). *SouthCoast AQMD Leads North America's Largest Deployment of Class 8 Battery-Electric Trucks with NFI*. https://www.nfiindustries.com/about-nfi/news/southcoast-aqmd-leads-northamericas-largest-deployment-of-class-8-batteryelectric-trucks-with-nfi/

NFI. (2025, April 22). *NFI and Prologis Mobility Open EV Truck Charging Hub to Power Fleet Electrification*. https://www.nfiindustries.com/about-nfi/news/nfi-and-prologis-mobility-open-ev-truck-charging-hub-to-power-fleet-electrification/

Nora Manthey. (2022, February 14). Anheuser-Busch showcases Zero-Emission Beer Delivery. *Eletrive*. https://www.electrive.com/2022/02/14/anheuser-busch-showcases-zero-emission-beer-delivery/

Notice of Findings, Western Burrowing Owl. (2024, October 15). California Fish and Game Commission.

Nuclear Energy Institute. (2022, August). *State Electricity Generation Fuel Shares*. https://www.nei.org/resources/statistics/state-electricity-generation-fuel-shares

Park, T., Kim, M., Jang, C., Choung, T., Sim, K.-A., Seo, D., & Chang, S. I. (2018). The Public Health Impact of Road-Traffic Noise in a Highly-Populated City, Republic of Korea: Annoyance and Sleep Disturbance. *Sustainability*, *10*(8), 2947. https://doi.org/10.3390/su10082947

Passchier-Vermeer, W., & Passchier, W. F. (2014). Noise exposure and public health. *Environmental Health Perspectives*, *108*(1). http.//ehpnetl.niehs.nih.gov/docs/2000/suppl-1/123-131passchier-vermeer/abstract.html

Phillips, S., & McCarthy, M. (2024). Warehouse CITY – An open data product for evaluating warehouse land-use in Southern California. *Environment and Planning B: Urban Analytics and City Science*, *51*(8). https://doi.org/https://doi.org/10.1177/239980832412625

Prologis. (2024). *North America's Largest Heavy-Duty EV Charging Hub Powered by Microgrid*. https://www.prologis.com/insights-news/success-stories/north-americas-largest-heavy-duty-ev-charging-hub-powered-microgrid

Prologis. (2025, September 23). Powering Logistics: How Warehouses Become the Next Energy Platform. *Prologis*. https://www.prologis.com/insights-news/blog/powering-logistics-how-warehouses-become-next-energy-platform

Raess, M., Valeria Maria Brentani, A., Flückiger, B., Ledebur De Antas De Campos, B., Fink, G., & Röösli, M. (2022). Association between community noise and children's cognitive and behavioral development: A prospective cohort study. *Environment International*, *158*, 106961. https://doi.org/10.1016/j.envint.2021.106961

Riley, S. P. D., Pollinger, J. P., Sauvajot, R. M., York, E. C., Bromley, C., Fuller, T. K., & Wayne, R. K. (2006). A southern California freeway is a physical and social barrier to gene flow in carnivores. *Molecular Ecology*, *15*, 1733–1741.

Rosenberg, D. K., Gervais, J. A., Ober, H., & DeSante, D. F. (1998). *An adaptive management plan for the burrowing owl population at NAS Lemoore*. The Institute for Bird Populations. Point Reyes Station, California. Publication No. 95.

Rosenberg, D. K., & Haley, K. L. (2003). *The ecology of burrowing owls in the agroecosystem of the Imperial Valley, California*. Studies in Avian Biology.

Rosenberg, K. V., Dokter, A. M., Blancher, P. J., Sauer, J. R., Smith, A. C., Smith, P. A., Stanton, J. C., Panjabi, A., Helft, L., Parr, M., & Marra, P. P. (2019). Decline of the North American avifauna. *Science*, *366*(6461), 120–124.

San Diego Gas & Electric Co. (2024, April 11). *First Class 8 Heavy-Duty Electric Freight Truck Makes Historic Crossing of U.S.-Mexico Border*. https://www.sdgetoday.com/news/first-class-8-heavy-duty-electric-freight-truck-makes-historic-crossing-us-mexico-border

Sanders, D., Frago, E., Kehoe, R., Patterson, C., & Gaston, K. J. (2020). A meta-analysis of biological impacts of artificial light at night. *Nature Ecology & Evolution*, *5*(1), 74–81. https://doi.org/10.1038/s41559-020-01322-x

Sean Wolfe. (2024, May 21). Amazon completes its first 'solar+storage+AI' project. *Factor This*. https://www.renewableenergyworld.com/solar/amazon-completes-its-first-solarstorageai-project/

Settlement Agreement: Center for Community Action and Environmental Justice v. City of Moreno Valley Riverside Superior Court Case No, CVRI2200683. (2021).

Shannon, G., McKenna, M. F., Angeloni, L. M., Crooks, K. R., Fristrup, K. M., Brown, E., Warner, K. A., Nelson, M. D., White, C., Briggs, J., McFarland, S., & Wittemyer, G. (2016). A synthesis of two decades of research documenting the effects of noise on wildlife. *Biological Reviews*, *91*(4), 982–1005. https://doi.org/10.1111/brv.12207

Sheffield, S. R. (1997). Owls as biomonitors of environmental contamination. In J. R. Duncan, D. H. Johnson, & T. H. Nichols (Eds.), *Biology and conservation of owls of the Northern Hemisphere: General Technical Report NC-190* (pp. 383–398). U.S.D.A. Forest Service.

Slabbekoorn, H., & Ripmeester, E. A. P. (2008). Birdsong and anthropogenic noise: Implications and applications for conservation. *Molecular Ecology*, *17*(1), 72–83. https://doi.org/10.1111/j.1365-294X.2007.03487.x

Smith, J. A., Suraci, J. P., Clinchy, M., Crawford, A., Roberts, D., Zanette, L. Y., & Wilmers, C. C. (2017). Fear of the human 'super predator' reduces feeding time in large carnivores. *Proceedings of the Royal Society B: Biological Sciences*, *284*(1857), 20170433. https://doi.org/10.1098/rspb.2017.0433

Smith, J. A., Wang, Y., & Wilmers, C. C. (2015). Top carnivores increase their kill rates on prey as a response to human-induced fear. *Proceedings of the Royal Society B: Biological Sciences*, *282*(1802), 20142711. https://doi.org/10.1098/rspb.2014.2711

South Coast Air Quality Management District. (2020). *Draft WAIRE Menu Technical Report*. http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/waire-menu- technical-report_draft_3-3-20.pdf?sfvrsn=6

State of California Department of Fish and Game. (2012). *Staff Report on Burrowing Owl Mitigation*.

Stein, B. A., Edelson, N., Anderson, L., Kanter, J. J., & Stemler, J. (2018). *Reversing America's Wildlife Crisis* (Issue March).

Steve Viscelli. (2016). *The Big Rig: Trucking and the Decline of the American Dream*. University of California Press.

Sudol, M. F., & Ambrose, R. F. (2002). The US Clean Water Act and habitat replacement: Evaluation of mitigation sites in Orange County, California, USA. *Environmental Management*, *30*(5), 727–734.

Taylor Herzlich. (2025, July 2). Amazon will soon employ more robots than humans as 1 million machines toil across facilities: Report. *New York Post*. https://nypost.com/2025/07/02/business/amazon-will-soon-employ-more-robots-than-humans-report/

Tejpaul Singh Bainiwal, Gregory B. Hutchins, Catherine Gudis, Pedro Freire, Elvira De La Torre, Natalie Carranza, Sara Bruene, Eric Calderon, Marissa Brookes, Michael Bates, Athena Tan, Beth Tamayose, Gary Rettberg, Ellen Reese, Zhuoyu Qiu, Fatima Nelson, Manisha Kapoor, KeAysia Jackson, Jingyan Guo, & Jingyan Guo, KeAysia Jackson, Manisha Kapoor, Fatima Nelson, Zhuoyu Qiu, Ellen Reese, Gary Rettberg, Beth Tamayose, and Athena Tan. (2024). *The State of Work: Transportation, Distribution, and Logistics in the Inland Empire*. UC Riverside Inland Empire Labor and Community Center. https://ielcc.ucr.edu/research/state-work-transportation-distribution-and-logistics-inland-empire

The International Council on Clean Transportation. (2024). *Zero-Emission Bus and Truck Market in the United States*. https://theicct.org/wp-content/uploads/2025/06/ID-374-%E2%80%93-US-HDV-2024_spotlight_final.pdf

Thomas, C. D., Cameron, A., Green, R. E., Bakkenes, M., Beaumont, L. J., Collingham, Y. C., Erasmus, B. F. N., de Siqueira, M. F., Grainger, A., Hannah, L., Hughes, L., Huntley, B., van Jaarsveld, A. S., Midgley, G. F., Miles, L., Ortega-Huerta, M. A., Peterson, A. T., Phillips, O. L., & Williams, S. E. (2004). Extinction risk from climate change. *Nature*.

Thomey, M. L., Ford, P. L., Reeves, M. C., Finch, D. M., Litvak, M. E., & Collins, S. L. (2014). *Review of climate change impacts on future carbon stores and management of warm deserts of the United States. General Technical Report RMRS-GTR-316*.

Trombulak, S. C., & Frissell, C. A. (2000). Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities. *Conservation Biology*, *14*(1), 18–30. https://doi.org/10.1046/j.1523-1739.2000.99084.x

Turco, M., Abatzoglou, J. T., Herrera, S., Zhuang, Y., Jerez, S., Lucas, D. D., AghaKouchak, A., & Cvijanovic, I. (2023). Anthropogenic climate change impacts exacerbate summer forest fires in California. *Proceedings of the National Academy of Sciences*, *120*(25), e2213815120.

Union of Concerned Scientists. (2025). *Ready for Work: 2.0 On the Road to Clean Trucks*. https://www.ucs.org/sites/default/files/2025-03/ready-for-work-2.pdf

Urban, M. C. (2015). Accelerating extinction risk from climate change. *Science*, *348*(6234), 571–573. https://doi.org/10.1126/science.aaa4984

U.S. Bureau of Labor Statistics. (2024). *Number and rate of nonfatal work injuries and illnesses in private industries* [Dataset]. https://www.bls.gov/charts/injuries-and-illnesses/number-and-rate-of-nonfatal-work-injuries-and-illnesses-by-industry.htm

US Fish and Wildlife Service. (2024). *5-Year Review, Bakersfield Cactus*.

US Global Change Research Program. (2023). *Fifth National Climate Assessment*.

USFWS. (2011). *Bakersfield cactus (Opuntia treleasei = Opuntia basilaris var treleasei) 5-year Review: Summary and Evaluation*. US Fish and Wildlife Service.

Van Der Ree, R., Jaeger, J. A. G., Van Der Grift, E. A., & Clevenger, A. P. (2011). Effects of Roads and Traffic on Wildlife Populations and Landscape Function: Road Ecology is Moving toward Larger Scales. *Ecology and Society*, *16*(1), art48. https://doi.org/10.5751/ES-03982-160148

Vickers, T. W., Sanchez, J. N., Johnson, C. K., Morrison, S. A., Botta, R., Smith, T., Cohen, B. S., Huber, P. R., Ernest, H. B., & Boyce, W. M. (2015). Survival and Mortality of Pumas (Puma concolor) in a Fragmented, Urbanizing Landscape. *PLOS ONE*, *10*(7), e0131490. https://doi.org/10.1371/journal.pone.0131490

Walmart. (2022, April 13). *Almart Canada opens high-tech, sustainable grocery distribution centre in Surrey, B.C.* https://www.walmartcanada.ca/content/walmart-canada/en_ca/news/2022/04/13/walmart-canada-opens-high-tech-sustainable-grocery-distribution-centre-in-surrey-b-c.html/.

Wang, Y., Li, Y., Ye, X., Chu, Y., & Wang, X. (2010). Profile storage of organic/inorganic carbon in soil: From forest to desert. *Science of the Total Environment*, *408*(8), 1925–1931.

Wang, Y., Smith, J. A., & Wilmers, C. C. (2017). Residential development alters behavior, movement, and energetics in an apex predator, the puma. *PLOS ONE*, *12*(10), e0184687. https://doi.org/10.1371/journal.pone.0184687

Ware, H. E., McClure, C. J. W., Carlisle, J. D., & Barber, J. R. (2015). A phantom road experiment reveals traffic noise is an invisible source of habitat degradation. *Proceedings of the National Academy of Sciences*, *112*(39), 12105–12109. https://doi.org/10.1073/pnas.1504710112

Ware, H. E., Mcclure, C. J. W., Carlisle, J. D., & Barber, J. R. (2015). A phantom road experiment reveals traffic noise is an invisible source of habitat degradation. *Proceedings of the National Academy of Sciences*, *112*(39), 12105–12109.

WattEV. (2025, April 6). WattEV adds Tesla Semis to its zero-emission fleet at Port of Long Beach. *WattEV*. https://www.wattev.com/post/wattev-adds-tesla-semis-to-its-zero-emission-fleet-at-port-of-long-beach

Weiskopf, S. R., Rubenstein, M. A., Crozier, L. G., Gaichas, S., Griffis, R., Halofsky, J. E., Hyde, K. J. W., Morelli, T. L., Morisette, J. T., Muñoz, R. C., Pershing, A. J., Peterson, D. L., Poudel, R., Staudinger, M. D., Sutton-Grier, A. E., Thompson, L., Vose, J., Weltzin, J. F., & Whyte, K. P. (2020). Climate change effects on biodiversity, ecosystems, ecosystem services, and natural resource management in the United States. *Science of The Total Environment*, *733*, 137782.

Wiens, J. J. (2016). Climate-related local extinctions are already widespread among plant and animal species. *PLoS Biology*, *14*(12), 1–18.

Windmiller, B., & Calhoun, A. (2007). Conserving Vernal Pool Wildlife in Urbanizing Landscapes. In *Science and Conservation of Vernal Pools in Northeastern North America* (pp. 233–251).

World Logistics Center Settlement Agreement. (2021).

Yang, B., Zhu, Q., Wang, W., Zhu, Q., Zhang, D., Jin, Z., Prasad, P., Sowlat, M., Pakbin, P., Ahangar, F., Hasheminassab, S., & Liu, Y. (2024). Impact of Warehouse Expansion on Ambient $PM_{2.5}$ and Elemental Carbon Levels in Southern California's Disadvantaged Communities: A Two-Decade Analysis. *GeoHealth*, *8*(9), e2024GH001091. https://doi.org/10.1029/2024GH001091

Yap, T. A., Prabhala, A., & Anderson, I. (2023). *Hidden in Plain Sight: California's Native Habitats are Valuable Carbon Sinks*. Center for Biological Diversity.

Yap, T. A., Rose, J. P., Anderson, I., & Prabhala, A. (2021). *California Connections: How Wildlife Connectivity Can Fight Extinction and Protect Public Safety*.

Zamanian, K., Pustovoytov, K., & Kuzyakov, Y. (2016). Pedogenic carbonates: Forms and formation processes. *Earth-Science Reviews*, *157*, 1–17.

Zedler, J. B., & Callaway, J. C. (1999). Tracking wetland restoration: Do mitigation sites follow desired trajectories? *Restoration Ecology*, *7*(1), 69–73.

Response to Comment Letter 14: Center for Biological Diversity (CBD) (April 10, 2026)

Response 14-A

This comment provides introductory remarks. The comment states that the Draft EIR has deficiencies in the analysis related to the project's emissions of air pollutants and greenhouse gases, impacts on biological resources, noise generation, and that the Draft EIR inadequately analyzed feasible alternatives. The comment asks the County to recirculate a revised Draft EIR. The County acknowledges the commenter's concerns. These topics are addressed substantively in the individual responses below and in the topical responses letters addressing the same environmental issue areas. As detailed in those responses, the County has determined that the Draft EIR's analyses are supported by substantial evidence and comply with CEQA's requirements.

Because this comment is introductory in nature and does not raise specific environmental issues beyond those addressed in the individual responses below, a general response is appropriate. (CEQA Guidelines § 15088(c) [the level of detail in the response may correspond to the level of detail in the comment]; see also Santa Rita Union School Dist. v. City of Salinas (2023) 94 Cal.App.5th 298, 349.) The comment has been noted for the record.

Response 14-B

The comment states that warehouse projects generate substantial air pollution and associated health risks—particularly from diesel truck traffic—and disproportionately affect nearby sensitive populations. The comment provides general background information regarding potential air quality and health impacts associated with warehouse uses. The Draft EIR describes the background air quality setting in the Air Quality chapter and describes potential health impacts relating to criteria pollutant and TAC emissions. The commenter contends that the Draft EIR fails to adequately analyze impacts to nearby receptors and does not include sufficient mitigation, and requests that the analysis be revised to address these deficiencies. The Draft EIR includes a detailed analysis of criteria pollutants, TACs, and impacts to sensitive receptors consistent with applicable regulatory guidance. The Draft EIR also adopts all feasible mitigation to reduce emissions, including a DMC/VERA which would offset project emissions to as near to net zero as feasible. Please see response 1-B, which explains that the Draft EIR's HRA found that impacts to the maximally impacted sensitive receptor were below the applicable health risk thresholds of the SJVAPCD. The comment does not identify specific deficiencies in the methodology or conclusions of the Draft EIR. The comment also states that a bill was proposed to prohibit warehouse development within 1,000 feet of residences and that CARB also recommended such a rule. This bill did not pass and is not law, nor has CARB or any other agency adopted requirements limiting warehouses to 1,000 feet away from residences. Should CARB or the legislature adopt such a requirement, the project would be required to comply with it. However, the CEQA analysis in the Draft EIR does not need to take into consideration proposed legislation or rulemaking. The comment also states that the Draft EIR does not adopt available feasible mitigation measures to reduce project impacts, but does not identify specific measures. Please see responses 1-E, 1-J, and 11-C, which address other measures mentioned by different commenters and explain how they are already incorporated into the project and its mitigation measures. Therefore, no revisions are required.

Response 14-C

The comment states that the Draft EIR's environmental setting is inaccurate because it does not describe sensitive receptors associated with CAU's main campus located approximately 2,000 feet southwest of the project boundary. The comment states the Draft EIR incorrectly identifies the "nearest existing schools" as

North High School and Wingland Elementary (approximately 1 mile or 5,280 away), and that CAU is only mentioned briefly in a land use compatibility discussion, which they argue is insufficient for air quality analysis. The comment describes CAU as a post-secondary institution with students as young as 17. The comment argues that young people are more susceptible to air-quality-related health effects and residential/recreational uses can increase exposure.

The County acknowledges the commenter's discussion of CEQA's informational purpose and environmental setting/baseline for impact evaluation. The Draft EIR's air quality analysis and HRA were prepared using established, health-protective approaches consistent with applicable guidance, including the SJVAPCD framework and OEHHA risk assessment protocols. The County acknowledges that CAU is an educational campus in the project vicinity. The County notes, however, that the project's HRA evaluated project-generated TAC exposure using SJVAPCD-recommended methods, which includes evaluating sensitive receptors within ¼ mile or 1,320 feet of a project site. As noted by the commenter, the CAU is located approximately 2,000 feet from the project site, which is beyond the ¼ mile boundary recommended by SJVAPCD. Please see response 1-B, which explains that the nearest sensitive receptor to the site, at 400 feet away, was found by the HRA to not be exposed to an above 20 in one million cancer risk (the SJVAPCD threshold for health risk) and thus that the project would not expose sensitive receptors to health risk above the applicable threshold. Because the CAU campus is more than five times the distance from the project as the maximally impacted sensitive receptor, impacts at the campus would also be less than significant. Nor is CAU located along any roadways that project vehicles would access to reach the site and thus any sensitive receptors at this location would be subject to significantly lower emissions than the modeled most impacted receptor.

With respect to the commenter's assertion that CAU students (including those as young as 17) are a key sensitive receptor group, the County notes that OEHHA's HRA guidance applies age sensitivity factors for early-life exposure through age 16 and does not apply additional age sensitivity adjustments for individuals older than 16. It is unlikely that many, if any, students at CAU are 16 or younger.

The commenter asserts that supplemental documentation is necessary to evaluate the potential health risks to the students at CAU. While, as noted, CAU is located more than ¼ mile from the project site which is beyond the sphere of influence recommended by SJVAPCD, the County provides Appendix A, Supplemental Air Quality Information, which includes an evaluation of the students at CAU from construction and operation of the project. The supporting HRA documentation evaluates the students at CAU as residents (using residential exposure parameters) because, as noted by the commenter, CAU provides on-campus housing. As shown in Appendix A, the health risks at CAU would be below SJVAPCD-identified thresholds. No additional response is required.

Response 14-D

The commenter states that although the Draft EIR identifies significant and unavoidable operational air quality impacts, the County has failed to adopt all feasible mitigation measures. The commenter asserts that additional mitigation is required but does not identify specific feasible measures that were omitted from the Draft EIR, nor does the commenter provide substantial evidence demonstrating that the adopted mitigation measures are inadequate or that additional measures would feasibly reduce impacts to a less-than-significant level. Accordingly, the comment does not provide substantial evidence indicating a deficiency in the Draft EIR's mitigation framework. Please see responses 1-E and 1-J.

Response 14-E

The commenter argues that the Draft EIR improperly relies on a DMA/VERA that is vague, deferred, and lacks defined measures or performance standards, asserting it violates CEQA by failing to identify feasible mitigation upfront and potentially relying on unrelated off-site emission reduction projects that do not ensure effective impact reduction or address environmental justice concerns. Utilizing a DMA/VERA to offset project emissions has been found legally sufficient by court rulings in the following cases; California Building Industry Assn. v. San Joaquin Valley APCD, Fresno County Case No. 06 CECG 02100 DS13; National Association of Home Builders v. San Joaquin Valley Air Pollution Control District, Federal District Court, Eastern District of California, Case No. 1:07-CV-00820-LJO-DLB; and Center for Biological Diversity et al. v. Kern County, Fifth Appellate District, Case No. F061908. Courts have also upheld fee mitigation programs if they are "part of a reasonable plan of actual mitigation that the relevant agency commits itself to implementing" (*Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th 1173, 1188) even if all of the details of the fee to be paid and projects to be implemented with the fee are not included in the EIR or mitigation measure itself. In *King and Gardiner Farms, LLC v. County of Kern* (2020) Case No. F077656, Slip Opin. at 67 (Cal. Ct. App. 5th Dist. Feb. 25, 2020), the Court of Appeal directly addressed the question of whether a DMA was adequate CEQA mitigation and concluded that this type of mitigation was not deferred and that fee-based programs are authorized by the CEQA Guidelines. Courts have held that even mitigation with no specific schedule for implementation is sufficient. See *Friends of Lagoon Valley v. City of Vacaville* (2007) 154 Cal.App.4th 807, 818 (absence of specific time schedule for completing road improvements with traffic mitigation fees was not fatal). The DMA/VERA is SJVAPCD's practice for offsetting emissions from projects in the District's jurisdiction.

The DMA/VERA identifies a framework for emissions reduction that is supported by SJVAPCD, including the use of off-site mitigation through established programs designed to achieve real, quantifiable, and enforceable emission reductions within the air basin. The commenter does not provide substantial evidence demonstrating that the DMA/VERA framework is infeasible, ineffective, or inconsistent with CEQA requirements. Rather, the commenter offers generalized assertions regarding deferred mitigation without substantiating how the DMA/VERA fails to ensure equivalent or greater emissions reductions. The Draft EIR appropriately discloses the mitigation framework and its implementation consistent with SJVAPCD-recognized mechanisms, and the record supports the conclusion that the mitigation strategy would achieve enforceable emissions reductions. Therefore, the comment does not identify a deficiency in the Draft EIR, and no revisions are required.

Response 14-F

The commenter states that the Draft EIR fails to require enforceable truck routing controls to avoid nearby sensitive receptors, and that the analysis does not adequately evaluate impacts to certain receptors thereby lacking substantial evidence to support the adequacy of the proposed routing approach. Please see response 1-I. The comment also alleges the project must adopt further feasible mitigation, but does not specify particular measures. Please see responses 1-E, 1-J, and 11-C.

Response 14-G

The comment acknowledges the Draft EIR mitigation measures but argues they are insufficient and should be strengthened to require zero-emission construction equipment, prohibit diesel generators, and significantly expand electric vehicle and truck charging infrastructure, asserting such measures are feasible based on other California warehouse projects and statewide deployment. Please see responses 1-E, 1-J, 11-C, and 13-PP. The comment mentions other projects which have committed to analogous requirements, but

none of these projects adopted the listed requirements as mitigation measures in CEQA documents and thus the comment provides no evidence that these measures are feasible as CEQA mitigation. The comment either mentions legal requirements, which could be infeasible and thus ban warehouse development, or voluntary settlement agreements pursuant to litigation, again a situation in which warehouse operators could agree to provisions that are not yet feasible in hopes that they will become feasible in the future. Nor does the comment go into enough detail to determine what exactly each of the projects agreed to or what the project design and purpose was, all of which matter for feasibility purposes. While the commenter cites examples from other projects, CEQA does not require uniform adoption of mitigation measures across projects, and feasibility must be determined based on project-specific conditions, available infrastructure, and existing regulatory frameworks. The commenter does not provide substantial evidence demonstrating that requiring fully zero-emission construction equipment, prohibiting all diesel backup generators, or mandating additional EV or heavy-duty truck charging infrastructure would be feasible for this project or would materially reduce impacts beyond those disclosed in the Draft EIR at this time.

Nonetheless, the County responds to each of the recommended mitigation measures from the commenter below.

Mitigation measure MM 4.2-3 must be amended to require all construction equipment to be zero-emission and to remove the opportunity for the County to grant an exemption to the Tier 4 mandate. Please see response 1-E.

Mitigation measure MM 4.2-3 must be amended to prohibit the use of diesel-fueled generators and to instead require the use of battery-electric backup generators for all project-related construction equipment. Please see response 13-PP.

The County should require EV infrastructure for all vehicles associated with the proposed project, in particular the medium- and heavy-duty trucks. Please see responses 1-E, 1-J, 11-C, and 13-PP.

The County notes the comment's statement that heavy-duty truck charging infrastructure is already being deployed at scale. The project includes HD truck charging infrastructure. Please see responses 1-E and 13-PP.

Response 14-H

The commenter asserts that the Draft EIR should prohibit diesel backup generators and require renewable energy storage systems (e.g., microgrids, batteries) instead, claiming such measures are feasible and already implemented in similar projects. The Draft EIR includes energy and GHG mitigation measures that promote efficiency, electrification, and reduced emissions to the extent feasible. Backup generators are subject to strict regulatory requirements and are designed for limited emergency use, resulting in minimal operational emissions. While renewable energy storage technologies are evolving, their application as a full substitute for emergency backup in large industrial facilities remains subject to feasibility, reliability, and infrastructure constraints. Please see response 13-PP. While other projects have utilized microgrids to support their energy needs, there is no evidence that a microgrid would reduce impacts from the project.

Response 14-I

The commenter asserts that the County must require the project applicant, tenants, and lessees to utilize zero-emission vehicles (ZEVs), including medium- and heavy-duty electric trucks, to mitigate air quality impacts. The project applicant and the County do not have the authority to require future tenants and vendors to utilize zero-emission vehicles, including medium- and heavy-duty vehicles that are zero-

emissions beyond current regulations. In addition, the comment does not provide evidence that ZE trucks in every class and capacity necessary for any potential future operations that may occur at the site are commercially available. The comment states that Tesla is projecting to complete its semi in 2026 (not yet complete), that some trucks are "slated for commercial deployment in the coming years" and that some manufacturers provide electric trucks. The availability of one or two models of electric trucks does not mean that any use can be feasibly be met with one of these electric vehicles, many of which do not have sufficient range for the operational tasks they would need to undertake nor could be charged in sufficient time to allow for operators to continue business in the way they do with ICE trucks. While the comment states that many companies have purchased "heavy-duty electric trucks", heavy-duty can mean anything from a large tow truck to a class 8 18-wheeler. The comment has not shown that every use type of all of this large category of vehicles in commercially available at this time and thus this measure is infeasible. The comment itself admits this when it cites the Compass Danube Settlement for justification for this measure when it specifically says require heavy-duty trucks to be electric whenever "widely commercially available". The Walmart project mentioned, for example, has only three electric trucks in use. In addition, the project applicant will not control or be in charge of the operations at the facility, unlike many of the mentioned examples in the comment. The County notes that there are many incentive programs to support ZE truck purchase and that ZE trucks may have cheaper total cost of ownership over time. However, initial costs for purchasing a ZE truck are significantly higher than ICE trucks. The Volvo VNR Electric is $250,000 to $350,000+, compared to $130,000 to $200,000 for an ICE truck. For these reasons, this measure is infeasible. However, mobile emissions would continue to decline rapidly for future buildout years based on currently applicable regulations and mitigation measures adopted by the proposed project. Please also see response 1-J.

Response 14-J

The County acknowledges the comment's concerns regarding the urgency of climate change and the importance of reducing GHG emissions. The Draft EIR fully recognizes the State's climate policy framework, including applicable legislation, executive orders, and scientific context, and evaluates the project's GHG emissions consistent with CEQA Guidelines Section 15064.4 and applicable SJVAPCD guidance. The Draft EIR adequately evaluates the project's GHG emissions consistent with CEQA Guidelines Section 15064.4 and applicable SJVAPCD guidance. The Draft EIR also considers applicable State regulations and climate policy. The comment does not identify any specific deficiencies in the Draft EIR's analysis and instead provides general information regarding climate change and statewide goals. Accordingly, no revisions to the Draft EIR are required.

Response 14-K

The commenter states that the Draft EIR's GHG analysis is deficient because it relies on CalEEMod and omits key emission sources, including land use conversion of grasslands, refrigerants, and emissions from heavy-duty truck trips generated by the project. The Draft EIR quantified the project's GHG emissions using CalEEMod, a widely accepted and CEQA-supported modeling tool, and includes all relevant emission source categories supported by established methodologies for project-level GHG analysis, including construction, area sources, energy sources, mobile sources (including truck trips), TRUs, stationary sources, waste, and water. As described in Section 4.7, the GHG emissions estimates presented in the Draft EIR are consistent with the CEQA Guidelines and applicable SJVAPCD guidance. The Draft EIR did calculate refrigerant emissions associated with the proposed project, as shown in the CalEEMod output reports included in Appendix B1 of the Draft EIR. The Draft EIR also calculated the truck-related GHG emissions associated with the proposed project, as shown in the CalEEMod output reports included

in Appendix B1 of the Draft EIR and in Table 4.7-3 of the Draft EIR. The GHG emissions estimate followed SJVAPCD guidance for estimating project-level GHG emissions. With respect to land use conversion, there is no SJVAPCD-adopted CEQA methodology or threshold recommending quantification of carbon sequestration loss for projects of this type, and its exclusion does not render the analysis inadequate. As stated in the Draft EIR, the proposed project's impact is based on a qualitative evaluation of the proposed project's consistency with State and local regulations and policies adopted for the reduction and/or mitigation of GHG emissions and not based on the quantitative analysis of GHG emission in the chapter.

Accordingly, the County finds that Draft EIR's GHG analysis is complete and adequate under CEQA, and no revisions are required.

Response 14-L

The comment states that the GHG analysis in the Draft EIR omitted GHG impacts resulting from vegetation changes as certain habitats can sequester carbon, such as the non-native grassland on the project site. There is no SJVAPCD or CARB-adopted CEQA methodology for quantification of carbon sequestration loss for projects of this type, and its exclusion does not render the analysis inadequate. The Draft EIR also explains that the project site consists of previously disturbed land with internal dirt paths and thus the likelihood of grassland sequestering carbon on the site is low. Disturbance of grassland can reduce carbon storage potential by as much as 40%. Furthermore, as stated in the Draft EIR, the GHG emissions estimates are presented for informational purposes only, and the proposed project's impact is based on a qualitative evaluation of the proposed project's consistency with State and local regulations and policies adopted for the reduction and/or mitigation of GHG emissions. All feasible mitigation has been adopted to reduce GHG impacts from the project. Please see responses 1-E, 1-J, 11-C, 14-O, and 15-C. Accordingly, the County finds that Draft EIR's GHG analysis is complete and adequate under CEQA, and no revisions are required.

Response 14-M

The comment asserts that the Draft EIR improperly modified CalEEMod defaults to exclude refrigerant emissions and failed to adequately explain the basis for this modification. The comment contends that refrigerants associated with the cold storage component are significant GHG sources and should be quantified or otherwise justified with substantial evidence. The Draft EIR adequately evaluates GHG emissions consistent with CEQA Guidelines and applicable SJVAPCD guidance using CalEEMod, a widely accepted and CEQA-supported model. Contrary to the comment's assertion, the Draft EIR did quantify refrigerant emissions associated with the proposed project, as demonstrated in the CalEEMod output reports included in Appendix B1. Accordingly, the County finds that the Draft EIR's GHG analysis, including treatment of refrigerant emissions, is complete and adequate, and no revisions are required in response to this comment.

Response 14-N

The comment asserts that the Draft EIR incorrectly claims consistency with the California Attorney General's warehouse best practices by stating that the project is consistent with a measure stating to construct "electric truck charging stations proportional to the number of dock doors at the project". Please see response 1-J. Revised **Mitigation Measure MM 4.5-2** now addresses truck charging infrastructure. In addition, the Attorney General's best practices guidance is advisory and does not establish mandatory CEQA requirements. The proposed project's mitigation measures demonstrate consistency with the intent of these recommendations to support electrification of goods movement over time. CEQA does not require the proposed project to be consistent with all aspects of the Attorney General's warehouse best practices,

nor to mandate full electrification of third-party vehicle fleets, which are outside the control of the applicant or County. Accordingly, the Draft EIR accurately reflects the proposed project's commitments and consistency with applicable best practices and regulatory requirements, no deficiencies in the Draft EIR have been substantiated. Please also see response 1-E.

Response 14-O

The comment states that the Draft EIR should adopt further feasible mitigation measures for GHG impacts, including: requiring maximum feasible on-site solar to meet both building and EV charging demand (including trucks); incorporating additional warehouse mitigation measures used in other projects; and mandating use of zero-emission medium- and heavy-duty trucks Requiring the exclusive or accelerated use of zero-emission medium- and heavy-duty trucks is not feasible or enforceable because such vehicles are owned and operated by third-party tenants and fleet operators outside the control or jurisdiction of the project applicant and County. CEQA requires mitigation measures to be feasible, enforceable, and within the control of the lead agency or applicant. Please also see responses 1-E, 1-J, 11-C, 14-I, and 15-C.

As to the Fontana Ordinance, each item from the ordinance and the project's consistency therewith has been described below:

City of Fontana requirement	Project design and/or mitigation
10- or 20-foot-wide landscaping buffer from property line to all adjacent sensitive receptors.	The project has no adjacent sensitive receptors. However, MM 4.1-3 requires a 30-foot-wide vegetation barrier reaching at least 15 feet at maturity along the Airport Drive and Merle Haggard Drive frontages. Please also see response 1-J.
All landscaping shall be drought tolerant.	The landscaping on the project site would primarily consist of drought-tolerant species, as required by mitigation measure MM 4.1-3.
All landscaping areas shall be properly irrigated.	MM 4.1-3 requires an irrigation plan be submitted to the County prior to the issuance of building permits.
Trees shall be installed to provide 35% shade cover in all parking areas.	Mitigation measure MM 4.1-3 requires a landscaping plan to be approved by the County, which includes one tree every 40 feet in the landscape buffer area.
Loading docks and truck entries shall be oriented away from abutting sensitive receptors. For warehouse buildings larger than 400,000 square feet, loading docks shall be located a minimum of 300 feet away from the nearest sensitive receptor.	The project site has no abutting sensitive receptors. The nearest sensitive receptor is a residence located 400 feet from the project site. Please see response 11-C.
Entry gates shall be positioned after a minimum of 140 feet inside the property line. The stacking distance shall be increased by 70 feet for every 20 loading docks beyond 50 docks.	Mitigation measure 4.1-2 requires that, for site plans for warehouse buildings located within 1,000 feet of the Merle Haggard Drive and Airport Drive corridors, entry gates to the loading truck court be positioned to allow a minimum of 50 feet of available stacking depth inside the property line. The stacking depth must be increased by 70 for every 20 loading bays and beyond 50 loading bays. Because there are multiple entries to the property, the shorter stacking depth is sufficient to eliminate the potential for queuing.
Queuing on public streets is strictly prohibited.	The County notes this and agrees. Please see response above.
Truck entries shall be located on Collector Streets (or streets of higher commercial classification).	Please see response 11-C.
Anti-idling signs indicating a 3-minute idling restriction shall be posted and idling rules enforced.	Please see response 1-J.

City of Fontana requirement	Project design and/or mitigation
Facility shall establish a Truck Routing Plan. Post signs directing truck drivers to the truck route as indicated in the Truck Routing Plan.	Please see responses 1-I and 11-C.
Signs and drive aisle pavement markings shall clearly identify the on-site circulation pattern.	Please see response 11-C.
Post signs indicating that off-site parking is strictly prohibited.	Please see response 11-C.
Post signs with contact information for a local designated representative to receive complaints about excessive dust, fumes, or odors.	Mitigation measure MM 4.2-11 requires the project applicant to post notices which provide a telephone number and email address where complaints and questions can be registered.
All signs shall be legible, durable, and weather-proof.	The County agrees with this suggestion, however this is not required as mitigation in the Draft EIR in order to address any impact.
For any building larger than 400,000 total square feet, include a truck operator lounge.	There is no significant impact discussed in the Draft EIR for which this measure would provide mitigation and thus this measure is not required to be added to the Draft EIR.
On-site motorized operational equipment shall be zero emissions.	Please see response 1-E.
All building roofs shall be solar-ready. On buildings over 400,000 square feet, solar shall supply 100% of the power needed to operate all non-refrigerated portions of the facility including parking areas.	Please see responses 11-C and 13-PP.
The office portion of a building's rooftop that is not covered with solar panels shall be constructed with light colored roofing materials with a solar reflective index of not less than 78.	Please see response 11-C.
At least 10% of all passenger vehicle parking spaces shall be EV ready. At least 5% of all passenger vehicle parking spaces shall be equipped with Level 2 Quick charge EV charging stations.	Please see responses 1-J and 13-PP.
During construction of the building shell, a conduit shall be installed to all loading dock doors that have the potential to serve refrigerated space. When tenant improvement building permits are issued for refrigerated space, electric plug-in units shall be installed at all dock doors servicing refrigerated space to allow transport refrigeration units (TRUs) to plug in.	Please see responses 1-E, 1-J, 11-C, and 13-PP.
Bicycle racks per City Code shall be required, or bicycle lockers or indoor facilities.	Please see response 11-C.
Cool surface treatments shall be added to all drive aisles and parking areas and such areas shall be constructed with a solar-reflective cool pavement such as concrete.	There is no significant impact identified in the Draft EIR that this measure would address and thus adding this as a mitigation measure is not required.
Either a secondary electrical room shall be provided in each building or the primary room shall be sized 25% larger than is required to satisfy the requirements of the building.	Please see response 13-PP.

City of Fontana requirement	Project design and/or mitigation
Use super-compliant VOC architectural and industrial maintenance coatings.	Please see response 11-C.
Incorporate a recycling program.	Mitigation Measure MM 4.18-4 would require the project to develop a Maintenance, Trash Abatement, and Pest Management Program to ensure debris and waste generated be recycled to the extent feasible during construction and operation, as well as the designation of a Recycling Coordinator to facilitate recycling of all waste through coordination with the on-site contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. This would ensure recyclable materials including wood, shipping materials, and metals would be separated, when possible, for recycling and diverted from landfills.
Use reasonable best efforts to deploy the highest rate CARB Tier technology available at the time of construction.	Please see response 1-E.
Use electric-powered hand tools, forklifts, and pressure washers. Designate an area where electric-powered construction vehicles and equipment can charge.	Please see responses 1-E, 1-J, and 13-PP.
Identify in site plans a location for future electric truck charging stations and installation of a conduit to that location.	Please see responses 1-E, 1-J, and 13-PP.
Prohibit diesel-powered generators except in case of emergency or to establish temporary power during construction.	Please see response 13-PP.
Provide a property maintenance program for review and approval by the planning director.	There is no significant impact identified in the Draft EIR that this measure would address and thus adding this as a mitigation measure is not required.
Provide facility operators with information on incentive programs such as Carl Moyer and U.S. EPA SmartWay Program.	Please see response 13-PP.

As to the Attorney General's warehouse best management practices, please see responses 1-J and 14-N. The Attorney General's warehouse best management practices are guidance for BMPs that projects can consider but do not constitute legal requirements, nor does anything in the BMP document demonstrate that these BMPs are feasible for any projects, let alone this particular project.

Please also see response 14-G regarding feasibility of mitigation measures. The comment states that nearly all the requirements mentioned have been adopted in a warehouse project in California and thus they are feasible, but general references to measures adopted in other jurisdictions or projects do not establish that such measures are appropriate, enforceable, or supported by substantial evidence in this case. CEQA requires mitigation measures to be tailored to the specific project and supported by evidence demonstrating feasibility for that specific project.

Accordingly, the County finds that the Draft EIR includes all feasible mitigation measures necessary to reduce GHG emissions, and no additional measures are required.

Response 14-P

The comment contends that the Draft EIR unlawfully excludes medium- and heavy-duty truck trips from its VMT analysis, and quotes the Draft EIR's statement that "the VMT analysis does not account for truck trips, which represent a significant portion of greenhouse gas (GHG) emissions (as shown in Tables 4.7-2 and 4.7-3)." (Draft EIR, p. 4.7-43.) The comment states that the Draft EIR evaluates project-related VMT "almost as though this were an office project," limiting its analysis primarily to employee trips and light-truck trips associated with the proposed warehousing operations. The comment asserts that, because project-related truck trips would involve long trips to and from Southern California ports, the exclusion of medium- and heavy-duty trucks means the Draft EIR likely underestimates project-related VMT impacts, and that the County must amend its analyses accordingly. The comment also states that the County's decision to exclude heavy-duty trucks from its VMT analysis is similar to the assessment in the Giovannoni Industrial Project EIR challenged in Center for Biological Diversity v. City of American Canyon et al., No. 23CV000511, and that the County must add an analysis of truck-generated VMT and the attendant air and GHG emissions.

The County does not concur that the Draft EIR's VMT analysis violates CEQA. The comment raises substantially the same VMT methodology challenge addressed in Response 13-X, which provides a comprehensive explanation of the Draft EIR's VMT analytical framework. The discussion below summarizes the methodology and addresses the additional points unique to this comment, including the cited case authorities and the assertion regarding air quality and greenhouse gas emissions.

CEQA Guidelines section 15064.3(a) defines "vehicle miles traveled," for purposes of that section, as the amount and distance of automobile travel attributable to a project. The Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA explains that the term "automobile" "refers to on-road passenger vehicles, specifically cars and light trucks" and that heavy-duty truck VMT could be included for modeling convenience and ease of calculation but is not required. The Technical Advisory further directs that, "[f]or an apples-to-apples comparison, vehicle types considered should be consistent across project assessment, significance thresholds, and mitigation." (OPR Technical Advisory, p. 5.)

Consistent with the Technical Advisory's guidance, and because OPR does not recommend a specific VMT threshold for industrial land uses or for heavy-duty truck VMT, Section 4.16 of the Draft EIR expressly discloses that "[t]he VMT evaluation is limited to automobiles and light trucks." (Draft EIR, p. 4.16-14.) Medium- and heavy-duty trucks and truck-trailer combinations therefore are not included in the automobile VMT metric used to determine the significance of the project's transportation impact.

Some delivery vans may fall within a light-duty vehicle classification. However, the project's VMT-per-employee calculation measures automobile and light-truck travel associated with employee trips to and from the project site only. It does not measure commercial vehicle travel occurring during project operations. Adding commercial delivery mileage to the project calculation would require a correspondingly consistent regional benchmark and significance threshold. The County therefore evaluated the project's passenger-vehicle VMT using an employee-based metric because employee travel constitutes the majority of the passenger-vehicle travel generated by the project's industrial uses. CEQA Guidelines section 15064.3(b)(4) affords lead agencies discretion to choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household, or in another measure, and requires the assumptions used to be documented and explained in the environmental document.

The analysis used the Kern COG travel demand model to calculate both the regional baseline and project VMT per employee, thereby maintaining a consistent vehicle basis on both sides of the comparison. Applying that metric, the model determined that the project would generate 18.48 VMT per employee, exceeding the significance threshold of 14.04 VMT per employee used in the Draft EIR. (Draft EIR, Table 4.16-10, p. 4.16-28.) The Draft EIR therefore concluded that the project's transportation VMT impact would be significant and unavoidable after mitigation and found that the Transportation Demand Management program required by **Mitigation Measure MM 4.16-3** would not reduce project VMT below the 14.04 threshold.

The use of an employee-based passenger-vehicle metric does not omit the project's warehousing and distribution operations. Rather, it applies the automobile VMT metric to passenger-vehicle travel associated with those uses. Adding medium- and heavy-duty truck VMT to the project-side calculation while retaining an employee-based passenger-vehicle benchmark and threshold would not provide a consistent basis for determining significance. Neither the comment nor the available guidance identifies a supported truck-VMT threshold, regional truck-VMT benchmark, or combined passenger- and commercial-vehicle methodology that could be applied consistently to both the project and the applicable baseline.

CEQA Guidelines section 15064.3(b)(3) does not require a different conclusion. That provision permits a lead agency to analyze VMT qualitatively when existing models or methods are unavailable to estimate the VMT of the particular project being considered. Here, the Kern COG travel demand model was available and was used to quantify the automobile VMT metric defined by section 15064.3(a). Section 15064.3(b)(3) does not transform that defined metric into a requirement to conduct a separate qualitative analysis of medium- and heavy-duty truck VMT.

Nor did the Draft EIR disregard commercial-vehicle activity or its associated physical effects. Chapter 3 identifies the project's truck access points and explains that heavy truck traffic would be routed primarily from SR 99 along Merle Haggard Drive, with remaining truck traffic routed from Airport Drive to James Road and SR 65. (Draft EIR, p. 3-16.) Section 4.16 identifies the proposed truck access points, analyzes project trip generation, general trip distribution, roadway operations, site access, and circulation, and separately evaluates truck turning movements, roadway-design hazards, and emergency access. (Draft EIR, pp. 4.16-6, 4.16-14–4.16-15, and 4.16-29–4.16-31.) The environmental effects of project-related commercial-vehicle activity are also analyzed in Section 4.2, Air Quality, and Section 4.7, Greenhouse Gas Emissions, as discussed further below.

For a full discussion of the Draft EIR's VMT analytical framework, the consistency of the employee-based metric with CEQA Guidelines section 15064.3, and the absence of any applicable methodology for incorporating heavy-duty truck VMT into the significance comparison, see Response 13-X.

The comment's cited authorities do not establish that the Draft EIR's VMT analysis is legally deficient. In *Protect the Historic Amador Waterways v. Amador Water Agency*, the court held that a threshold of significance cannot be applied in a manner that forecloses consideration of other substantial evidence tending to show that the related environmental effect may be significant, and found the EIR inadequate because it failed to explain why the project's reduction of streamflow would not be significant. (116 Cal.App.4th at pp. 1109, 1111–1112.) No comparable circumstance exists here. The County did not use the automobile VMT metric to disregard truck-related effects or to reach a favorable significance conclusion. To the contrary, applying the metric, the County found the project's transportation VMT impact significant and unavoidable. Separately, the environmental effects associated with truck activity—including air

quality, GHG emissions, traffic operations, and hazards—are disclosed and analyzed throughout the Draft EIR.

Santiago County Water District v. County of Orange involved an EIR that entirely failed to disclose and analyze necessary water-delivery infrastructure, water availability, and the related environmental effects of supplying water to the project. (118 Cal.App.3d at pp. 829–831.) Here, the Draft EIR does not fail to disclose or analyze the project's truck operations; it analyzes truck access, routing, turning movements, trip generation, air pollutant emissions, GHG emissions, and related physical effects across multiple sections. The comment identifies no physical environmental effect of truck operations that the Draft EIR fails to evaluate.

As to *Center for Biological Diversity v. City of American Canyon et al.*, No. 23CV000511, the cited case is an unpublished superior court action, not a published appellate decision, and does not constitute binding or persuasive authority on the adequacy of CEQA transportation analyses. In any event, the comment does not explain how the facts of that proceeding are comparable to the analysis here, where the County expressly found the VMT impact significant and unavoidable and separately analyzed truck-related environmental effects in the air quality, GHG, and transportation sections of the Draft EIR.

The comment incorrectly conflates CEQA's transportation impact analysis under SB 743 with the separate analyses required for air quality and GHG emissions. CEQA evaluates transportation impacts, air quality impacts, and GHG impacts as distinct environmental issue areas, each with its own statutory framework, significance criteria, and analytical methodology. The transportation analysis evaluates VMT pursuant to CEQA Guidelines section 15064.3, whereas air quality and GHG analyses evaluate pollutant and emissions impacts using applicable significance thresholds. The scope of the transportation VMT analysis does not determine the scope of the air quality or GHG analyses, or vice versa. This distinction is reflected in the structure of CEQA itself and confirmed by the Technical Advisory's recognition that the VMT metric addresses transportation impacts rather than emissions impacts.

Regarding transportation-related impacts, the Draft EIR's evaluation of the project's transportation VMT complies with CEQA Guidelines section 15064.3, as explained above and in Response 13-X.

Regarding air quality impacts, Section 4.2 of the Draft EIR evaluated the potential regional and local air pollutant emissions impacts from all mobile emissions including medium- and heavy-duty trucks and employee trips (including on-site passenger vehicle travel and off-site passenger vehicle travel). The mobile emissions from trucks were quantified and evaluated in accordance with SJVAPCD guidance, recommended methodologies, and significance thresholds, and air quality impacts were determined accordingly. The project's operational criteria pollutant emissions were found to be significant and unavoidable, which conclusion accounts for truck emissions.

Regarding GHG impacts, Section 4.7 of the Draft EIR evaluated the potential GHG impacts from all mobile emissions including medium- and heavy-duty trucks and employee trips. The mobile GHG emissions analysis accounted for on-site and off-site passenger vehicle travel, on-site truck travel, truck idling, and off-site truck travel, including transport refrigeration unit (TRU) emissions from trucks serving the cold storage component. Specifically, as it relates to truck trip length—which is critical to the validity of the GHG emissions estimates—the analysis incorporated the Attorney General and CARB recommendations, and the southbound truck trip length was calculated to the Ports of Los Angeles and Long Beach, which are located outside the San Joaquin Valley Air Basin (SJVAB) but were included in the GHG analysis because GHG emissions are global pollutants. In addition to Attorney General and CARB recommendations, goods movement studies show that south of Bakersfield, truck traffic is almost exclusively headed to and from

locations outside of the SJVAB. Therefore, the truck trip lengths were split into analyses within the SJVAPCD boundary and outside the SJVAPCD boundary. It was assumed that 50 percent of the truck trips had an origin or destination at the Ports of Long Beach or Los Angeles (outside SJVAPCD) and 50 percent of the truck trips transited within the SJVAPCD. Within the SJVAB boundary, northbound trips on SR-99 as far as 105 miles from the proposed project site (to Delano, Tulare, and Fresno) combined with northbound trips on SR-65 to Porterville (45 miles) and southbound trips on SR-99 to Interstate 5 (46 miles to the SJVAB boundary) comprised a composite air basin trip length of 66.5 miles. Outside the SJVAB, southbound trips from the border of the SJVAPCD to the Ports of Los Angeles and Long Beach total approximately 97 miles. Tables 4.7-2 and 4.7-3 show the project's GHG emissions including those attributed to mobile emissions both within the SJVAB and outside the SJVAB. The mobile emissions, including those from trucks, were quantified and evaluated in accordance with Air District and State agency guidance, recommended methodologies, and significance thresholds, and GHG impacts were evaluated accordingly.

The commenter's own quotation from the Draft EIR—that "the VMT analysis does not account for truck trips, which represent a significant portion of GHG emissions (as shown in Tables 4.7-2 and 4.7-3)"—confirms the distinction. The Draft EIR does not exclude truck trips from the GHG analysis; to the contrary, the referenced Tables 4.7-2 and 4.7-3 include truck trip emissions. The quoted passage transparently discloses that the VMT analysis (a transportation metric under Guidelines section 15064.3) does not include truck trips, while the GHG analysis (evaluated under different significance criteria) does. This is not an analytical gap; it reflects the distinct CEQA frameworks applicable to each issue area.

Accordingly, the Draft EIR's employee-based passenger-vehicle VMT analysis is consistent with CEQA Guidelines section 15064.3 and the OPR Technical Advisory. The Draft EIR separately evaluates the physical environmental effects associated with commercial-vehicle operations in its air quality, GHG, and transportation analyses. No revisions to the Draft EIR are required in response to this comment.

Response 14-Q

This comment states that the Draft EIR fails to adequately describe and analyze the impacts on biological resources and asserts that the Draft EIR must be revised to assess the impacts and commit to mitigation. The comment is introductory and does not itself identify a specific deficiency in the Draft EIR's biological resources analysis. The County acknowledges the commenter's concerns. The specific biological resources issues raised in the balance of Comment Letter 14 are addressed in detail in Responses 14-R (Bakersfield cactus), 14-S (burrowing owl), and 14-T (wildlife movement and habitat connectivity) below, with reference to Draft EIR Section 4.3, Biological Resources, and the BRA prepared by South Environmental (October 2025) included as Draft EIR Appendix C.

Response 14-R

The comment asserts that the Draft EIR fails to adequately characterize the existing environmental setting for Bakersfield cactus because it relies on CNDDB records without conducting systematic protocol-level surveys; that the Draft EIR fails to disclose the proximity of the BCER to the project site; and that **Mitigation Measure MM 4.3-3** is inadequate because it does not require surveyors meeting the full CDFW 2018 protocol qualifications, does not require issuance of an ITP where avoidance is infeasible, and does not require a no-disturbance buffer around plant populations. The comment cites *Banning Ranch Conservancy v. City of Newport Beach* (2017) 2 Cal.5th 918 and *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412 in support of the contention that information regarding the BCER is inadequately presented.

The County has considered these points and does not agree that they identify a deficiency requiring revision or recirculation of the Draft EIR, for the following reasons.

First, as to the environmental setting and survey methodology, the BRA and Draft EIR correctly identify Bakersfield cactus as having a high potential to occur on the project site based on the database and literature review and the habitat assessment conducted during the November 10, 2023 field reconnaissance. The Draft EIR does not treat the absence of an observation during the reconnaissance as evidence that the species is absent; to the contrary, it identifies the species as having high potential to occur and imposes mitigation requiring a focused survey before any ground disturbance. The County has considered the commenter's recommendation that protocol-level surveys be conducted before circulation of the Draft EIR and concludes that **MM 4.3-3** is adequate for the species at issue, for reasons specific to the biology of Bakersfield cactus. Bakersfield cactus is a perennial succulent that is present and visually identifiable year-round, so a survey conducted immediately before ground disturbance will reliably detect and allow mapping of any individuals present within the disturbance footprint. The seasonal detectability concern that underlies the CDFW 2018 rare plant protocols does not apply to Bakersfield cactus in the same way it does to annual or ephemeral species. As recommended in the BRA, the preconstruction rare plant survey is to be conducted to the standard of the USFWS Guidelines for Conducting and Reporting Botanical Inventories of Federally Listed, Proposed, and Candidate Plants (2000) and the CDFW 2018 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities, with particular focus on identification of any Bakersfield cactus on the project site. See also Response 13-JJJ, which addresses a substantially similar comment regarding **MM 4.3-3**.

Second, as to the BCER, the Draft EIR does not fail to disclose the Reserve's presence. The BRA describes the BCER in proximity to the project site, includes a map depicting the project site in relation to the BCER (BRA Figure 2), and analyzes the BCER in relation to known species occurrences in the region. The BRA documents that the BCER is located approximately 1,500 feet from the project boundary, with Petrol Road and large commercial and industrial developments constituting intervening barriers visible in the BRA figures. The Draft EIR Section 4.3 further discusses the BCER in the context of the biological resources environmental setting. The comment's assertion that the Reserve is "directly adjacent" is not supported; 1,500 feet of separation with intervening road and development infrastructure does not constitute adjacency. *Banning Ranch* and *Vineyard Area Citizens* are distinguishable because those cases involved outright omission of central regulatory or environmental information; here, the BRA and Draft EIR describe the BCER, map its location, and analyze its relationship to project impacts. Consistent with CDFW's recommendation (see Response 2-E), the County will coordinate with CDFW Regional Ecological Reserve Management Unit staff before project initiation to confirm the project limits and avoid inadvertent encroachment onto the BCER or other CDFW-owned lands. In addition, **MM 4.3-7** requires project lighting to be directed away from habitat areas and shielded downward to avoid indirect effects.

Third, as to the adequacy of **MM 4.3-3**, the Final EIR Errata revises **MM 4.3-3** to require that, if impacts to a listed plant species including Bakersfield cactus cannot be avoided, the project proponent obtain take authorization through an ITP prior to the impact, and to require a no-disturbance buffer of at least 50 feet around any special-status plant population identified during the survey where avoidance is feasible. With these requirements, the measure ensures that Bakersfield cactus is identified, mapped, and avoided where feasible, and that any unavoidable impact is authorized and mitigated through the applicable permitting process.

Fourth, as to surveyor qualifications, the BRA states that the CDFW 2018 protocol will be followed, and it is implied that the surveyor would meet the qualifications described in that protocol. Bakersfield cactus is

a distinctive perennial succulent readily identifiable by a biologist knowledgeable in rare plant species identification; the necessary mitigation requires that the species be identified, mapped, and avoided if possible, and that an ITP be obtained if take is unavoidable. The language as written ensures that the measure would achieve its objective.

For these reasons, the Draft EIR's analysis and mitigation for Bakersfield cactus are supported by substantial evidence and comply with CEQA's requirements. The Final EIR Errata corrects an internal inconsistency in the Draft EIR whereby the impact analysis on page 4.3-18 used "moderate potential" to describe the likelihood of Bakersfield cactus occurring on the project site; the correct characterization, as reflected in the BRA's potential-to-occur table and in the Draft EIR's environmental-setting discussion on page 4.3-4, is "high potential," and the Errata harmonizes the documents accordingly. No further revision to the Draft EIR is required in response to this comment.

Response 14-S

The comment asserts that the Draft EIR fails to adequately analyze and mitigate impacts to burrowing owls because: (1) the November 10, 2023 reconnaissance survey was conducted outside the breeding season and constituted inadequate effort to establish baseline conditions; (2) **Mitigation Measure MM 4.3-6** should require two preconstruction surveys (one no fewer than 14 days prior and one within 24 hours of ground disturbance), each conducted by a CDFW-approved qualified biologist; (3) surveys should be repeated throughout the survey season during project construction; (4) **MM 4.3-5, MM 4.3-6, and MM 4.3-12** should include a 5:1 compensatory mitigation ratio if an ITP is required; and (5) **MM 4.3-6** should require preparation of a Burrowing Owl Exclusion Plan and acquisition of mitigation lands through conservation easements before any activities that may impact owls.

The County has considered these recommendations and accepts the comment in part. As reflected in the Final EIR Errata, **MM 4.3-6** has been revised to require preconstruction surveys no fewer than 14 days prior to commencement of ground-disturbing activities for the applicable portion of the site, conducted by a qualified, CDFW-approved biologist. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that each survey occurs within the applicable period before disturbance of that portion of the site. **MM 4.3-6** also continues to require that surveys locate active breeding or wintering burrowing owl burrows, permits phased surveys so that each survey occurs within the applicable period before disturbance of that portion of the site, and establishes seasonal no-disturbance buffers around occupied burrows that vary by season and level of disturbance. Where burrow avoidance is infeasible, **MM 4.3-6** provides that a qualified biologist shall implement passive relocation in accordance with Appendix E of the 2012 CDFW Staff Report on Burrowing Owl Mitigation, with preparation of a Burrowing Owl Exclusion and Mitigation Plan and a Mitigation Land Management Plan for CDFW review prior to passive relocation. In response to CDFW's comments, **MM 4.3-6** has been further revised in the Final EIR Errata to provide that passive relocation may occur only after the project proponent has consulted with CDFW regarding how to implement the project and avoid take of burrowing owl, and that if take cannot be avoided, take authorization through acquisition of an ITP is required to comply with CESA. See Responses 2-M and 2-N; see also Response 13-MMM, which addresses a substantially similar comment.

The County does not agree that a protocol-level breeding season survey must be completed before certification of the EIR. The Draft EIR does not assume that burrowing owl is absent; it concludes that burrowing owl has a high potential to occur based on the habitat assessment, treats potential impacts as potentially significant, and imposes the survey, buffer, consultation, and take-authorization requirements described above. The two preconstruction surveys, conducted immediately before disturbance of each area,

are the surveys that determine whether owls are present at the time of the impact, which is when avoidance and take authorization obligations attach. Because the Draft EIR discloses the potential for occupancy and imposes enforceable, agency-coordinated protection, an additional protocol-level breeding season survey during the review period is not required to support the impact conclusion.

As to repeated surveys throughout construction, once construction begins on a portion of the site, burrowing owls that establish on that area would do so in the context of construction activity; the phased survey approach in the revised **MM 4.3-6** ensures that each portion of the site is surveyed within the applicable timeframe before disturbance of that portion, which addresses the concern without requiring indefinite repetition where construction activities are continuous.

As to a 5:1 compensatory mitigation ratio, the County does not agree that a specific ratio must be established in the Draft EIR. Compensatory mitigation ratios are determined by CDFW through the ITP process, as provided by Fish and Game Code section 2081, and are required by statute to be roughly proportional to the impact and fully mitigating. The County does not predetermine those ratios, as CDFW possesses the technical expertise and regulatory authority to set appropriate compensation requirements based on site-specific conditions at the time of permitting. The revised measure establishes a minimum compensatory ratio of 1:1 for occupied habitat within 500 feet of active burrows, with the final ratio determined by CDFW based on the level of impacts to occupied habitat. Ratios above that minimum are not predetermined by the Draft EIR; they rest with CDFW's technical expertise and regulatory authority.

As to a Burrowing Owl Exclusion Plan and mitigation lands, the revised **MM 4.3-6** now requires preparation of such a plan where passive relocation is necessary. Requiring the acquisition of mitigation lands before any determination that burrowing owls are present or would be impacted would impose an obligation without an established nexus to a confirmed impact; that determination is appropriately made through the CDFW consultation and ITP process.

With the revisions described above, no further revision to **MM 4.3-6** is required in response to this comment. Revisions to **MM 4.3-6**, and **MM 4.3-12** are reflected in the Final EIR Errata.

Response 14-T

The comment asserts that the Draft EIR fails to adequately analyze and mitigate impacts to wildlife movement and habitat connectivity because:

(1) the Draft EIR's environmental setting contradictorily states the project site is surrounded by development while acknowledging that large areas remain undeveloped;

(2) the Draft EIR does not adequately disclose the proximity of the BCER;

(3) the Draft EIR improperly concludes that surrounding agricultural and oil field lands are unsuitable for wildlife movement;

(4) the Draft EIR fails to address night-lighting impacts on nocturnal species; and

(5) the Draft EIR fails to analyze potential bird collision impacts from new buildings.

The County does not agree that the Draft EIR fails to analyze wildlife movement and habitat connectivity, because the BRA and Draft EIR expressly analyze this topic and reach a conclusion supported by mapped and narrative evidence.

First, as to the environmental setting, the BRA states that there is open space to the north of the study area that connects to the oil fields to the north and east and to the BCER to the west, and it acknowledges that the BCER supports local wildlife movement. The BRA further explains that the BCER, the project site, and the surrounding areas are isolated from larger areas of wildlife habitat and therefore provide no regional habitat linkages and limited wildlife movement opportunities. The BRA includes maps and a written description documenting that the nearest block of habitat that is not isolated and that provides connectivity for special-status wildlife is undeveloped land approximately three miles to the northeast of the study area, within the foothills of the Sierra Nevada, and that the intervening area consists of large expanses of oil field development that act as a barrier to movement. The BRA also documents that the BCER is located approximately 1,500 feet from the project boundary and that barriers exist between the project site and the reserve, including Petrol Road and large commercial and industrial developments visible in the BRA figures. On this evidence, the BRA concludes that the project site does not function as a valuable habitat linkage or wildlife movement corridor and that the project would not impact habitat linkages or wildlife migration corridors. Draft EIR Impact 4.3-4 addresses this criterion directly and concludes that, with implementation of **Mitigation Measures MM 4.3-9** through **MM 4.3-11**, impacts related to interference with the movement of native resident or migratory wildlife species and with established wildlife corridors and nursery sites would be less than significant. See also Response 13-BBB, which addresses a substantially similar comment regarding the same analysis.

Second, as to the BCER, its proximity and biological context are described in the BRA and addressed in Responses 14-R and 2-E. The relevant inquiry under the applicable significance criteria is whether the project would interfere substantially with wildlife movement or with an established corridor, not whether any individual animal movement would be affected. Substantial evidence in the BRA and Draft EIR supports the conclusion that the project site is not an established wildlife movement corridor and that impacts related to movement in the immediate area would be less than significant.

Third, as to agricultural and oil field lands, the BRA does not conclude that no wildlife species use those areas. It concludes that these areas do not function as regional wildlife movement corridors or habitat linkages connecting larger habitat blocks based on their fragmentation, isolation, surrounding development, and separation from the nearest connected habitat. The comment cites CEQA Guidelines section 15125(a) for the proposition that the environmental baseline must describe existing conditions. The Draft EIR does describe those conditions; the commenter disagrees with the conclusions drawn from them. A disagreement over interpretation of disclosed facts is not a failure of disclosure.

Fourth, as to night-lighting impacts on nocturnal species, the Draft EIR does not ignore this potential effect. The Draft EIR expressly identifies artificial lighting as one of the potential indirect impacts associated with project construction and long-term operations that could affect special-status plant and wildlife species. **MM 4.3-7** requires that, if nighttime lighting for construction activities or operations is required within 50 feet of the outside edge of areas containing habitat for special-status wildlife, as determined by the qualified biologist, lighting must be directed away from those habitat areas. In addition, **MM 4.1-4** requires the project proponent to submit a lighting plan before building permits demonstrating continuous compliance with the County's Outdoor Lighting / Dark Skies Ordinance; the measure requires lighting to provide only the minimum illumination needed for safety and security, to be directed downward and shielded, to focus illumination on the desired areas only, and to avoid light trespass onto adjacent properties and roadways. Substantial evidence in the Draft EIR and BRA supports the conclusion that the project would not result in a significant lighting-related impact to wildlife, based on the project's distance and intervening barriers from the BCER, the BRA's finding that the project site does not serve as a regional wildlife movement

corridor, and the mitigation measures described above. See also Responses 2-P and 2-Q, which address CDFW's related lighting comments.

Fifth, as to bird collision risk from new buildings, the project includes low buildings in a location that is partially developed and would not include large, tall, or reflective buildings that could deter or unnecessarily harm birds. The potential for bird collisions is inherent in any construction, and the low potential for impacts would not rise to the level of significance per CEQA thresholds unless the barrier was so great that it prevented large populations of migratory species from reaching their habitats, or if the deaths were so numerous as to imperil a rare or threatened species in a significant way. The project would not block or deter wildlife from reaching any existing habitat areas. See also Response 13-EEE, which addresses a related fencing concern.

Sixth, as to cumulative fragmentation, because the site is already isolated from larger habitat blocks, its development would not sever a connection between habitat areas or further subdivide a contiguous habitat block, and the project's incremental contribution to regional fragmentation would not be cumulatively considerable. See Response 13-FFF.

No revision to the Draft EIR is required in response to this comment.

Response 14-U

The comment asserts that noise pollution is a significant public health concern and contends that the Draft EIR fails to adequately evaluate project-related noise impacts and associated health risks to nearby residents and sensitive receptors. The comment provides general background information regarding potential health effects of noise exposure, including cardiovascular disease, diabetes, hearing loss, cognitive impairment, and childhood developmental effects, and cites various medical and scientific studies. The comment further claims that the Draft EIR's discussion of noise impacts "suffers from critical deficiencies that preclude informed public review and decision making under CEQA."

The County acknowledges the commenter's concern regarding potential health effects of noise exposure. CEQA requires analysis of the physical environmental effects of a project, including noise, using applicable significance criteria and accepted methodologies. Draft EIR Section 4.12, Noise, provides that analysis. The Draft EIR evaluates construction and operational noise using conservative, worst-case assumptions and determines that project-related noise levels would comply with applicable County General Plan noise standards and ordinance requirements and would be less than significant under CEQA.

The comment provides general background on noise-related health effects but does not identify specific deficiencies in the Draft EIR's noise modeling methodology, assumptions, receptor locations, propagation modeling, or significance conclusions. Under CEQA Guidelines section 15088(c), the level of detail in a response may correspond to the level of detail in the comment. The specific noise analysis issues raised in the balance of Comment Letter 14 are addressed in Responses 14-V (construction noise), 14-W (noise impacts on wildlife), and 14-X (noise mitigation) below.

No revision to the Draft EIR is required in response to this comment.

Response 14-V

The comment asserts that the Draft EIR inadequately evaluates construction noise impacts because it relies exclusively on an absolute 80 dBA Leq threshold derived from Federal Transit Administration guidance without considering the increase above ambient noise levels that construction would cause, rendering the

significance determination unsupported by substantial evidence. The comment cites King & Gardiner Farms, LLC v. County of Kern (2020) 45 Cal.App.5th 814, 892–894; Berkeley Keep Jets Over the Bay v. Board of Port Commrs. (2001) 91 Cal.App.4th 1344, 1373–1382; and Keep Our Mountains Quiet v. County of Santa Clara (2015) 236 Cal.App.4th 714, 733, for the proposition that an EIR must analyze increases over ambient levels, not just absolute levels. The comment also asserts that the Draft EIR acknowledges potential cumulative construction noise but fails to apply that methodology to the project-specific analysis.

The County has considered these points and does not agree that the Draft EIR's construction noise analysis is inadequate. Unlike the EIRs at issue in King & Gardiner Farms, Berkeley Keep Jets, and Keep Our Mountains Quiet, the Draft EIR here does not rely exclusively on an absolute threshold without reference to ambient conditions. The Draft EIR includes an analysis of construction noise that identifies, on page 4.12-16, that relative worst-case maximum construction noise levels would attenuate to below 65 dBA Lmax, with relative worst-case hourly average construction noise levels attenuating to below 56 dBA Leq at the nearest noise-sensitive receptor, and relative worst-case calculated 8-hour noise level below 53 dBA Leq (8-hour). The analysis further identifies, on page 4.12-17, that "these reasonable worst-case construction noise levels would not exceed the documented existing traffic noise levels (ranging from 67.7 dBA to 70.1 dBA CNEL)." The Draft EIR therefore provides a direct comparison between projected construction noise and existing ambient noise levels and demonstrates that construction noise levels would not result in a substantial temporary increase in ambient noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies as measured at the nearest sensitive receptor. This analysis is consistent with the approach required by the cited authorities, which hold that an EIR must consider both the absolute level and the increase relative to ambient conditions.

The cases cited by the commenter are factually distinguishable. In King & Gardiner Farms, the court found the EIR deficient because it relied on an absolute threshold without providing any comparison to existing conditions. Here, the Draft EIR expressly provides that comparison. In Berkeley Keep Jets, the court required consideration of increases over ambient; the Draft EIR does so by demonstrating that construction noise would be below existing documented traffic noise levels. In Keep Our Mountains Quiet, the agency failed to "consider both the increase in noise level and the absolute noise level"; here, the Draft EIR considers both.

As to the cumulative construction noise assertion, the Draft EIR properly identifies that other projects could contribute to short-term construction noise in the area depending on timing and proximity, and properly concludes based on the conservative worst-case analysis described above that project-related construction noise impacts would be less than significant under CEQA.

No revisions to the Draft EIR are required in response to this comment.

Response 14-W

The comment asserts that the Draft EIR fails to acknowledge noise impacts on wildlife and that ongoing noise from industrial uses will impact special-status species in the project area, resulting in noncompliance with CEQA. The comment cites *Keep Our Mountains Quiet v. County of Santa Clara* (2015) 236 Cal.App.4th 714, 734, and various scientific studies regarding the effects of noise on wildlife behavior, including altered vocal behavior, changes in vigilance and foraging, reduced individual fitness, and decreased bird abundance in areas with traffic noise (Shannon et al., 2016; Goudie & Jones, 2004; Ware et al., 2015; McClure et al., 2013).

The County acknowledges that noise can be an indirect biological impact mechanism and does not dismiss the scientific literature the comment cites. However, the comment's assertion that the Draft EIR "fails to acknowledge noise impacts on wildlife" is incorrect. The Draft EIR expressly addresses indirect impacts on wildlife resulting from increased noise associated with long-term site operations on page 4.3-19, including the potential for noise to affect special-status species with potential to occur in the project vicinity. The Draft EIR Section 4.3 analysis considers the project site's isolation from larger habitat blocks, its fragmented habitat context, surrounding development, and existing operational noise levels in the area, and concludes that project operational noise would generally not reach a level that would significantly impact special-status wildlife. The only habitat area in proximity to the project site where special-status species are documented to occur is the BCER, which is located approximately 1,500 feet from the project boundary with Petrol Road and commercial/industrial development intervening; at that distance and with those intervening features, incremental project operational noise would not meaningfully alter the acoustic environment at the BCER relative to existing industrial and traffic noise levels that already dominate the area. As the project site does not function as a wildlife movement area, animals in the area would already be subject to operational noise from surrounding industrial, commercial, and oil field uses, and the project would not pose a significant increase in noise that would deter or alter any special-status species in a significant way according to the applicable CEQA significance criteria.

Keep Our Mountains Quiet is distinguishable. In that case, the court held that substantial evidence indicated noise may impact surrounding residents and biological resources in a factual context involving a rural residential area adjacent to undeveloped habitat, where the project would introduce a new noise source. Here, the project site is located in an industrially zoned area surrounded by existing industrial, commercial, and oil field development, is separated from the BCER by 1,500 feet and the nearest large connected habitat block by approximately three miles of oil field development, and does not function as a wildlife movement corridor or habitat linkage; the noise environment is already dominated by existing industrial and traffic sources. The taxa-specific noise sensitivities documented in the commenter's cited studies (Shannon et al. 2016; Goudie & Jones 2004; Ware et al. 2015; McClure et al. 2013) relate primarily to the introduction of novel noise sources into previously quiet or rural environments. Those study conditions do not reflect the acoustic environment of the project site and its vicinity, where existing industrial, oil-field, and traffic noise sources already produce ambient noise levels that exceed the behavioral-disturbance thresholds reported in the cited literature. Any special-status species currently using the BCER or adjacent areas are habituated to this existing industrial noise environment, and the incremental addition of project operational noise would not meaningfully change the acoustic conditions to which those species are exposed. The scientific studies cited by the commenter document effects in study contexts that differ from the conditions of the project site, and they do not establish that noise levels from this project would have a substantial adverse effect on a candidate, sensitive, or special-status species under the applicable significance criteria. Under CEQA Guidelines section 15064(f)(5), an effect is not treated as significant in the absence of substantial evidence, and generalized scientific literature regarding noise effects on wildlife does not constitute substantial evidence that this project's noise would significantly affect a specific special-status species at this site.

See also Response 14-T regarding wildlife movement and habitat connectivity, and Response 13-BBB regarding the site's isolation and lack of corridor function. No revision to the Draft EIR is required in response to this comment.

Response 14-X

The comment contends that if the noise analysis had been properly conducted, it likely would have concluded that project-related noise impacts would be significant, thereby triggering a legal obligation to

adopt mitigation measures. The comment asserts that numerous feasible mitigation measures exist that are conspicuously absent from the Draft EIR's mitigation program, including measures identified in the California Attorney General's Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act (2022). The comment enumerates specific measures including acoustical barriers, loading dock orientation and shielding, nighttime loading restrictions, truck route restrictions, quiet backup alarms, idling restrictions, on-site queuing, low-noise paving, mufflers and acoustic shrouds on equipment, and post-occupancy noise monitoring. The comment also asserts that electric trucks would dramatically reduce noise impacts and cites a study documenting noise reductions of up to 10 dBA. The comment further identifies a discrepancy in the Daily trip figures presented in the Draft EIR (6,885 vs. 6,405 daily vehicle trips).

The County has considered these points and does not agree that revision is required.

First, the comment raises a hypothetical conclusion that significant noise impacts would likely occur if analyzed differently, but does not identify specific deficiencies in the modeling, assumptions, or conclusions presented in the Draft EIR, or demonstrate with substantial evidence that project-related noise impacts would exceed applicable thresholds. As discussed in Section 4.12, Noise, and in Response 14-V above, the Draft EIR includes a conservative worst-case analysis of construction and operational noise and concludes that all project-related noise impacts would be less than significant under CEQA without mitigation. Because the Draft EIR's analysis demonstrates that noise impacts are less than significant, CEQA does not require the adoption of additional mitigation measures for those impacts. (Pub. Resources Code § 21002; CEQA Guidelines § 15126.4(a)(3).)

Second, as to the Attorney General's warehouse best practices guidance, the guidance is advisory and does not establish mandatory CEQA requirements. The proposed project's incorporation of design features and compliance with applicable County noise standards and regulations demonstrates consistency with the intent of these recommendations to minimize noise conflicts. CEQA does not require a lead agency to adopt every recommended best practice where the analysis demonstrates that impacts are less than significant without them. This is consistent with the County's treatment of the AG guidance in other responses; see Response 14-N (removed from this document but part of the project record).

Third, as to the requirement to mandate electric trucks as a noise mitigation measure, because the Draft EIR concludes that noise impacts are less than significant, mitigation for noise is not required, and a measure directed at noise reduction need not be adopted under CEQA. Please also see Responses 1-E, 1-J, and 11-C.

Fourth, as to the daily trip discrepancy, the County acknowledges the comment. The 6,885 figure represents total daily vehicle trips including employee and truck trips for purposes of the air quality analysis (Draft EIR at 4.2-29), while the transportation analysis applies a different trip generation methodology consistent with ITE trip generation rates applicable to the VMT evaluation. The two figures are not inconsistent; they reflect different analytical methodologies applied for different purposes in different sections of the Draft EIR as appropriate to each analysis.

Standard construction measures are included to further minimize temporary noise and ensure consistency with applicable regulations; however, mitigation is not required to reduce impacts to a less-than-significant level. No additional mitigation measures are required and no revisions to the analysis are necessary.

Response 14-Y

The comment contends that if the noise analysis had been properly conducted, it likely would have concluded that project-related noise impacts would be significant, thereby triggering a legal obligation to adopt mitigation measures. The comment asserts that numerous feasible mitigation measures exist that are conspicuously absent from the Draft EIR's mitigation program, including measures identified in the California Attorney General's Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act (2022). The comment enumerates specific measures including acoustical barriers, loading dock orientation and shielding, nighttime loading restrictions, truck route restrictions, quiet backup alarms, idling restrictions, on-site queuing, low-noise paving, mufflers and acoustic shrouds on equipment, and post-occupancy noise monitoring. The comment also asserts that electric trucks would dramatically reduce noise impacts and cites a study documenting noise reductions of up to 10 dBA. The comment further identifies a discrepancy in the Daily trip figures presented in the Draft EIR (6,885 vs. 6,405 daily vehicle trips).

The County has considered these points and does not agree that revision is required.

First, the comment raises a hypothetical conclusion that significant noise impacts would likely occur if analyzed differently, but does not identify specific deficiencies in the modeling, assumptions, or conclusions presented in the Draft EIR, or demonstrate with substantial evidence that project-related noise impacts would exceed applicable thresholds. As discussed in Section 4.12, Noise, and in Response 14-V above, the Draft EIR includes a conservative worst-case analysis of construction and operational noise and concludes that all project-related noise impacts would be less than significant under CEQA without mitigation. Because the Draft EIR's analysis demonstrates that noise impacts are less than significant, CEQA does not require the adoption of additional mitigation measures for those impacts. (Pub. Resources Code § 21002; CEQA Guidelines § 15126.4(a)(3).)

Second, as to the Attorney General's warehouse best practices guidance, the guidance is advisory and does not establish mandatory CEQA requirements. The proposed project's incorporation of design features and compliance with applicable County noise standards and regulations demonstrates consistency with the intent of these recommendations to minimize noise conflicts. CEQA does not require a lead agency to adopt every recommended best practice where the analysis demonstrates that impacts are less than significant without them. This is consistent with the County's treatment of the AG guidance in other responses; see Response 14-N.

Third, as to the requirement to mandate electric trucks as a noise mitigation measure, as discussed above, the Draft EIR concludes that noise impacts are less than significant. Therefore, mitigation for noise is not required by CEQA. Please also see Responses 1-E, 1-J, and 11-C.

Fourth, as to the daily trip discrepancy, the County acknowledges the comment. The 6,885 figure represents total daily vehicle trips including employee and truck trips for purposes of the air quality analysis (Draft EIR at 4.2-29), while the transportation analysis applies a different trip generation methodology consistent with ITE trip generation rates applicable to the VMT evaluation. The two figures are not inconsistent; they reflect different analytical methodologies applied for different purposes in different sections of the Draft EIR as appropriate to each analysis.

Standard construction measures are included to further minimize temporary noise and ensure consistency with applicable regulations; however, mitigation is not required to reduce impacts to a less-than-significant level. No additional mitigation measures are required and no revisions to the analysis are necessary. The

comment contends that if the noise analysis had been properly conducted, it likely would have concluded that project-related noise impacts would be significant, thereby triggering a legal obligation to adopt mitigation measures. The comment asserts that numerous feasible mitigation measures exist that are conspicuously absent from the Draft EIR's mitigation program, including measures identified in the California Attorney General's Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act (2022). The comment enumerates specific measures including acoustical barriers, loading dock orientation and shielding, nighttime loading restrictions, truck route restrictions, quiet backup alarms, idling restrictions, on-site queuing, low-noise paving, mufflers and acoustic shrouds on equipment, and post-occupancy noise monitoring. The comment also asserts that electric trucks would dramatically reduce noise impacts and cites a study documenting noise reductions of up to 10 dBA. The comment further identifies a discrepancy in the Daily trip figures presented in the Draft EIR (6,885 vs. 6,405 daily vehicle trips).

The County has considered these points and does not agree that revision is required.

First, the comment raises a hypothetical conclusion that significant noise impacts would likely occur if analyzed differently, but does not identify specific deficiencies in the modeling, assumptions, or conclusions presented in the Draft EIR, or demonstrate with substantial evidence that project-related noise impacts would exceed applicable thresholds. As discussed in Section 4.12, Noise, and in Response 14-V above, the Draft EIR includes a conservative worst-case analysis of construction and operational noise and concludes that all project-related noise impacts would be less than significant under CEQA without mitigation. Because the Draft EIR's analysis demonstrates that noise impacts are less than significant, CEQA does not require the adoption of additional mitigation measures for those impacts. (Pub. Resources Code § 21002; CEQA Guidelines § 15126.4(a)(3).)

Second, as to the Attorney General's warehouse best practices guidance, the guidance is advisory and does not establish mandatory CEQA requirements. The proposed project's incorporation of design features and compliance with applicable County noise standards and regulations demonstrates consistency with the intent of these recommendations to minimize noise conflicts. CEQA does not require a lead agency to adopt every recommended best practice where the analysis demonstrates that impacts are less than significant without them. This is consistent with the County's treatment of the AG guidance in other responses; see Response 14-N (removed from this document but part of the project record).

Third, as to the requirement to mandate electric trucks as a noise mitigation measure, as discussed above, the Draft EIR concludes that noise impacts are less than significant. Therefore, mitigation for noise is not required by CEQA. Please also see Responses 1-E, 1-J, and 11-C.

Fourth, as to the daily trip discrepancy, the County acknowledges the comment. The 6,885 figure represents total daily vehicle trips including employee and truck trips for purposes of the air quality analysis (Draft EIR at 4.2-29), while the transportation analysis applies a different trip generation methodology consistent with ITE trip generation rates applicable to the VMT evaluation. The two figures are not inconsistent; they reflect different analytical methodologies applied for different purposes in different sections of the Draft EIR as appropriate to each analysis.

Standard construction measures are included to further minimize temporary noise and ensure consistency with applicable regulations; however, mitigation is not required to reduce impacts to a less-than-significant level. No additional mitigation measures are required and no revisions to the analysis are necessary.

Response 14-Z

The comment states that the Draft EIR does not adequately explain the rationale for considering a remote alternative site located within the Mojave Specific Plan Area and contends that the EIR must consider other specific alternative sites with a better chance of reducing the project's significant environmental impacts. The comment also asserts that the analysis of the Eastern Kern alternative (Alternative 3) contains inconsistencies between Table 6-2, Comparison of Alternatives, and the expanded analysis in Section 6.7.3 of the Draft EIR. The comment further argues that the Draft EIR's analysis of sensitive-receptor exposure under Alternative 3 is internally inconsistent with the Draft EIR's conclusion that the proposed project's sensitive-receptor impacts would be less than significant with mitigation.

The County does not concur that the Draft EIR fails to consider a reasonable range of alternatives or that its analysis of Alternative 3 is inadequate. As an initial matter, CEQA does not require an EIR to consider every conceivable alternative, including alternatives that are infeasible. (CEQA Guidelines § 15126.6(a) [an EIR "must consider a reasonable range of potentially feasible alternatives . . . An EIR is not required to consider alternatives which are infeasible"].) The comment asserts that the County's conception of "feasibility" is improperly constrained but does not explain why this is the case. The Draft EIR applied the definition of "feasibility" set forth in CEQA Guidelines § 15364, which defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." This is the standard definition required by CEQA. The Draft EIR Section 6.0, *Alternatives*, also considered feasibility factors specifically relevant to alternative locations, including site suitability, infrastructure availability, general plan and specific plan consistency, regulatory limitations, jurisdictional boundaries, and whether the project proponent could reasonably acquire, control, or otherwise have access to an alternative site. In its initial screening, the Draft EIR considered and rejected two additional alternatives—the Infill Alternative and the Transit Oriented Development Alternative—for specific, documented reasons, including the absence of suitable sites of sufficient size and the potential for greater impacts to sensitive receptors (Draft EIR § 6.5.).

Regarding the Eastern Kern/Mojave Specific Plan Project Alternative (Alternative 3), the Draft EIR provided a detailed comparative analysis of this alternative across all environmental resource categories in Section 6.7.3 and Table 6-2. (Draft EIR §§ 6.4.3, 6.7.3; Table 6-2.) The rationale for evaluating this alternative is well documented. The Mojave Specific Plan encompasses approximately 31,000 acres, including more than 9,000 acres zoned for industrial uses, functions as the transportation hub of eastern Kern County, provides direct access to State Route 58 and State Route 14, includes areas with industrial land-use designations, and is subject to the East Kern Air Pollution Control District (EKAPCD), which is in attainment for criteria pollutants. (Draft EIR §§ 6.4.3, 6.7.3.) These facts support the County's determination that Alternative 3 was a meaningful alternative for comparative review under CEQA. Moreover, Draft EIR analyzed Alternative 3 at a level of detail sufficient to permit a reasoned comparison. (CEQA Guidelines § 15126.6(f)(3), (d).)

The County acknowledges the commenter's observation regarding the presentation of Alternative 3's air quality impacts in Table 6-2 as compared to the narrative analysis in Section 6.7.3. Table 6-2 characterizes Alternative 3's air quality impact as "Less (SU)" (i.e., less than the project but still significant and unavoidable). However, the expanded narrative analysis in Section 6.7.3 concludes that Alternative 3's regional construction, operational and cumulative criteria-pollutant impacts would be less than significant because the Eastern Kern alternative would fall under EKAPCD jurisdiction and the alternative's emissions of criteria pollutants would be below EKAPCD's regional significance thresholds for all pollutants. (Draft EIR § 6.7.3, pp. 6-34 to 6-35.) In this regard, Alternative 3's air quality impacts would be reduced compared

to the project, which would have significant and unavoidable operational and cumulative impacts related to criteria pollutant emissions.

The "SU" designation in Table 6-2 should be understood as reflecting the Draft EIR's conservative localized sensitive-receptor assumption, not its regional criteria-pollutant analysis. As explained in Section 6.7.3, the EIR conservatively presumed that Alternative 3's localized construction-related exposure of sensitive receptors to pollutant concentrations would be significant and unavoidable because the actual impact of Alternative 3 on sensitive receptors cannot be predicted without conducting a parcel specific health-risk assessment for Alternative 3, which is analytical detail that is not required by CEQA. Alternative 3 is evaluated as a representative alternative location within an identified planning area - the Mojave Specific Plan – rather than as a separate development application for a selected parcel within the Mojave Specific Plan. CEQA Guidelines § 15126.6(d) requires sufficient information to allow meaningful evaluation, analysis, and comparison of alternatives, but the alternatives discussion is governed by the rule of reason and need not replicate every site-specific technical analysis prepared for the proposed project. The Draft EIR identifies the Mojave Specific Plan area and describes its size, transportation access, industrial land-use context, regulatory setting, air district, and the reasons that Alternative 3 would avoid or substantially reduce some air quality impacts as compared to the project. That level of detail is sufficient to compare Alternative 3's air quality and sensitive-receptor issues against the proposed project without modeling every potential receptor relationship for every possible parcel within the Mojave Specific Plan area. Since Alternative 3 was not evaluated as a specific parcel within the Mojave Specific Plan, and to avoid overstating Alternative 3's environmental benefits as compared to the project, the Draft EIR's analysis conservatively presumed the presence of nearby sensitive receptors and conservatively presumed that localized construction-related exposure of such receptors to pollutant concentrations would be significant and unavoidable under Alternative 3. Thus, Alternative 3 was conservatively presumed to have a greater localized construction-related emissions impact on sensitive receptors as compared to the project, even though it would substantially avoid or reduce regional air-quality impacts as compared to the project.

The source of this comment's confusion regarding this analysis is understandable, however, as it stems from a regrettable typo in the Draft EIR's analysis of Alternative 3's air quality impacts. Whereas Draft EIR page 6-34 concludes that Alternative 3's localized construction emission impacts "would be significant an unavoidable, similar to the project," it should have instead concluded that such impacts "would be significant and unavoidable, unlike the project." The Final EIR revises Section 6.7.3 to clarify that, while Alternative 3 would have reduced impacts related to regional emissions of criteria pollutants as compared to the project, it is conservatively presumed to have greater impacts than the project with regards to localized construction-related exposure of sensitive receptors to pollutant concentrations.

Response 14-AA

This comment is a conclusion to the comment letter. The comment requests that the County maintain and preserve the administrative record for the EIR. The County acknowledges this request. The County is aware of its obligations under PRC § 21167.6(e) regarding the maintenance and preservation of the administrative record and will comply with all applicable legal requirements. The administrative record for this project will be maintained and preserved in accordance with CEQA and all other applicable law. The County thanks the author for their comments and participation in the public review of the environmental document.

Comment Letter 15: Advocates for the Environment (March 23, 2026)

March 23, 2026

Advocates for the Environment

A non-profit public-interest law firm
and environmental advocacy organization



Nicole Menchaca
Division Chief
Kern County Planning and Natural Resources Department
2700 M Street Suite 100
Bakersfield, CA 93301

Via U.S. Mail and email to HuiskenN@kerncounty.com

Re: Comments on Draft Environmental Impact Report for Airport Commerce Center Industrial Project, SCH No. 2025030498

Dear Ms. Menchaca:

Advocates for the Environment submits the comments in this letter regarding the Draft Environmental Impact Report (**DEIR**) for the Airport Commerce Center Industrial Project (**Project**). The Project Site is located near Airport Drive, Merle Haggard Drive, and Landings Way in the county of Kern (**County**). The Project proposes to develop the 110-acre Project Site by constructing four warehouse buildings totaling 1,505,440 square feet. We have reviewed the DEIR prepared in February 2026 and submit comments regarding the sufficiency of the DEIR's Greenhouse-Gas (**GHG**) analysis under the California Environmental Quality Act (**CEQA**). 15-A

The County Should Require the Project to be Net-Zero

Given the current regulatory context and technological advancements, a net-zero significance threshold is feasible and extensively supportable. GHG emissions from buildings, including indirect emissions from offsite generation of electricity, direct emissions produced onsite, and from construction with cement and steel, amounted to 21% of global GHG emissions in 2019. (IPCC Sixth Assessment Report, Climate Change 2022, WGIII, Mitigation of Climate Change, p. 9-4.) This is a considerable portion of global GHG emissions. It is much more affordable to construct new building projects to be net-zero than to obtain the same level of GHG reductions by expensively retrofitting older buildings to comply with climate change regulations. Climate damages will keep increasing until we reach net zero GHG emissions, and there is a California state policy requiring the state to be net-zero by 2045. It therefore is economically unsound to construct new buildings that are not net-zero. 15-B

Environmental groups have achieved tremendous outcomes by litigation under CEQA. Two of the largest mixed-use development projects in the history of California, Newhall Ranch (now FivePoint Valencia), and Centennial (part of Tejon Ranch) decided to move forward as net-zero communities after losing CEQA lawsuits to environmental groups. The ability for these large projects

to become net-zero indicates that it is achievable, even for large-scale developments. The Applicant for this Project should do the same.

We urge the County to adopt net-zero as the GHG significance threshold for this project. This threshold is well-supported by plans for the reduction of GHG emissions in California, and particularly the CARB Climate Change Scoping Plans. The CARB 2017 Scoping Plan states that "achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development." (CARB 2017 Scoping Plan, p. 101.) Additionally, the CARB 2022 Scoping Plan reaffirms the necessity of a net zero target by expressing: "it is clear that California must transition away from fossil fuels to zero-emission technologies with all possible speed … in order to meet our GHG and air quality targets." (CARB 2022 Scoping Plan, p. 184.) CARB further encourages a net-zero threshold in its strategies for local actions in Appendix D to the 2022 Scoping Plan. (CARB 2022 Scoping Plan, Appendix D p. 24-26.)

15-B cont'd

Moving this Project forward as a net-zero project would not only be the right thing for the County to do, but also would also help protect the County and the Applicant from CEQA GHG litigation.

GHG Mitigation is Insufficient under CEQA

The calculated project-related emissions amount to 54,266 metric tons of carbon dioxide equivalent (**MTCO2e**) per year (DEIR, p. 4.7-27). The County adopted a significance threshold based on Appendix G of the CEQA Guidelines. Based on this threshold, the County concluded the Project would have significant and unavoidable GHG emissions. To reduce this identified significant GHG impact, the GHG Analysis offered Air Quality Mitigation Measures (**MM-AQ**) 4.2-2-4.2-5, 4.2-7, Energy Mitigation Measures (**MM-E**) 4.5-1, 4.5-2, and Transportation and Traffic Mitigation Measures (**MM-TT**) 4.16-1, 4.16-3 and greenhouse gas Mitigation Measures (**MM-GHG**) 4.7-1, 4.7-2. (DEIR, p. 4.7-35.)

15-C

The DEIR did not include any quantitative estimate of the effectiveness of the proposed mitigation in reducing GHG emissions, nor did it provide evidence that there was no further feasible mitigation, stating there are "no additional feasible or enforceable VMT-reduction measures available that would reduce the impact to a less than significant level." (DEIR, p. 4.7-43.) Despite the availability of other GHG mitigation measures, the DEIR declared that the Project's emissions would remain significant and unavoidable even after the adoption of the feasible mitigation measures. However, the DEIR's conclusion that additional mitigation measures would be infeasible is not supported by substantial evidence, the DEIR should have included more mitigation to reduce the Project's GHG emissions to the extent required by CEQA.

Lack of Certainty and Enforceability

CEQA mitigation measures must be enforceable and effective. Here, some of the mitigation measures are not guaranteed; they are thus improper as CEQA mitigation. MM-GHG 4.7-2 requires the project proponent, before issuance of grading and building permits, to demonstrate that the project will either (1) install on-site solar or other clean energy generation sufficient to provide 100 percent of the project's energy needs, or (2) participate in Pacific Gas and Electric Company's (**PG&E's**) Solar Choice program to procure 100% renewable electricity for the project. (DEIR, p. 4.7-35). However, the Solar Choice program is currently on hold, and new customers are placed on a waitlist with no guaranteed timeline for reopening.[1] Because the program is not currently accepting new participants, it is uncertain whether the Project would be able to enroll and secure renewable electricity through this program. The Draft EIR should be revised to clarify the current status and availability of the Solar Choice program and to ensure that mitigation is enforceable by committing to generate 100% of the Project's energy needs through onsite solar generation. 15-D

Infeasibility Finding Lacks Substantial Evidence

The conclusion that the Project will not be able to achieve any mitigation beyond which was identified in the proposed mitigation measures is not supported with substantial evidence. The DEIR should have proposed more mitigation measures to be applied to the maximum-feasible extent in order to justify the conclusion that the Project's GHG impact would be unavoidable due to lack of feasibility of further mitigation. While the proposed mitigation measures are a good start, the County did not demonstrate that these actions would represent the maximum feasible mitigation to support a finding that the Project's impact would be significant and unavoidable.

CEQA requires that the lead agency identifies specific reasons for infeasibility of further mitigation when concluding significant and unavoidable impact. The County did not attempt to specify any infeasible mitigation measures when concluding that the Project's GHG impact would be unavoidable, nor did it provide any reasoning that the identified mitigation measures represent the maximum feasible mitigation. 15-E

Thus, the conclusion that further mitigation is infeasible was not supported by substantial evidence; there are other readily available mitigation measures, especially considering that 97%[2] of the Project's GHG impact originates from mobile emissions, which the mitigation measures were not primarily focused on reducing. (DEIR, p. 4.7-27.) Yet, the County and Applicant together can commit to design and technology specifications that reduce emissions, especially in the heavy-duty truck and transportation vehicle fleets. The County could require that the applicant's lease agreements

[1] PG&E Community Renewable Programs Locates at: https://www.pge.com/en/clean-energy/solar/community-renewable-programs.html

[2] $\left(\frac{52{,}408\ \text{MTCO2e}}{54{,}266\ \text{MTCO2e}}\right) \times 100 = 96.6\%$ (DEIR, p. 4.7 − 27)

include provisions to limit the use of heavy-duty diesel trucks or require that the tenant's vehicle fleet use non-diesel fuels such as gasoline, ethanol, or biofuels.

Another feasible mitigation measure would require the applicant to enter a contract with future tenants to use zero-emission commercial vehicles upon reasonable availability and maintain a charging system for the vehicle fleet that is powered by solar panels on the Project site. This kind of mitigation is both feasible and necessary to offset the Project's fair share of emissions. Consequently, substantial evidence did not support the conclusion that further mitigation is infeasible.

15-E cont'd

The Project's GHG Impacts Must be Fully Mitigated

CEQA requires that the Project include fair-share mitigation for all significant cumulative impacts. (*Napa Citizens for Honest Gov't v. Napa County Board of Supervisors* (2001) 91 Cal.App.4th 342, 364.) Here, this means mitigation of the full extent of the Project's GHG impacts. The DEIR claims that no other mitigation measures are feasible, beyond the identified mitigation measures. But that conclusion is incorrect, and not supported by substantial evidence.

The amount of GHG emissions that comprises the Project's fair share is clear. The reasonable lifespan this Project is approximately 30 years, as indicated by the amortization of construction emissions. (DEIR, p. 4.7-26.) Therefore, the Project would likely contribute over 1.6 million MTCO2e during its entire lifespan.[3] This would be a good starting point from which to subtract the effect of additional non-offset mitigation measures, before implementing offset purchases.

CEQA does not distinguish between mobile and non-mobile sources of GHG emissions; the lead agency can mitigate cumulative GHG impacts through any measure. More mitigation options for reducing the GHG impact of project operations include: (1) requiring on-site equipment such as landscape equipment to be electric, and installing corresponding electrical charging stations as necessary; (2) requiring feasible construction equipment to be electric; and (3) requiring all emergency generators to be powered by non-diesel fuel, among many other mitigation strategies that can be incorporated in the project as design features or as mitigation measures. Such features could be adopted individually or as part of a comprehensive goal of sustainable building certification, such as Leadership and Energy and Environmental Design (**LEED**), that extends further beyond CALGreen requirements.

15-F

The DEIR does not consider the use of electric or hybrid construction equipment as a feasible mitigation measure. This Project will rely on diesel-powered construction equipment, which contributes substantially to GHG emissions. (DEIR, p. 4.5-12.) Incorporating electric vehicle (**EV**) or hybrid construction equipment would reduce both short-term construction emissions and long-term operational emissions.

[3] 53,967 MTCO2e per year × 30 years = 1,691,010 MTCO2e

The project also accounts for the possibility of refrigerated uses and trucks with cold storage. (DEIR, p. 3.8-24.) However, there is no proposed mitigation for warehouse refrigeration storage. The County should commit to low-warming HFCs or other alternatives to traditional coolants, as well as energy-efficient refrigeration systems.

Even after implementing on-site emissions reductions to the maximum-feasible extent, the County could also require the Applicant to purchase offsets to the extent necessary to mitigate the Project's emissions to the fair share extent. Overall, there are more options available to mitigate emissions to the full extent of project emissions.

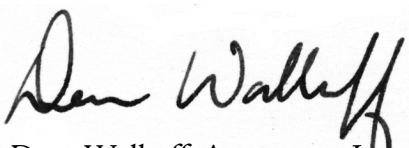
15-F cont'd

Conclusion

The DEIR fails to require all feasible mitigation, despite concluding that the significant GHG impact will be unavoidable. The lead agency has not met its burden of showing that such measures are infeasible, and therefore the DEIR should be amended to reflect all feasible mitigation to the fair-share extent. Please put me on the interest list to receive updates about the progress of this Project. We make this request under Public Resources Code, section 21092.2.

15-G

Sincerely,



Dean Wallraff, Attorney at Law
Executive Director, Advocates for the Environment

Response to Comment Letter 15: Advocates for the Environment (March 23, 2026)

Response 15-A

This comment provides a brief summary of the proposed project and introductory remarks. The comment states that Advocates for the Environment has reviewed the Draft EIR and submitted comments regarding the sufficiency of its GHG analysis. The comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 15-B

The comment states that the proposed project should be held to a net-zero significance threshold. The comment argues that proactive measures to achieve net-zero emissions from buildings are more cost effective than retrofitting measures. The comment provides reference to similar projects taking proactive net-zero measures. The County disagrees. The comment does not provide substantial evidence regarding any significant environmental impact that has not already been analyzed in the Draft EIR. Section 4.7, Greenhouse Gas Emissions, of the Draft EIR robustly evaluates the proposed project's GHG impacts, both from a quantitative and qualitative perspective. Section 4.7, Greenhouse Gas Emissions, describes the significance criteria, assumptions and methodologies used by the County, in its discretion, to conduct this impact analysis. The comment cites the CARB 2017 Scoping Plan and CARB 2022 Scoping Plan which encourage and state the ultimate necessity of achieving net-zero emissions, arguing that holding the proposed project to a net-zero significance threshold would thus protect the proposed project from future CEQA GHG litigation. However, neither of these documents set a net zero GHG threshold for CEQA review. Nor has any other agency with responsibility over GHG emissions set such a threshold for CEQA review. The County also has not adopted any numeric GHG threshold, but rather has chosen to evaluate the project against applicable State and regional GHG reduction plans, including the CARB 2022 Scoping Plan and KCOG 2022 RTP/SCS. The comment provides no evidence that the County's determination of its GHG threshold is not supported by substantial evidence.

Moreover, the County finds that application of a net-zero threshold is unprecedented and would effectively result in a moratorium on such facilities within the County. It is not appropriate to apply such a threshold to warehouse projects where the vast majority of operational GHG emissions result from mobile-source emissions. The County finds it is not currently feasible to entirely mitigate the project's mobile-source GHG emissions due to current jurisdictional and technological constraints. Please see response to comment 1-E regarding ZE truck commercial availability. Nonetheless, the County will still require all feasible mitigation measures to reduce the project's GHG emissions to the maximum extent practicable and anticipates that the project's GHG emissions will reduce over time as more stringent regulations come into effect and technology improves and becomes more widespread.

With regards to the projects referenced by the commenter (the Newhall Ranch and Tejon Ranch projects) the 2022 CARB Scoping Plan notes that" ... the Newhall and Tejon Ranch projects do not necessarily represent the type of development that California most needs to simultaneously tackle the housing and climate crises ... ". The 2022 CARB Scoping Plan cautions against using net-zero targets and specifically notes that jurisdictions considering a net-zero target should carefully consider the implications it may have on emissions in neighboring communities and beyond. Appendix D of the Scoping Plan states:

> "Jurisdictions should also avoid creating targets that are impossible to meet as a basis to determine significance. For example, a net-zero target may imply that the GHG emissions of any project that are not reduced or offset to zero would be considered potentially significant. This may lead to undue

> burdens and frustrate project approval processes, which may be particularly problematic for residential development in climate-smart, infill areas. In addition, some jurisdictions have more land capacity to remove and store carbon, while others host GHG-emitting facilities that serve necessary functions and will take time to transition to new technology."

The Newhall and Tejon Ranch GHG reduction strategies were the result of settlements with the environmental community and a net zero GHG threshold was not used in the CEQA analysis for either project. Thus, these projects do not support the use of a net zero GHG threshold for CEQA review. The Draft EIR for the proposed project robustly evaluated all potential GHG emissions impacts using appropriate thresholds, and identified feasible mitigation where necessary. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 15-C

The comment states that the Draft EIR did not provide a quantitative estimate of the effectiveness of the proposed GHG mitigation or provide evidence that there was no further feasible mitigation. The commenter does not explain what further feasible mitigation the commenter believes exists. Please see response to comment 15-B regarding the Draft EIR's GHG analysis. Please see responses to comments 1-E, 1-J, 11-C, and 13-PP for responses to other allegedly feasible mitigation that has been suggested for the project. The Draft EIR is not required to quantify the effectiveness of proposed mitigation measure.

This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 15-D

The comment states **Mitigation Measure MM 4.7-2** is not enforceable because the Pacific Gas and Electric Company's (PG&E's) Solar Choice program is on hold. The County does not concur with this comment. **MM 4.7-2** specifically states that prior to the issuance of grading and building permits the project must either (1) install on-site solar or other clean energy generation sufficient to provide 100 percent of the project's energy needs, or (2) participate in PG&E's Solar Choice program to procure 100% renewable electricity for the project. The measure is enforceable by the County because the developer has to demonstrate compliance by obtaining 100% renewable energy for the project before a grading or building permit can be issued. The measure gives two options for compliance with the requirement. Although PG&E's Solar Choice program is currently paused, it could be reinitiated in the future. If the program is not available at the time grading or building permits are issued, the developer still has an option to demonstrate 100 percent renewable energy. The current unavailability of the program does not make this mitigation measure unenforceable. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 15-E

The comment states that there is further feasible mitigation for the project's GHG impacts that should be included in the Final EIR. The comment does not identify any specific further feasible mitigation for GHG emissions from the project other than to mention that the project could enter into a contract with future tenants to use ZE commercial vehicles upon reasonable availability and maintain a charging system for the vehicle fleet that is powered by solar panels. The comment also mentions that the County could require that

the applicant's lease agreements include provisions to limit the use of heavy-duty diesel trucks or require that the tenant's vehicle fleet use non-diesel fuels.

CEQA requires that the lead agency identify and adopt all feasible mitigation measures that would substantially lessen or avoid the project's significant environmental effects. Under CEQA Guidelines section 15126.4(c), lead agencies must consider "feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions." Courts generally defer to a lead agency's assessment of the effectiveness of adopted mitigation measures when that assessment is supported by substantial evidence.

The Draft EIR identifies an extensive suite of mitigation measures that collectively address the major sources of project-related GHG emissions. These measures span construction practices, building design and energy, on-site equipment and operations, transportation demand management, and regulatory compliance.

Under **Mitigation Measure MM 4.7-2**, the project must demonstrate, prior to the issuance of grading and building permits, that it will either install solar panels or other clean energy generation sources to provide 100% of the project's energy needs, or participate in PG&E's nonresidential Solar Choice program to procure 100% carbon-free electricity. This measure effectively eliminates all indirect GHG emissions attributable to electricity consumption. The project is also designed as an all-electric facility, and as required under **MM 4.2-3**, electric equipment shall be used whenever possible in lieu of diesel or gasoline powered equipment. This eliminates direct on-site combustion emissions associated with space heating, water heating, and cooking, and is consistent with the 2022 CARB Scoping Plan's building decarbonization priority. **MM 4.7-1** requires disclosure to all tenants that only electric-powered off-road equipment may be used, including forklifts and material handling equipment. This eliminates GHG emissions from on-site material handling that would otherwise result from diesel or propane-powered equipment.

MM 4.7-1 requires the project's general contractor to target a construction waste diversion rate of 80%, with monthly reporting to the County documenting total waste generated, waste streams, and waste recycled. This measure reduces lifecycle GHG emissions associated with landfill methane generation and material production. **MM 4.2-7** requires that all TRUs entering the project site be plug-in capable, with electrical hookups provided at all loading bays for cold storage tenants. Idling of trucks and auxiliary engine use for climate control is prohibited when plug-in capability is available, and anti-idling signage must be installed at truck gates, loading docks, truck parking areas, and adjacent streets. These measures reduce modeled TRU emissions from 471 to 174 metric tons of CO_2-equivalent per year ($MTCO_2e/yr$), a reduction of approximately 63%. **MM 4.5-2** requires compliance with mandatory California Green Building Standards (CALGreen) and, beyond the baseline CALGreen requirements, the provision of electrified EV chargers for 22% of EV-capable parking spaces with electric vehicle supply equipment. The project also includes 102 EV charging stations and 5 truck charging stations. **MM 4.2-4** requires that all landscaping along major roadways must use native, drought-resistant species, reducing demand for gas-powered landscape maintenance equipment. As a project design feature, all landscape equipment will be electric. The project also requires the use of super-compliant, low-VOC paints (less than 10 g/L) (MM 4.2-6) and implementation of a TDM program (**MM 4.16-3**).

MM 4.5-1 also requires the incorporation of an extensive array of energy efficiency measures, including:

- Roof-mounted solar photovoltaics within one year of operations;
- Green building measures reducing energy use by 10–25% below Title 24 requirements;

- LEED® certification standards for commercial buildings;
- Light-colored roofs to reduce heat generation;
- LED lighting for all interior, exterior, and public street fixtures;
- Covered parking stalls with solar photovoltaics where feasible;
- Bicycle-friendly features including bike lanes, racks, and lockers;
- High-efficiency electric motors for industrial uses where feasible; and
- Consultation with Kern County Public Works and Golden Empire Transit on transit-related circulation improvements.

Finally, the DMA/VERA in **MM 4.2-5** will offset as near to net zero as possible project construction and operational criteria pollutant emissions—NO_x, ROG, PM_{10}, and $PM_{2.5}$—to avoid any net increase in these pollutants. These offsets provide co-benefits for GHG reduction, including electrification of stationary engines and replacement of diesel equipment.

The mitigation program thus encompasses every category of feasible GHG reductions identified in the California Attorney General's Best Practices guidance for warehouse projects and the CARB Concept Paper for the Freight Handbook, including zero-emission equipment commitments, zero-emission infrastructure investments, contractual tenant requirements for zero-emission technologies, solar and renewable energy systems, energy efficiency beyond code, EV charging infrastructure, TDM programs, and anti-idling measures.

The Draft EIR has concluded that impacts remain significant and unavoidable mainly because it is not feasible to electrify all transportation—particularly heavy-duty trucks—associated with the project's operations, and because the project's VMT per employee of 18.48 exceeds the significance threshold of 14.04. These residual impacts arise from factors that are beyond the control of the project applicant or the County as lead agency:

1. **Heavy-duty truck electrification is not yet feasible.** Regulation of private vehicles and heavy-duty trucks is not within the control of any individual project applicant or lead agency. The transition to zero-emission heavy-duty vehicles is governed by statewide CARB regulations, and full fleet electrification has not yet been achieved. The project does, however, include infrastructure to support this transition—conduits for future truck charging stations, electrical hookups at loading bays, and medium- and heavy-duty vehicle charging readiness.
2. **No additional feasible VMT-reduction measures exist.** The Draft EIR concludes that even with the TDM program, sidewalks, bicycle lanes, bicycle racks, and EV charging stations, VMT reductions cannot be quantified to result in a meaningful reduction below the 14.04 threshold. No additional feasible or enforceable VMT-reduction measures have been identified that would reduce the impact to a less-than-significant level.
3. **Mobile-source emissions will continue to decline through statewide regulation.** CEQA Guidelines section 15130 recognizes that, in some cases, "the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis." GHG emissions from mobile sources will continue to decline as California's ZEV mandates and other statewide regulations take effect.

Please also see responses to comments 1-E, 1-J, 11-C, 13-PP, and 14-O. The project's GHG mitigation program represents the implementation of all feasible mitigation measures available to the lead agency. In addition, the majority of the project's GHG emissions are driven by mobile sources. This comment does not otherwise raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record and revisions to the Draft EIR are not necessary.

Response 15-F

The comment states that the Draft EIR must include fair-share mitigation for all significant cumulative impacts, specifically for GHG emissions. Please see response to comment 15-E. The comment suggests:

On-site equipment such as landscaping equipment should be electric and there should be charging for same. Please see responses to comments 1-E, 1-J, 11-C, 13-PP, and 14-O.

Feasible construction equipment should be electric. Please see responses to comments 1-E, 1-J, 11-C, 13-PP, and 14-O.

All emergency generators should be non-diesel. The project would have six diesel emergency generators for back-up emergency power. Existing rules limit emergency generators to 100 hours of operation for non-emergency usage, which is less stringent than the ATCM for emergency standby stationary engines under 17 California Code of Regulations 93115. Please also see responses to comments 11-C and 13-PP.

The use of hybrid or electric construction equipment. Please see responses to comments 1-E, 1-J, 11-C, 13-PP, and 14-O.

Committing to low-warming HFCs or other alternatives to traditional coolants. As described in the Draft EIR page 4.7-23, the project is required to use low-global warming potential (GWP) refrigerants per CARB's Refrigerant Management Plan. **Mitigation Measure MM 4.7-1** also requires any equipment containing greater than five pounds of refrigerant procured or installed to be tagged so that the project applicant and tenant can verify all installed equipment.

Purchasing offsets to reduce GHG emissions. Please see response to comment 15-B. The project is not required to commit to a net zero GHG threshold and thus offset all GHG emissions. The project's significant and unavoidable GHG impact arises primarily from its inconsistency with the 2022 CARB Scoping Plan's transportation electrification and VMT reduction goals—not from the aggregate quantity of emissions from the project. The project's VMT per employee of 18.48 exceeds the significance threshold of 14.04, and it is not feasible to electrify all heavy-duty trucks associated with project operations. Purchasing carbon offsets does not reduce the project's VMT, electrify its truck fleet, or otherwise bring the project into consistency with the Scoping Plan's mobile-source reduction targets. Courts have also held that carbon offsets used as CEQA mitigation must be enforceable, verifiable, and additional, meaning they must represent emissions reductions beyond those that would occur anyway. In *Golden Door Properties, LLC v. County of San Diego* (2020) 50 Cal.App.5th 467, 506, 512, the court rejected a climate-plan offset measure because it was not equivalent to Cap-and-Trade offsets with respect to enforcement and additionality and specifically questioned the ability of voluntary-market offsets to satisfy CEQA's mitigation requirements. Voluntary carbon offset markets lack the regulatory oversight, standardized verification protocols, permanence guarantees, and enforcement mechanisms that characterize the Cap-and-Trade compliance market and it is uncertain whether sufficient offsets meeting CEQA's standards of permanence, additionality, and verifiability would be available in the quantities needed for the project. The uncertainty inherent in relying on future voluntary market availability to mitigate an ongoing, decades-long emissions stream does not satisfy CEQA's requirement for evidence-based, quantifiable mitigation. As the court

recognized in *People ex rel. Bonta v. County of Lake* (2024) 105 Cal.App.5th 1222, 1237, a carbon credit purchase program may be too uncertain to serve as adequate mitigation to reduce a GHG impact below significance. While CEQA Guidelines section 15126.4(c)(3) recognizes that GHG mitigation "may include" off-site measures such as offsets, the mere theoretical availability of offsets does not make them feasible or legally adequate mitigation for this project. The County has determined, based on substantial evidence, that carbon offsets do not constitute feasible mitigation here for the reasons listed above. Please also see responses to comments 1-E, 1-J, 11-C, 13-PP, and 15-E.

LEED certification as it extends beyond CalGREEN. LEED certification would not serve meaningfully to reduce the project's GHG emissions or air quality impacts, as the bulk of emissions are driven by mobile sources (heavy trucks) and not building energy efficiency. In addition, the project would meet CalGREEN and the basic requirements for this and LEED Certification overlap. Please see responses to comments 1-E, 1-J, 11-C, 13-PP, and 14-O.

It should be noted that, as the majority of the project's GHG emissions are driven by mobile sources, additional building energy efficiency measures would not yield meaningful reductions. The County has determined that all feasible measures have been incorporated into the Final EIR and that the project is doing its fair share to minimize GHG emissions. Therefore, no revisions to the EIR are required.

Response 15-G

The comment is a conclusion to the comment letter, stating impacts related to GHG emissions would not be unavoidable as stated in the Draft EIR. The comment states that the lead agency has not met its burden and the Draft EIR should be amended to reflect all feasible mitigation to the fair-share extent. The comment requests to be placed on the interest list, and states that the comment is made under PRC Section 21092.2. Please see responses to comments 1-E, 1-J, 11-C, 13-PP, 14-0, and 15-B to 15-F above. The County finds that the Draft EIR is adequate and complete, and that none of the circumstances triggering recirculation under CEQA Guidelines Section 15088.5 have occurred. The County has added commenter to the public notice list for the project. No revisions to the Draft EIR are required in response to this comment. The County thanks the author for their comments and participation in the public review of the environmental document.

Comment Letter 16: Supporters Alliance for Environmental Responsibility (SAFER) (March 11, 2026)

LOZEAU DRURY LLP

T 510.836.4200
F 510.836.4205

1939 Harrison Street, Ste. 150
Oakland, CA 94612

www.lozeaudrury.com
kylah@lozeaudrury.com

Via Email

March 11, 2026

Nicole Menchaca, Division Chief
Advanced Planning Division
Planning and Natural Resources Department
County of Kern
2700 M Street, Suite 100
Bakersfield, CA 93301
huiskenn@kerncounty.com

Re: Comment on Draft Environmental Impact Report, Airport Commerce Center Industrial Project (SCH 2025030498, PP24405, GPA No. 5, Map 81-35; ZCC No. 46, Map 81-35; PD No. 36, Map 81-35; ZV No. 7, Map 81-35; Nonsummary Vacation, Map 81-35)

Dear Ms. Menchaca:

This comment is submitted on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Draft Environmental Impact Report ("DEIR") prepared for the Airport Commerce Center Industrial Project (SCH 2025030498, PP24405, GPA No. 5, Map 81-35; ZCC No. 46, Map 81-35; PD No. 36, Map 81-35; ZV No. 7, Map 81-35; Nonsummary Vacation, Map 81-35), which proposes the development of four single-story warehouse buildings totaling approximately 1,505,440 square feet, two single-story quick-serve restaurants totaling 9,410 square feet and related site improvements, located on the north side of Merle Haggard Drive between Airport Drive and Landings Way in the Oildale area of unincorporated Bakersfield in Kern County ("Project"). 16-A

SAFER is concerned that the DEIR fails as an informational document and fails to impose all feasible mitigation measures to reduce the Project's impacts. SAFER requests that the Planning and Natural Resources Department address these shortcomings in a revised draft environmental impact report ("RDEIR") and recirculate the RDEIR prior to considering approvals for the Project.

SAFER reserves the right to supplement these comments during the administrative process. *Galante Vineyards v. Monterey Peninsula Water Management Dist.*, 60 Cal. App. 4th 1109, 1121 (1997).

16-A cont'd

Sincerely,



Kylah Staley
Lozeau Drury LLP

Response to Comment Letter 16: Supporters Alliance for Environmental Responsibility (SAFER) (March 11, 2026)

Response 16-A

Staff acknowledges the comment from Supporters Alliance for Environmental Responsibility (SAFER), which provides introductory remarks, summarizes the proposed project, states general concerns that the Draft EIR purportedly fails as an informational document and fails to impose all feasible mitigation measures to reduce project impacts, and reserves the right to submit additional comments in the future.

The comment does not identify any specific deficiency in the Draft EIR's methodology, analysis, assumptions, mitigation measures, significance conclusions, or alternatives analysis. Nor does the comment identify any specific feasible mitigation measure that the Draft EIR failed to consider or adopt. Under CEQA, the level of detail in a response may correspond to the level of detail in the comment, and a general response is appropriate where a comment raises generalized concerns without identifying a specific significant environmental issue or supporting evidence. Accordingly, because this comment is introductory and general in nature, a general response is appropriate.

The Draft EIR evaluates the project's physical environmental effects across the relevant CEQA issue areas, including air quality and health risk, greenhouse gas emissions, biological resources, noise, hazards and hazardous materials, transportation, hydrology and water quality, utilities and service systems, population and housing, public services, and cumulative impacts. The record reflects that the Draft EIR discloses significant and unavoidable impacts where applicable and identifies mitigation measures and regulatory compliance requirements that would reduce project impacts to the extent feasible.

SAFER's reservation of the right to submit future comments is noted. Any additional comments submitted to the County will be considered in accordance with CEQA and the County's applicable public review procedures. Because Comment 16-A does not identify a specific inadequacy in the Draft EIR, does not identify a feasible mitigation measure omitted from the Draft EIR, and does not present new significant information, it does not identify a new significant environmental impact, a substantial increase in the severity of a previously identified impact, or a deficiency requiring revision or recirculation of the Draft EIR. No revisions to the Draft EIR are required in response to this comment. The County thanks the author for their comments and participation in the public review of the environmental document.

Comment Letter 17: Southern California Gas (SoCalGas) (April 6, 2026)

Transmission Technical
Services Department

9400 Oakdale Ave
Chatsworth, CA 91311
SC9314

April 6, 2026

Nicole Menchaca
Kern County
Huiskenn@Kerncounty.com

Subject: **Draft EIR for the Airport Commerce Center Industrial Project by ACC Bakersfield JV**

DCF: **0552-26-7039**

Southern California Gas Company (SoCalGas) Transmission Department operates and maintains high-pressure natural gas transmission pipeline(s) in the vicinity of your project. The pipeline is shown on the attached map(s). Please note, only the high-pressure transmission pipeline information is current on these atlas prints.

Our Gas Distribution Department may have other gas facilities within your project area. To assure no conflict with the SoCalGas' distribution pipeline system, please contact

NorthwestDistributionUtilityRequest@semprautilities.com.

17-A

This is only a response to a gas facility map request; a review of potential conflicts associated with your request has not been conducted. Consequently, **this letter does not constitute clearance for any construction work near or around SoCalGas' pipeline(s)**. As your project plans are developed, you must notify SoCalGas - Gas Transmission Department regarding the improvements that are proposed near our pipeline(s) and within our easement(s) before you begin any construction, including potholing. In doing so, please allow sufficient time as there may be certain requirements that need to be incorporated into your project's design and could significantly affect your project construction schedule.

Best Regards,
Nerses Papazyan
Pipeline Planning Assistant
SoCalGas Transmission Technical Services
SoCalGasTransmissionUtilityRequest@semprautilities.com

SCG Transmission General Requirements

Transmission Technical
Services Department

9400 Oakdale Ave
Chatsworth, CA 91311
SC9314

April 6, 2026

Nicole Menchaca
Kern County
Huiskenn@Kerncounty.com

Subject: **Draft EIR for the Airport Commerce Center Industrial Project by ACC Bakersfield JV**

DCF: **0552-26-7039**

The following are general requirements provided when performing work or planning projects near SoCalGas high pressure lines. Please review requirements along with project plans and notify SoCalGas Transmission Department about any questions or conflicts.

It is highly recommended that communication is maintained with SoCalGas to address all conflicts. Depending on the specific scope of your project there may be less or more requirements that need to be discussed regarding your project.

1- Consideration must be given to the safety of our pipeline(s) during all project stages.

2- SoCalGas must have continuous and uninterrupted access to the pipeline(s) and easement(s). In addition, SoCalGas conducts routine patrols and surveys of the pipeline(s); SoCalGas needs drivable access along the pipeline(s)/easement(s).

3- Buried pipelines must have a minimum cover of 3 feet and a maximum cover of 7 feet below finished grade. No change of grade whatsoever, even within these parameters, shall be made without prior approval of SoCalGas.

4- Prior to SoCalGas approving encroachment onto its easement(s), SoCalGas must be furnished with final grading plans showing the depth of the pipeline(s) below the existing surface and the depth of the pipeline(s) below the proposed finished grade. These elevations must meet SoCalGas' requirements for buried pipelines.

5- No permanent structures, such as buildings, block walls, foundations, gates, etc., shall be constructed within the easement or over the pipeline(s).

17-A cont'd

6 - There shall be no planting of trees or other deep-rooted plants within the easement(s) or over the pipeline(s).

7 - Substructures shall cross perpendicular to the easement(s). Substructure crossings must provide a minimum of 18-inches vertical clearance from the pipeline(s). Additional separation is required for leach lines, fuel lines, etc.

8 - Parallel encroachments within the easement(s) are prohibited. In areas where a parallel substructure is being constructed outside of the easement(s), SoCalGas requires five feet of separation, with three feet of undisturbed fill, in order to protect the integrity of our facilities and allow the facilities to be safely accessed during inspection, maintenance, and repair. Additional separation may be needed for leach lines, fuel lines, high voltage electric, etc.

9 - All encroachments onto SoCalGas' easement(s) must have written approval of SoCalGas prior to construction or encroaching onto the easement(s).

10 - All work within the SoCalGas easement(s) and/or within 10 feet of the pipeline(s) must be witnessed by a SoCalGas representative, and no work will be allowed without the SoCalGas representative on site.

11 - No heavy equipment shall cross the pipeline(s) without SoCalGas' approval. Additional protective measures may be required where heavy equipment is expected to cross the pipeline(s).

17-A cont'd

12 - No mechanical equipment shall operate within three horizontal feet of the pipeline(s), and any closer work must be performed by hand.

13 - No mechanical equipment shall operate within two vertical feet of the pipeline(s), and any closer work must be performed by hand.

14 - Buried pipeline(s) shall not be left exposed, and exposed pipeline(s) shall not be buried, without prior inspection and approval by SoCalGas. If the pipeline(s) are exposed during construction (e.g. substructure crossings, etc.), the pipeline must be backfilled with sand or zero-sack slurry only.

15 - No vibratory compaction is permitted over the pipeline(s). In rare cases, vibratory compaction may be approved by SoCalGas' Engineering Department following review of detailed site conditions, pipeline data, and equipment specifications.

16 - All contractors and subcontractors must be notified of the presence of the pipeline(s).

17 - Contractors and subcontractors must call DigAlert (811) at least 2 working days prior to construction, grading, or excavation.

18 - Once approved, encroachments within SoCalGas' easement(s) shall be documented in an easement amendment or other document, as deemed appropriate by SoCalGas' Land Services Department.

In addition to the previous requirements, SoCalGas recommends the following:

19 - Potholes should be made, as necessary, to establish the horizontal and vertical alignment of the pipeline(s) within the project area. This information should be indicated on the plans, as needed. CAUTION: SoCalGas personnel must be present during potholing operations. Arrangements for SoCalGas personnel to stand by during potholing activities can be made by calling DigAlert at 811.

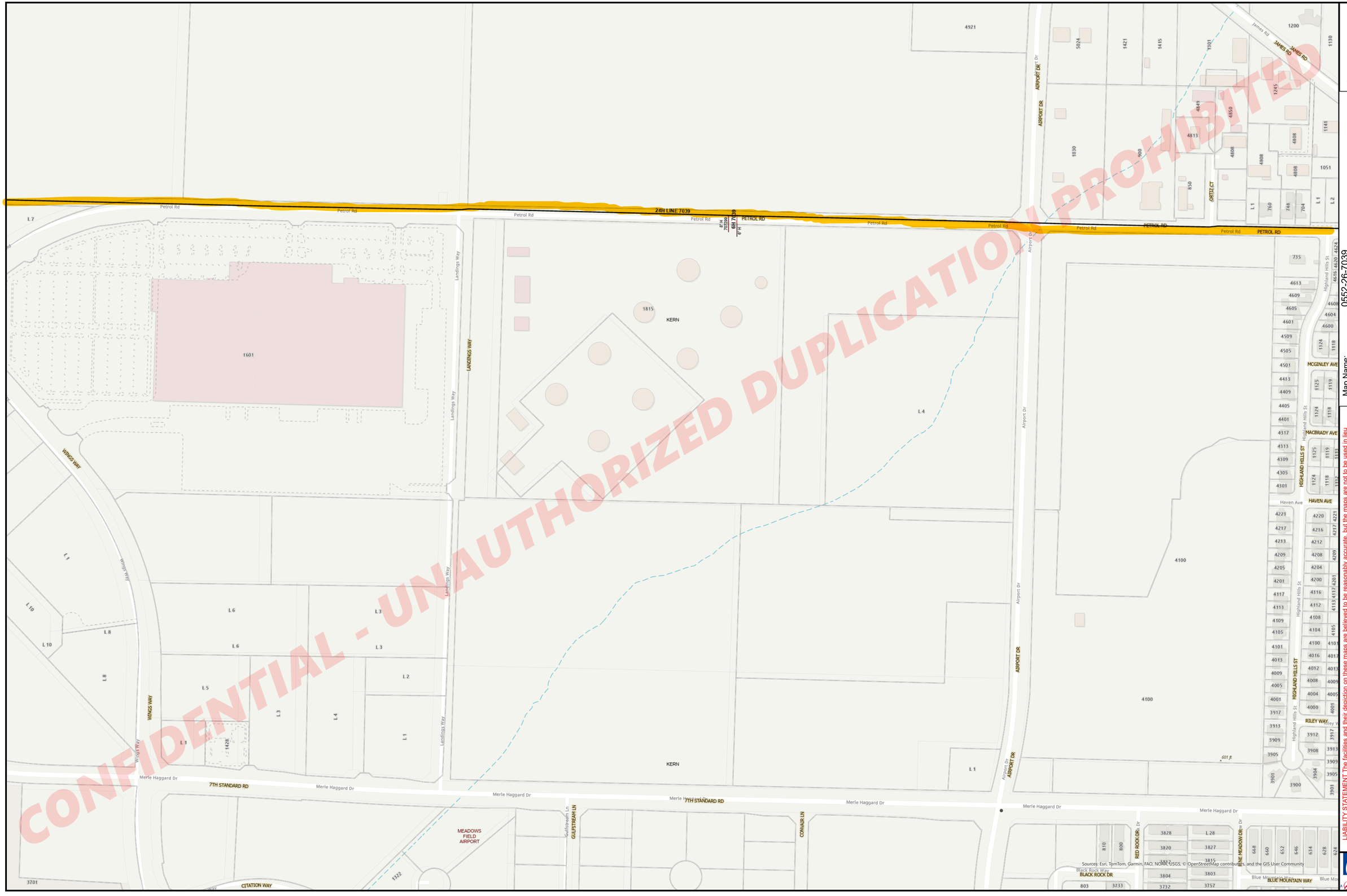
20 - Consideration should be given to building setbacks from the easement lines. A minimum 15-foot setback is recommended whenever possible.

21 - All potential buyers or tenants of the property should be made aware of the presence of the pipeline(s) and easement restrictions.

17-A cont'd

Best Regards,

SoCalGas Transmission Technical Services



CONFIDENTIAL - UNAUTHORIZED DUPLICATION PROHIBITED

1 inch = 187 feet

Map Name:	0552-26-7039
Map Type:	Gas Asset Map
Printed By:	GTTS
Printed Date:	4/6/2026

LIABILITY STATEMENT The facilities and their depiction on these maps are believed to be reasonably accurate, but the maps are not to be used in lieu of field verification or calling USA at 800-422-4133. NO WARRANTY expressed or implied (including of merchantability or of fitness for a particular purpose) is made as to any matter, including but not limited to, the design, size, type or location of the facilities, their presence or absence, the accuracy of the maps, the ability to transmit data, absence of viruses, transmittal delays or failures, or omissions or errors or omissions, compatibility with the user's system or as its ability to interpret the data correctly or at all, or any other matter. The Gas Company has no liability for damages (direct, indirect, consequential, incidental or punitive) arising from the transmission, receipt or use by others of the maps or information contained in the maps.

Southern California Gas Company
Sempra Energy utility

Response to Comment Letter 17: Southern California Gas (SoCalGas) (April 6, 2026)

Response 17-A

The Southern California Gas Company (SoCalGas) provided the County with two comment letters on the Draft EIR. The first letter is dated April 6, 2026, and the second letter is dated May 18, 2026. Upon review of the two letters, it has been determined that they are duplicate letters with substantively the same text and comments in each letter. As such, the County has responded to the letter dated May 18, 2026, which has been designated Comment 18. Please see the Responses to Comment 18, which also serve as responses to this Comment 17.

Comment Letter 18: Southern California Gas (SoCalGas) (May 18, 2026)

Transmission Technical
Services Department

9400 Oakdale Ave
Chatsworth, CA 91311
SC9314

May 18, 2026

Nicole Menchaca
Kern County
Huiskenn@Kerncounty.com

Subject: **GPA #5, Map 81-35; ZCC #46, Map 81-35; PD Plan #36, Map 81-35**

DCF: **0991-26-7039**

Southern California Gas Company (SoCalGas) Transmission Department operates and maintains high-pressure natural gas transmission pipeline(s) in the vicinity of your project. The pipeline is shown on the attached map(s). Please note, only the high-pressure transmission pipeline information is current on these atlas prints.

Our Gas Distribution Department may have other gas facilities within your project area. To assure no conflict with the SoCalGas' distribution pipeline system, please contact

NorthwestDistributionUtilityRequest@semprautilities.com.

18-A

This is only a response to a gas facility map request; a review of potential conflicts associated with your request has not been conducted. Consequently, **this letter does not constitute clearance for any construction work near or around SoCalGas' pipeline(s)**. As your project plans are developed, you must notify SoCalGas - Gas Transmission Department regarding the improvements that are proposed near our pipeline(s) and within our easement(s) before you begin any construction, including potholing. In doing so, please allow sufficient time as there may be certain requirements that need to be incorporated into your project's design and could significantly affect your project construction schedule.

Best Regards,
Nerses Papazyan
Pipeline Planning Assistant
SoCalGas Transmission Technical Services
SoCalGasTransmissionUtilityRequest@semprautilities.com

SCG Transmission General Requirements

Transmission Technical
Services Department

9400 Oakdale Ave
Chatsworth, CA 91311
SC9314

May 18, 2026

Nicole Menchaca
Kern County
Huiskenn@Kerncounty.com

Subject: **GPA #5, Map 81-35; ZCC #46, Map 81-35; PD Plan #36, Map 81-35**

DCF: **0991-26-7039**

The following are general requirements provided when performing work or planning projects near SoCalGas high pressure lines. Please review requirements along with project plans and notify SoCalGas Transmission Department about any questions or conflicts.

It is highly recommended that communication is maintained with SoCalGas to address all conflicts. Depending on the specific scope of your project there may be less or more requirements that need to be discussed regarding your project.

1 - Consideration must be given to the safety of our pipeline(s) during all project stages.

2 - SoCalGas must have continuous and uninterrupted access to the pipeline(s) and easement(s). In addition, SoCalGas conducts routine patrols and surveys of the pipeline(s); SoCalGas needs drivable access along the pipeline(s)/easement(s).

3 - Buried pipelines must have a minimum cover of 3 feet and a maximum cover of 7 feet below finished grade. No change of grade whatsoever, even within these parameters, shall be made without prior approval of SoCalGas.

4 - Prior to SoCalGas approving encroachment onto its easement(s), SoCalGas must be furnished with final grading plans showing the depth of the pipeline(s) below the existing surface and the depth of the pipeline(s) below the proposed finished grade. These elevations must meet SoCalGas' requirements for buried pipelines.

18-B

5 - No permanent structures, such as buildings, block walls, foundations, gates, etc., shall be constructed within the easement or over the pipeline(s).

6 - There shall be no planting of trees or other deep-rooted plants within the easement(s) or over the pipeline(s).

7 - Substructures shall cross perpendicular to the easement(s). Substructure crossings must provide a minimum of 18-inches vertical clearance from the pipeline(s). Additional separation is required for leach lines, fuel lines, etc.

8 - Parallel encroachments within the easement(s) are prohibited. In areas where a parallel substructure is being constructed outside of the easement(s), SoCalGas requires five feet of separation, with three feet of undisturbed fill, in order to protect the integrity of our facilities and allow the facilities to be safely accessed during inspection, maintenance, and repair. Additional separation may be needed for leach lines, fuel lines, high voltage electric, etc.

9 - All encroachments onto SoCalGas' easement(s) must have written approval of SoCalGas prior to construction or encroaching onto the easement(s).

10 - All work within the SoCalGas easement(s) and/or within 10 feet of the pipeline(s) must be witnessed by a SoCalGas representative, and no work will be allowed without the SoCalGas representative on site.

11 - No heavy equipment shall cross the pipeline(s) without SoCalGas' approval. Additional protective measures may be required where heavy equipment is expected to cross the pipeline(s).

18-B cont'd

12 - No mechanical equipment shall operate within three horizontal feet of the pipeline(s), and any closer work must be performed by hand.

13 - No mechanical equipment shall operate within two vertical feet of the pipeline(s), and any closer work must be performed by hand.

14 - Buried pipeline(s) shall not be left exposed, and exposed pipeline(s) shall not be buried, without prior inspection and approval by SoCalGas. If the pipeline(s) are exposed during construction (e.g. substructure crossings, etc.), the pipeline must be backfilled with sand or zero-sack slurry only.

15 - No vibratory compaction is permitted over the pipeline(s). In rare cases, vibratory compaction may be approved by SoCalGas' Engineering Department following review of detailed site conditions, pipeline data, and equipment specifications.

16 - All contractors and subcontractors must be notified of the presence of the pipeline(s).

17 - Contractors and subcontractors must call DigAlert (811) at least 2 working days prior to construction, grading, or excavation.

18 - Once approved, encroachments within SoCalGas' easement(s) shall be documented in an

easement amendment or other document, as deemed appropriate by SoCalGas' Land Services Department.

In addition to the previous requirements, SoCalGas recommends the following:

18-B cont'd

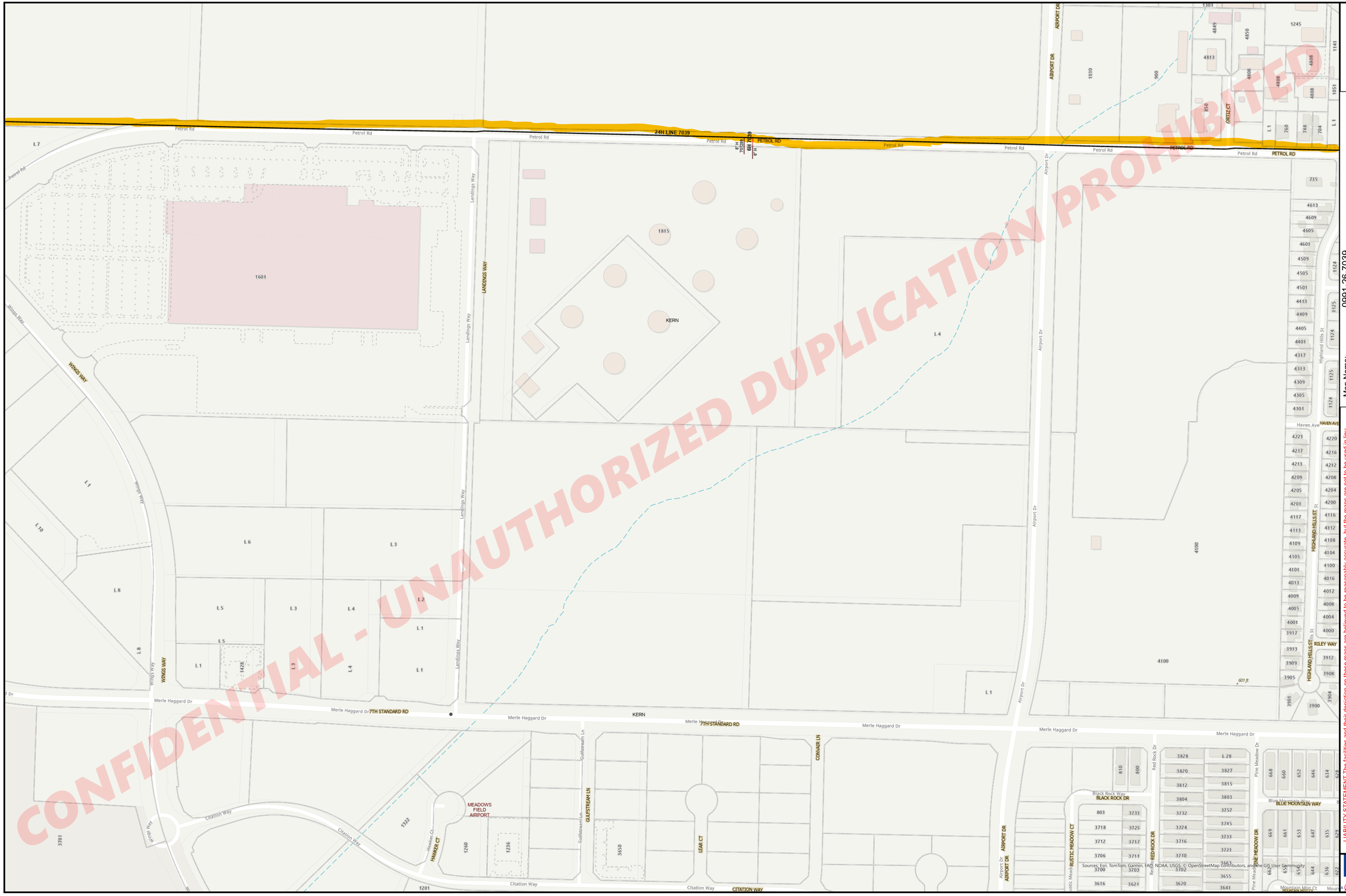
19 - Potholes should be made, as necessary, to establish the horizontal and vertical alignment of the pipeline(s) within the project area. This information should be indicated on the plans, as needed. CAUTION: SoCalGas personnel must be present during potholing operations. Arrangements for SoCalGas personnel to stand by during potholing activities can be made by calling DigAlert at 811.

20 - Consideration should be given to building setbacks from the easement lines. A minimum 15-foot setback is recommended whenever possible.

21 - All potential buyers or tenants of the property should be made aware of the presence of the pipeline(s) and easement restrictions.

Best Regards,

SoCalGas Transmission Technical Services



CONFIDENTIAL - UNAUTHORIZED DUPLICATION PROHIBITED

1 inch = 187 feet

Map Name:	0991-26-7039
Map Type:	**Gas Asset Map**
Printed By:	GTTS
Printed Date:	5/18/2026

LIABILITY STATEMENT The facilities and their depiction on these maps are believed to be reasonably accurate, but the maps are not to be used in lieu of field verification or calling USA at 800-422-4133. NO WARRANTY expressed or implied (including of merchantability or of fitness for a particular purpose) is made as to any matter, including but not limited to, the design, size, type or location of the facilities, their presence or absence, the accuracy of the maps, the results to be obtained from the use of the maps, or the safety of excavation. Data transmission errors or omissions, compatibility with the user's system or as its ability to interpret the data correctly or at all, or any other matter, The Gas Company has no liability for damages (direct, indirect, consequential, incidental or punitive) arising from the transmission, receipt or use by others of the maps or information contained in the maps.

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap Contributors, and the GIS User Community

Southern California Gas Company

Sempra Energy utility

Response to Comment Letter 18: Southern California Gas (SoCalGas) (May 18, 2026)

Response 18-A

Staff acknowledges the comment from Southern California Gas Company (SoCalGas) stating that SoCalGas operates and maintains high-pressure natural gas transmission pipeline facilities in the vicinity of the project. Staff further acknowledges that the map attached to the comment letter identifies a high-pressure gas line within Petrol Road along the northern boundary of the project site, and that SoCalGas encourages the project developer to contact SoCalGas before conducting construction work around the pipeline. The comment also provides utility-location and construction-coordination information relevant to project implementation near existing off-site natural gas infrastructure.

The Kern County Code requires County authorization for excavation or disturbance within public highways and restricts encroachment permits that would interfere with utility franchise rights. Separately, SoCalGas has requested project-specific coordination before work near its high-pressure gas facilities. Consistent with that request, staff will require the project applicant and contractor to coordinate with SoCalGas and implement applicable SoCalGas safety requirements for work near the identified natural gas transmission pipeline.

The comment does not identify a deficiency in the Draft EIR's analysis or provide evidence of a significant new environmental impact. Rather, it identifies existing utility infrastructure and requests coordination before construction near that infrastructure. Because the comment provides implementation and coordination information, and because the project will be required to coordinate with SoCalGas and comply with applicable safety requirements before construction work near the identified pipeline, the comment does not identify a new significant environmental impact, a substantial increase in the severity of a previously identified impact, or a deficiency requiring revision or recirculation of the Draft EIR. No revisions to the Draft EIR are required in response to this comment.

Response 18-B

Staff acknowledges the comment from SoCalGas providing general requirements for performing construction activities or planning projects near SoCalGas high-pressure lines. Staff further acknowledges SoCalGas's recommendation that communication be maintained between the contractor and SoCalGas to address conflicts associated with construction near SoCalGas facilities.

The listed requirements are implementation requirements intended to protect existing natural gas transmission infrastructure and maintain construction safety during work near SoCalGas facilities. The project applicant and contractor will be required to coordinate with SoCalGas before construction near SoCalGas facilities, maintain communication with SoCalGas during such work, and implement applicable SoCalGas requirements and standard utility-protection practices. These requirements are consistent with, and do not conflict with, the Draft EIR's analysis or mitigation framework.

Because the comment identifies construction-coordination requirements that are not at variance with the Draft EIR and that can be implemented through the project's ordinary construction, utility-coordination, and permit-compliance process, the comment does not identify a new significant environmental impact, a substantial increase in the severity of a previously identified impact, or a deficiency requiring revision or recirculation of the Draft EIR. No revisions to the Draft EIR are required in response to this comment. See also Response to Comment 18-A. The County thanks the author for their comments and participation in the public review of the environmental document.

Comment Letter 19: Adams Broadwell Joseph & Cardozo (April 9, 2026)

ADAMS BROADWELL JOSEPH & CARDOZO
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
601 GATEWAY BOULEVARD, SUITE 1000
SOUTH SAN FRANCISCO, CA 94080-7037
TEL: (650) 589-1660
FAX: (650) 589-5062
amarshall@adamsbroadwell.com

SACRAMENTO OFFICE
520 CAPITOL MALL, SUITE 350
SACRAMENTO, CA 95814-4721
TEL: (916) 444-6201
FAX: (916) 444-6209

KEVIN T. CARMICHAEL
CHRISTINA M. CARO
THOMAS A. ENSLOW
KELILAH D. FEDERMAN
RICHARD M. FRANCO
ANDREW J. GRAF
TANYA A. GULESSERIAN
RACHAEL E. KOSS
AIDAN P. MARSHALL
ALAURA R. McGUIRE

Of Counsel
DANIEL L. CARDOZO
MARC D. JOSEPH

April 9, 2026

Via Email and U.S. Mail
Craig Murphy, Director
Planning and Natural Resources
Kern County
2700 M Street, Suite 100
Bakersfield, CA 93301
Email: MurphyC@kerncounty.com;
kcplanningpra@kerncounty.com

Via Email Only
Nicole Menchaca, Advanced Planning Division Chief
Email: HuiskenN@kerncounty.com

Re: Request to Extend the Public Review and Comment Period for the Draft Environmental Impact Report for the Airport Commerce Center Industrial Project (SCH# 2025030498)

Dear Mr. Murphy and Ms. Menchaca:

On behalf of Californians Allied for a Responsible Economy ("CARE CA"), we respectfully request that Kern County ("County") extend the public review and comment period for Draft Environmental Impact Report ("DEIR") prepared for the Airport Commerce Center Industrial Project (SCH# 2025030498) ("Project") by an additional 45 days due to the County's failure to provide timely access to documents referenced, relied upon and incorporated by reference in the DEIR. The current public comment period ends on April 13, 2026. 19-A

CEQA requires that "all documents referenced" – and the CEQA Guidelines require that "all documents incorporated by reference" – in an environmental document be "readily accessible to the public during the lead agency's normal working hours" during the entire public comment period.[1]

[1] Pub. Resources Code § 21092(b)(1); 14 C.C.R. § 15072(g)(4); see *Ultramar v. South Coast Air Quality Man. Dist.* (1993) 17 Cal.App.4th 689, 699.

printed on recycled paper

On March 16, 2026, our office submitted three letters on behalf of Californians Allied for a Responsible Economy ("CARE CA"). These include (1) a request for immediate access to any and all documents referenced, incorporated by reference, and relied upon in the Draft Environmental Impact Report ("DEIR") for the Airport Commerce Center Industrial Project (SCH# 2025030498) ("Project"), made pursuant to the California Environmental Quality Act ("CEQA"),[2] (2) a request for notice of the availability of any environmental review document related to the Project,[3] and (3) a records request made pursuant to the California Public Records Act.[4] County staff responded that the DEIR reference document request and CEQA notice request must be resubmitted through the County's online Public Records Act portal, NextRequest.

County staff appeared to misunderstand the nature of these two requests. EIR Reference Document Requests and CEQA Notice Requests *are not* Public Records Act requests. They are subject to different legal requirements, and must be submitted and responded to in accordance with CEQA and State land use law. We previously submitted a letter explaining this principle on August 26, 2025.[5]

19-A

EIR Reference Document Requests are requests for documents referenced, incorporated by reference, and relied upon in an environmental impact report. These requests are pursuant to the California Environmental Quality Act ("CEQA"),[6] not the California Public Records Act. Specifically, Public Resources Code § 21092(b)(1) and California Code of Regulations, title 14, § 15087(b)(1) require that all documents referenced, incorporated by reference, and relied upon in an environmental review document be <u>made available for public review during the entire comment period</u>.[7] Accordingly, requests for access to EIR reference

[2] Public Resources Code § 21000 *et seq.*; Public Resources Code § 21092(b)(1) ("all documents referenced in the draft environmental impact report" shall be made "available for review"); 14 Cal. Code Reg. § 15087(c)(5).
[3] Public Resources Code Sections 21092.2, 21080.4, 21083.9, 21092, 21108, 21152 and 21167(f); Government Code Section 65092.
[4] Government Code §§ 7920.000, *et seq.*
[5] *See*
[6] Public Resources Code § 21000 *et seq.*
[7] See Public Resources Code § 21092(b)(1) ("all documents referenced in the draft environmental impact report" shall be made "available for review"); 14 Cal. Code Reg. § 15087(c)(5) (all documents incorporated by reference in the EIR will be available for public review and readily accessible to the public); see also *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 442, as modified (Apr. 18, 2007) (EIR must transparently incorporate and describe the reference materials relied on in its analysis); *Santiago County Water District v. County*

printed on recycled paper

documents are subject to different disclosure rules than PRA requests. Whereas the Public Records Act permits an agency to respond within 10 days,[8] CEQA requires agencies to provide *immediate access* to DEIR reference documents during the entire CEQA public comment period. Courts have held that the failure to provide even a few pages of CEQA documents for a portion of the review period invalidates the entire process, and that such a failure must be remedied by permitting additional public comment.[9] Because the County's NextRequest portal does not differentiate between PRA and EIR Reference Document Requests, our firm must continue to submit EIR Reference Document Requests to relevant County planning staff to ensure they are timely responded to.

19-A

As of the date of this letter, the County has not provided access to any DEIR reference documents in response to CARE CA's DEIR Reference Document Request.

Notice Requests are requests for future notice of actions and proceedings related to a project. They are filed pursuant to Public Resources Code sections 21092.2, 21080.4, 21083.9, 21092, 21108 and 21152 and Government Code section 65092, which require agencies to email or mail notices of the release of an environmental document and all public hearings to any person who has filed a written request for them with the clerk of the agency's governing body, the director of the agency, or the person designated by the agency's governing body or director to receive these requests.[10] Unlike Public Records Act requests, Notice Requests seek future notice of actions and hearings related to a project pursuant to CEQA and land use law, not access to existing public records. State law requires Notice Requests to be filed with the County's Clerk of the Board or someone specifically designated by the County to receive notice requests.[11] By contrast, the County's NextRequest portal applies only to Public Records Act requests.

19-B

In the absence of an official County procedure for filing CEQA/Land Use Notice requests with a specific County recipient, our firm must continue to submit CEQA/Land Use Notice Requests to the Clerk and applicable staff in accordance with the procedures required by State law. However, in accordance with Kern

of Orange (1981) 118 Cal.App.3rd 818, 831 ("[W]hatever is required to be considered in an EIR must be in that formal report. . .") (internal citations omitted).
[8] Government Code §7922.535.
[9] *Ultramar v. South Coast Air Quality Man. Dist.* (1993) 17 Cal.App.4th 689, 699.
[10] *See* Pub. Res. Code § 21092.2(a); Gov. Code § 65092(a).
[11] *Id.*

printed on recycled paper

County's Administrative Bulletin No. 22, our firm will continue to submit Public Records Act requests using Kern County's NextRequest portal.

CARE CA respectfully requests that the County provide records in response to our DEIR Reference Document Request and extend the comment period by an additional 45 days. Given the shortness of time before the current comment deadline (April 13, 2026), please contact me as soon as possible with your response to this request. 19-B

Please feel free to email me at amarshall@adamsbroadwell.com with any questions. Thank you for your prompt attention and response.

Sincerely,



Aidan P. Marshall

APM:acp

8195-004acp

printed on recycled paper

Response to Comment Letter 19: Adams Broadwell Joseph & Cardozo (April 9, 2026)

Response 19-A

Staff acknowledges the comment requesting that the County extend the public review period for the Draft EIR. The County declined to extend the public review period and informed the commenter that public comments would continue to be accepted up to and including the date of final consideration by the Board of Supervisors.

The request for an extension relates to the CEQA public review process rather than to a specific environmental issue, impact analysis, mitigation measure, alternative, or significance conclusion in the Draft EIR. CEQA requires the lead agency to evaluate comments on environmental issues received from persons who reviewed the Draft EIR and to prepare written responses to comments raising significant environmental issues received during the noticed comment period and any extensions, and the lead agency may also respond to late comments. The County has prepared responses to comments raising environmental issues and as stated above, allowed additional comments to be submitted through final consideration of the project.

Because this comment requests a procedural extension and does not identify any specific deficiency in the Draft EIR's environmental analysis, the comment does not identify a new significant environmental impact, a substantial increase in the severity of a previously identified impact, or a feasible mitigation measure or alternative omitted from the Draft EIR. No revisions to the Draft EIR are required in response to this comment.

Response 19-B

Staff acknowledges the comment describing three March 16, 2026, submissions made to the Kern County Planning and Natural Resources Department on behalf of CARE CA, including a Public Records Request, a request to review the Draft EIR and related materials, and a request to be added to the notification list for future project actions and proceedings.

The Draft EIR public review period began on March 13, 2026, and the Draft EIR and related documents were available for public review on the Planning Department website and the State Clearinghouse website. Staff further acknowledges that the County added the commenter to the notification list for future actions and proceedings and responded in a timely manner to the Public Records Request. The County will continue to provide required notices for future environmental documents, public notices, public hearings, and notices of determination in accordance with applicable CEQA notice requirements.

The comment concerns document access, public-records processing, and the commenter's request to receive future notices. Those procedural matters are noted for the record, but they do not identify a specific environmental issue, analytical deficiency, mitigation concern, or alternative requiring revision to the Draft EIR.

The comment does not identify a significant new environmental impact, a substantial increase in the severity of a previously identified impact, or a deficiency requiring revision or recirculation of the Draft EIR. No revisions to the Draft EIR are required in response to this comment. The County thanks the author for their comments and participation in the public review of the environmental document.

Comment Letter 20: Santa Rosa Rancheria (April 27, 2026)

From: Lily Baga
To: Nicole Menchaca
Cc: Nichole Escalon; Joshua S. Sanchez
Subject: RE: GPA #5, Map 81-35; ZCC #46, Map 81-35; PD Plan #36, Map 81-35
Date: Monday, April 27, 2026 10:43:10 AM

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Hello Nicole Menchaca,

Thank you for the notice. However, this particular project is out of the Santa Rosa Rancheria's area of interest. At this time, we would like to defer to the more local tribe(s). If you have any questions, feel free to reach out to our Tribal Historic Preservation Officer (THPO) Nichole Escalon, or Joshua Sanchez, both of whom are CC'd on this email. 20-A

Thank you,

Lily Baga
Santa Rosa Rancheria
Cultural Department
Lbaga@tachi-yokut-nsn.gov

Response to Comment Letter 20: Santa Rosa Rancheria (April 27, 2026)

Response 20-A

The comment states that the proposed project is outside the Santa Rosa Rancheria area of interest, and they defer to more local tribes. Under Assembly Bill 52 and SB 18, tribes within the project area have already been notified for tribal consultation, which has not been requested from any of the tribes. Therefore, this comment does not raise a substantive issue on the content of the Draft EIR. The comment has been noted for the record, and revisions to the Draft EIR are not necessary. The County thanks the author for their comments and participation in the public review of the environmental document.

7.4 References

International Council on Clean Transportation (ICCT), 2017. *White Paper, Transitioning to Zero-Emission Heavy-Duty Freight Vehicles*. Available: https://theicct.org/wp-content/uploads/2021/06/Zero-emission-freight-trucks_ICCT-white-paper_26092017_vF.pdf. Accessed: August 24, 2026.

Urban Crossroads, 2024. *Infeasibility of All-Electric Trucks Memorandum.* Available: https://planning.rctlma.org/sites/g/files/aldnop416/files/2024-11/Appendix%20B3%20-%20Non-Diesel%20Truck%20Feasibility%20Memo.pdf. Accessed: August 24, 2026.

Resources for the Future, 2023. *Resources for the Future, Medium- and Heavy-Duty Vehicle Electrification: Challenges, Policy Solutions, and Open Research Questions.* Available: https://media.rff.org/documents/Report_23-03_v3.pdf. Accessed: August 24, 2026.

Appendix A

Supplemental Air Quality Information

Airport Commerce Center Industrial Project

Emission Assumptions

Emission Factors - Trucks

1) Truck Exhaust and Idling Emissions
(a) EMFAC2021 v1.0.2 - Project Level Web Tool https://arb.ca.gov/emfac/project-analysis
Calculations for San Joaquin Valley - Kern County (2028)
(b) Truck Fleet Mix estimated based on Fontana and SCAQMD Truck Studies (60.3% HHDT, 39.7% MHDT)
Assume all PM10E is from diesel exhaust, conservative

(c) Truck Idle Time per Visit:	150	minutes - Unmitigated
	15	minutes - mitigated
(d) Onsite Truck Travel Speed	5	mph for trucks
(e) Offsite Truck Travel Speed	average 5-25	mph for trucks - local
(f) Off-Site Truck/TRU Travel Speed	15	mph

Emission Factors - Transport Refrigeration Units

2) Transport Refrigeration Unit Emissons
(a) ARB OFF-ROAD 2021 Model
TRUs for HHDT are Trailer TRUs (Instate and Out of State)
TRUs for MHDT are Truck TRUs
Calculations for San Joaquin Valley - Kern County (2028)
Assume daily units on-site operational hours based on ARB Inventory Average per Unit
3) On-Road Paved Road Dust Emissions
silt loading based on CalEEMod Default for Local , Conformity Analyis RTP values for Regional

Traffic Allocation

1) Traffic distributed to loading docks according to trip generation rates
2) Trip generation from traffic report
3) Onsite travel emissions based on average distance / site plan
4) Off-site based on 2 routes both West on Merle Haggard / maps and truck patterns

Emission Source Configuration

1) Project onsite truck traffic represented by poly area over entire site
2) Project onsite truck idling represented as point sources at docks
3) Offsite vehicles represented by a line -volume source(s) on primary roadway routes
4) Assumed 75% primary route, 25% secondary route further from houses.
5) TRU Emissions not included on travel time of off-site roadways (negligble time)

Onsite Truck Travel Distance (per Round Trip)

Average On-site Travel Distance (mi)	0.79	miles

Off-Site Truck Travel Distance (One-Way)

Maximum Off_Site Route within 1/4 miles	1.20	miles

Other Input Parameters

Facility Operations (hr/day):	24

Airport Commerce Center Industrial Project

On-Site and 1/4 mile vicinity emissions
Ambient Air Quality Applicability Analysis (AAQA) Determination Under CEQA
Mitigated Scenario

Summer, Daily Maximum Emissions (lb/day)

Location	On-Site/Off-Site	Process	Vehicle Type	One-Way Trips/day	Round-Trips (Daily Visits)	Process Units	Quantity per Round Trip	Daily Quantity	ROG	NOx	CO	PM10E	PM2.5E	PM10 BWTW	PM2.5 BWTW	PM10D UST	PM2.5 DUST	PM10T	PM2.5T
Warehouse	On-Site	Cold Start	All Trucks	824	412	Starts	1	412	0.03	4.93	0.54	0.00	0.00	-	-	-	-		
Warehouse	On-Site	Idle	All Trucks	824	412	Idle-hours	2.5	1,030	4.08	57.00	67.48	0.04	0.03	-	-	-	-		
Warehouse	On-Site	Running Exhaust	All Trucks	824	412	miles	0.79	327	0.08	4.64	0.72	0.01	0.01	0.10	0.03	0.21	0.05		
Roads	Off-Site	Running Exhaust	All Trucks	824	412	miles	2.40	989	0.11	7.91	1.16	0.02	0.02	0.29	0.09	0.65	0.16		
Cold Storage	On-Site	Truck TRU Exhaust	MHD Trucks	105	53	Op hours	0.9	49	0.36	3.81	0.33	0.20	0.18	-	-	-	-		
Cold Storage	On-Site	Trailer TRU Exhaust	HHD Trucks	160	80	Op hours	1.6	129	1.49	10.31	1.38	0.18	0.17	-	-	-	-		
Roads	Off-Site	Trailer TRU Exhaust	MHD Trucks	105	53	miles	2.4	126	0.06	9.82	0.06	0.03	0.03						
Roads	Off-Site	Trailer TRU Exhaust	HHD Trucks	160	80	miles	2.4	192	0.15	1.02	0.14	0.02	0.02						
Warehouse	On-Site	Cold Start	Passenger Vehicles	2,982	1491	Starts	1	1,491	1.31	0.79	11.85	0.01	0.01	-	-	-	-		
Warehouse	On-Site	Evaporative - Diurnal	Passenger Vehicles	2,982	1491	Cold soak hours	9	13,419	2.80	-	-	-	-	-	-	-	-		
Warehouse	On-Site	Evaporative - Hot Soak	Passenger Vehicles	2,982	1491	Starts	1	1,491	0.29	-	-	-	-	-	-	-	-		
Warehouse	On-Site	Running Exhaust	Passenger Vehicles	2,982	1491	Miles	0.34	507	0.07	0.07	2.69	0.01	0.01	0.02	0.00	0.34	0.08		
Warehouse	Off-Site	Running Exhaust	Passenger Vehicles	2,982	1491	Miles	2.32	3,459	0.18	0.36	14.29	0.02	0.02	0.14	0.04	2.29	0.57		
Quick Serve Restaurant	On-Site	(includes idle)	Passenger Vehicles	3,079	1540	miles	0.16	239	0.03	0.04	1.27	0.00	0.00	0.01	0.00	0.16	0.04		
Quick Serve Restaurant	Off-Site	Running Exhaust	Passenger Vehicles	3,079	1540	miles	1.8	2,771	0.15	0.29	11.45	0.02	0.02	0.12	0.04	1.84	0.46		
				3,806															
				6,885				Warehouse Trucks	6.15	88.61	71.61	0.44	0.41	0.38	0.13	0.86	0.22	1.68	0.75
								Warehouse Passenger Vehicle	4.65	1.23	28.84	0.04	0.04	0.16	0.05	2.63	0.66	2.83	0.75
								Retail Passenger Vehicle	0.18	0.32	12.72	0.02	0.02	0.12	0.04	1.99	0.50	2.14	0.56
									10.98	**90.16**	**113.17**	**0.51**	**0.47**	**0.67**	**0.21**	**5.48**	**1.37**	**6.66**	**2.05**

Airport Commerce Center Industrial Project

On-Site and 1/4 mile vicinity emissions
Ambient Air Quality Applicability Analysis (AAQA) Determination Under CEQA
Unmitigated Scenario

Winter, Daily Maximum Emissions (lb/day)

Location	On-Site/Off-Site	Process	Vehicle Type	One-Way Trips/day	Round-Trips (Daily Visits)	Process Units	Quantity per Round Trip	Daily Quantity	ROG	NOx	CO	PM10E	PM2.5E	PM10 BWTW	PM2.5 BWTW	PM10D UST	PM2.5 DUST	PM10T	PM2.5T
Warehouse	On-Site	Cold Start	All Trucks	824	412	Starts	1	412	0.03	4.94	0.55	0.00	0.00	-	-	-	-		
Warehouse	On-Site	Idle	All Trucks	824	412	Idle-hours	2.50	1,030	3.62	63.26	72.07	0.05	0.05	-	-	-	-		
Warehouse	On-Site	Running Exhaust	All Trucks	824	412	miles	0.79	327	0.08	5.39	0.72	0.01	0.01	0.10	0.03	0.21	0.05		
Warehouse	Off-Site	Running Exhaust	All Trucks	824	412	miles	2.40	989	0.11	9.18	1.15	0.02	0.02	0.29	0.09	0.65	0.16		
Cold Storage	On-Site	Truck TRU Exhaust	MHD Trucks	105	53	Op hours	0.9	49	0.36	3.81	0.33	0.20	0.18	-	-	-	-		
Cold Storage	On-Site	Trailer TRU Exhaust	HHD Trucks	160	80	Op hours	1.6	129	1.49	10.31	1.38	0.18	0.17	-	-	-	-		
Roads	Off-Site	Trailer TRU Exhaust	MHD Trucks	105	53	miles	2.4	126	0.06	0.65	0.06	0.03	0.03						
Roads	Off-Site	Trailer TRU Exhaust	HHD Trucks	160	80	miles	2.4	192	0.15	1.02	0.14	0.02	0.02						
Location	Location	Process	Vehicle Type	e-Way Trips/	ound-Trips(Daily Visits	Process Units	ity per Vehicle Vi	Daily Quantity	ROG	CO	NOx	PM10E	PM2_5E	M10_BWTV	2.5_BWTV	10_DU	M2.5_DUST		
Warehouse	On-Site	Cold Start	Passenger Vehicles	2,982	1491	Starts	1	1,491	2.11	0.64	22.00	0.01	0.01	-	-	-	-		
Warehouse	On-Site	Evaporative - Diurnal	Passenger Vehicles	2,982	1491	Cold soak hours	9	13,419	1.96	-	-	-	-	-	-	-	-		
Warehouse	On-Site	Evaporative - Hot Soak	Passenger Vehicles	2,982	1491	Starts	1	1,491	1.37	-	-	-	-	-	-	-	-		
Warehouse	On-Site	Running Exhaust	Passenger Vehicles	2,982	1491	Miles	0.34	507	0.05	0.12	1.39	0.01	0.01	0.02	0.01	0.34	0.08		
Warehouse	Off-Site	Running Exhaust	Passenger Vehicles	2,982	1491	Miles	2.32	3,459	0.23	0.68	8.58	0.03	0.03	0.13	0.04	2.29	0.57		
Quick Serve Restaurant	On-Site	(includes idle)	Passenger Vehicles	3,079	1540	miles	0.16	239	0.03	0.05	0.66	0.00	0.00	0.01	0.00	0.16	0.04		
Quick Serve Restaurant	Off-Site	Running Exhaust	Passenger Vehicles	3,079	1540	miles	1.8	2,771	0.19	0.54	6.87	0.03	0.02	0.10	0.03	1.84	0.46		
								Warehouse Trucks	5.68	96.89	76.20	0.45	0.42	0.38	0.13	0.86	0.22	1.70	0.76
								Warehouse Passenger Vehicle	5.73	1.44	31.97	0.05	0.04	0.15	0.04	2.63	0.66	2.82	0.74
								Retail Passenger Vehicle	0.21	0.60	7.53	0.03	0.03	0.11	0.03	1.99	0.50	2.14	0.56
									11.63	**98.93**	**115.69**	**0.53**	**0.49**	**0.64**	**0.21**	**5.48**	**1.37**	**6.65**	**2.06**

Airport Commerce Center Industrial Project

On-Site and 1/4 mile vicinity emissions

Ambient Air Quality Applicability Analysis (AAQA) Determination Under CEQA

Mitigated Scenario

Summer, Daily Maximum Emissions (lb/day)

Location	On-Site/Off-Site	Process	Vehicle Type	One-Way Trips/day	Round-Trips (Daily Visits)	Process Units	Quantity per Round Trip	Daily Quantity	ROG	NOx	CO	PM10E	PM2.5E	PM10 BWTW	PM2.5 BWTW	PM10D UST	PM2.5 DUST	PM10T	PM2.5T
Warehouse	On-Site	Cold Start	All Trucks	824	412	Starts	1	412	0.03	4.93	0.54	0.00	0.00	-	-	-	-		
Warehouse	On-Site	Idle	All Trucks	824	412	Idle-hours	0.25	103	0.41	5.70	6.75	0.00	0.00	-	-	-	-		
Warehouse	On-Site	Running Exhaust	All Trucks	824	412	miles	0.79	327	0.08	4.64	0.72	0.01	0.01	0.10	0.03	0.21	0.05		
Roads	Off-Site	Running Exhaust	All Trucks	824	412	miles	2.40	989	0.11	7.91	1.16	0.02	0.02	0.29	0.09	0.65	0.16		
Cold Storage	On-Site	Truck TRU Exhaust	MHD Trucks	105	53	Op hours	0.5	26.3	0.19	2.05	0.18	0.11	0.10	-	-	-	-		
Cold Storage	On-Site	Trailer TRU Exhaust	HHD Trucks	160	80	Op hours	0.5	39.9	0.46	3.20	0.43	0.06	0.05	-	-	-	-		
Roads	Off-Site	Trailer TRU Exhaust	MHD Trucks	105	53	miles	2.4	126.2	0.06	9.82	0.06	0.03	0.03						
Roads	Off-Site	Trailer TRU Exhaust	HHD Trucks	160	80	miles	2.4	191.8	0.15	1.02	0.14	0.02	0.02						
Warehouse	On-Site	Cold Start	Passenger Vehicles	2,982	1491	Starts	1	1,491	1.31	0.79	11.85	0.01	0.01	-	-	-	-		
Warehouse	On-Site	Evaporative - Diurnal	Passenger Vehicles	2,982	1491	Cold soak hours	9	13,419	2.80	-	-	-	-	-	-	-	-		
Warehouse	On-Site	Evaporative - Hot Soak	Passenger Vehicles	2,982	1491	Starts	1	1,491	0.29	-	-	-	-	-	-	-	-		
Warehouse	On-Site	Running Exhaust	Passenger Vehicles	2,982	1491	Miles	0.34	507	0.07	0.07	2.69	0.01	0.01	0.02	0.00	0.34	0.08		
Warehouse	Off-Site	Running Exhaust	Passenger Vehicles	2,982	1491	Miles	2.32	3,459	0.18	0.36	14.29	0.02	0.02	0.14	0.04	2.29	0.57		
Quick Serve Restaurant	On-Site	(includes idle)	Passenger Vehicles	3,079	1540	miles	0.16	239	0.03	0.04	1.27	0.00	0.00	0.01	0.00	0.16	0.04		
Quick Serve Restaurant	Off-Site	Running Exhaust	Passenger Vehicles	3,079	1540	miles	1.8	2,771	0.15	0.29	11.45	0.02	0.02	0.12	0.04	1.84	0.46		
				3,806															
				6,885															
								Warehouse Trucks / TRU	1.49	39.27	9.97	0.24	0.22	0.38	0.13	0.86	0.22	-	-
								Warehouse Passenger Vehicle	4.65	1.23	28.84	0.04	0.04	0.16	0.05	2.63	0.66	2.83	0.75
								Retail Passenger Vehicle	0.18	0.32	12.72	0.02	0.02	0.12	0.04	1.99	0.50	2.14	0.56
									6.32	**40.82**	**51.53**	**0.31**	**0.29**	**0.67**	**0.21**	**5.48**	**1.37**	**4.97**	**1.30**
								Exceeds AAQA Screening of 100 lb/day?	No	No	No	—	—	—	—	—	—	No	No

Airport Commerce Center Industrial Project

On-Site and 1/4 mile vicinity emissions
Ambient Air Quality Applicability Analysis (AAQA) Determination Under CEQA
Mitigated Scenario

Winter, Daily Maximum Emissions (lb/day)

Location	On-Site/Off-Site	Process	Vehicle Type	One-Way Trips/day	Round-Trips (Daily Visits)	Process Units	Quantity per Round Trip	Daily Quantity	ROG	NOx	CO	PM10E	PM2.5E	PM10 BWTW	PM2.5 BWTW	PM10D UST	PM2.5 DUST	PM10T	PM2.5T
Warehouse	On-Site	Cold Start	All Trucks	824	412	Starts	1	412	0.03	4.94	0.55	0.000	0.00	-	-	-	-		
Warehouse	On-Site	Idle	All Trucks	824	412	Idle-hours	0.25	103	0.36	6.33	7.21	0.005	0.00	-	-	-	-		
Warehouse	On-Site	Running Exhaust	All Trucks	824	412	miles	0.79	327	0.08	5.39	0.72	0.009	0.01	0.10	0.03	0.21	0.05		
Warehouse	Off-Site	Running Exhaust	All Trucks	824	412	miles	2.40	989	0.11	9.18	1.15	0.018	0.02	0.29	0.09	0.65	0.16		
Cold Storage	On-Site	Truck TRU Exhaust	MHD Trucks	105	53	Op hours	0.5	26	0.19	2.05	0.18	0.11	0.10	-	-	-	-		
Cold Storage	On-Site	Trailer TRU Exhaust	HHD Trucks	160	80	Op hours	0.5	40	0.46	3.20	0.43	0.06	0.05	-	-	-	-		
Roads	Off-Site	Trailer TRU Exhaust	MHD Trucks	105	53	miles	2.4	126	0.06	0.65	0.06	0.03	0.03						
Roads	Off-Site	Trailer TRU Exhaust	HHD Trucks	160	80	miles	2.4	192	0.15	1.02	0.14	0.02	0.02						
Warehouse	On-Site	Cold Start	Passenger Vehicles	2,982	1491	Starts	1	1,491	2.11	0.64	22.00	0.01	0.01	-	-	-	-		
Warehouse	On-Site	Evaporative - Diurnal	Passenger Vehicles	2,982	1491	Cold soak hours	9	13,419	1.96	-	-	-	-	-	-	-	-		
Warehouse	On-Site	Evaporative - Hot Soak	Passenger Vehicles	2,982	1491	Starts	1	1,491	1.37	-	-	-	-	-	-	-	-		
Warehouse	On-Site	Running Exhaust	Passenger Vehicles	2,982	1491	Miles	0.34	507	0.05	0.12	1.39	0.01	0.01	0.02	0.01	0.34	0.08		
Warehouse	Off-Site	Running Exhaust	Passenger Vehicles	2,982	1491	Miles	2.32	3,459	0.23	0.68	8.58	0.03	0.03	0.13	0.04	2.29	0.57		
Quick Serve Restaurant	On-Site	(includes idle)	Passenger Vehicles	3,079	1540	miles	0.16	239	0.03	0.05	0.66	0.00	0.00	0.01	0.00	0.16	0.04		
Quick Serve Restaurant	Off-Site	Running Exhaust	Passenger Vehicles	3,079	1540	miles	1.8	2,771	0.19	0.54	6.87	0.03	0.02	0.10	0.03	1.84	0.46		
								Warehouse Trucks / TRU	1.45	32.76	10.42	0.24	0.23	0.38	0.13	0.86	0.22	-	-
								Warehouse Passenger Vehicle	5.73	1.44	31.97	0.05	0.04	0.15	0.04	2.63	0.66	2.82	0.74
								Retail Passenger Vehicle	0.21	0.60	7.53	0.03	0.03	0.11	0.03	1.99	0.50	2.14	0.56
									7.39	**34.79**	**49.92**	**0.32**	**0.29**	**0.64**	**0.21**	**5.48**	**1.37**	**4.96**	**1.30**
								Exceeds AAQA Screening of 100 lb/day?	No	No	No	—	—	—	—	—	—	No	No

Airport Commerce Center Industrial Project

On-Site and 1/4 mile Vicinity Emissions during Operations
PM10 Exhaust as Diesel Particulate Matter Emissions
Unmitigated Scenario

Location	On-Site/Off-Site	Process	Vehicle Type	One-Way Trips/day	Round-Trips (Daily Visits)	Process Units	Quantity per Round Trip	Daily Quantity	PM10E / DPM	EF unit	DPM lb/day	DPM lb/yr
Warehouse	On-Site	Cold Start	All Trucks	824	412	Starts	1	412	6.61E-05	g/start	0.0001	0.02
Warehouse	On-Site	Idle	All Trucks	824	412	Idle-hours	2.5	1,030	0.018	g/idle-hr	0.0407	14.87
Warehouse	On-Site	Running Exhaust (0-5 mph)	All Trucks	824	412	miles	0.79	327	0.012	g/mi	0.0089	3.23
Roads	Off-Site	Running Exhaust (0-25 mph)	All Trucks	824	412	miles	2.40	989	0.008	g/mi	0.0175	6.39

Warehouse Operations - Cold Storage - TRU Emissions (lbs/day) -

Location	Location	Process	Vehicle Type	One-Way Trips/day	Round-Trips (Daily Visits)	Process Units	Quantity per Vehicle Visit (RT)	Daily Quantity	PM10E / DPM	EF unit	DPM lb/day	DPM lb/yr
Cold Storage	On-Site	Truck TRU Exhaust	MHD Trucks	105	53	Op hours	0.9	47	0.004	lb/hr	0.19	69.14
Cold Storage	On-Site	Trailer TRU Exhaust	HHD Trucks	160	80	Op hours	1.6	128	0.00141	lb/hr	0.18	65.80
Roads	Off-Site	Truck TRU Exhaust	MHD Trucks	105	53	miles	2.4	126	2.67E-04	lb/mi	0.03	12.29
Roads	Off-Site	Trailer TRU Exhaust	HHD Trucks	105	80	miles	2.4	192	9.40E-05	lb/mi	0.02	6.58

lb/day	lb/yr
0.49	178.32

Notes: Emission factors for TRU in lb/mi are based on OFF-ROAD TRU hourly factor in lb/hr and an average truck speed of 15 mi/hr

Airport Commerce Center Industrial Project

On-Site and 1/4 mile Vicinity Emissions during Operations
PM10 Exhaust as Diesel Particulate Matter Emissions
Mitigated Scenario

Location	On-Site/Off-Site	Process	Vehicle Type	One-Way Trips/day	Round-Trips (Daily Visits)	Process Units	Quantity per Round Trip	Daily Quantity	PM10E / DPM	EF unit	DPM lb/day	DPM lb/yr
Warehouse	On-Site	Cold Start	All Trucks	824	412	Starts	1	412	6.61E-05	g/start	0.0001	0.02
Warehouse	On-Site	Idle	All Trucks	824	412	Idle-hours	0.25	103	0.018	g/idle-hr	0.0041	1.49
Warehouse	On-Site	Running Exhaust	All Trucks	824	412	miles	0.79	327	0.012	g/mi	0.0089	3.23
Roads	Off-Site	Running Exhaust	All Trucks	824	412	miles	2.40	989	0.008	g/mi	0.0175	6.39

Warehouse Operations - Cold Storage - TRU Emissions (lbs/day) -

Location	On-Site/Off-Site	Process	Vehicle Type	One-Way Trips/day	Round-Trips (Daily Visits)	Process Units	Quantity per Vehicle Visit (RT)	Daily Quantity	PM10E / DPM	EF unit	DPM lb/day	DPM lb/yr
Cold Storage	On-Site	Truck TRU Exhaust	MHD Trucks	105	53	Op hours	0.5	26.3	0.004	lb/hr	0.11	38.41
Cold Storage	On-Site	Trailer TRU Exhaust	HHD Trucks	160	80	Op hours	0.5	39.9	0.0014	lb/hr	0.06	20.56
Roads	Off-Site	Truck TRU Exhaust	MHD Trucks	105	53	miles	2.4	126.2	2.67E-04	lb/mi	0.03	12.29
Roads	Off-Site	Trailer TRU Exhaust	HHD Trucks	160	80	miles	2.4	191.8	9.40E-05	lb/mi	0.02	6.58

lb/day	lb/yr
0.24	88.98

Note: Emission factor for TRU Exhaust on roads is converted to a lb/mi based on a speed of 15 mph.

Airport Commerce Center Industrial Project

On-Site and 1/4 mile Vicinity Emissions during Operations

Unmitigated - HARP DPM Emission Inputs

Source ID	Location	Apportioned by Trips	out of Trips	Process	PM10E (DPM) lb/yr
EGEN-01	Building 1	NA	NA	Emergency Generator - Testing & Mainentance	0.724
EGEN-02	Building 2	NA	NA	Emergency Generator - Testing & Mainentance	0.724
EGEN-03	Building 3	NA	NA	Emergency Generator - Testing & Mainentance	0.724
EGEN-04-1	Building 4	NA	NA	Emergency Generator - Testing & Mainentance	0.724
EGEN-04-2	Building 4	NA	NA	Emergency Generator - Testing & Mainentance	0.724
EGEN-04-3	Building 4	NA	NA	Emergency Generator - Testing & Mainentance	4.748
DOCKS-01	Building 1 Docks	147	824	Cold Start + Idle	2.66
DOCKS-02	Building 2 Docks	87	824	Cold Start + Idle	1.57
DOCKS-03	Building 3 Docks	81	824	Cold Start + Idle	1.46
DOCKS-04-NW	Building 4 Docks	127	824	Cold Start + Idle	2.30
DOCKS-04-NE	Building 4 Docks	127	824	Cold Start + Idle	2.30
DOCKS-04-SE	Building 4 Docks	127	824	Cold Start + Idle	2.30
DOCKS-04-SW	Building 4 Docks	127	824	Cold Start + Idle	2.30
TRU-04-SE	Building 4 TRUs	133	265	TRU Emissions	67.47
TRU-04-SW	Building 4 TRUs	133	265	TRU Emissions	67.47
ONSITE	On-Site Areawide	824	824	On-Site Running Exhaust all Trucks	3.23
OFFSITE-01	Off-Site Truck Route 1	618	824	Off-Site Running Exhaust - Primary	18.95
OFFSITE-02	Off-Site Truck Route 2	206	824	Off-Site Running Exhaust Alt Route	6.32
					180.38

Airport Commerce Center Industrial Project

On-Site and 1/4 mile Vicinity Emissions during Operations

Mitigated - HARP DPM Emission Inputs

Source ID	Location	Apportioned by Trips	out of Total Trips	Process	PM10E (DPM lb/yr
EGEN-01	Building 1	NA	NA	Emergency Generator - Testing & Mainentance	0.724
EGEN-02	Building 2	NA	NA	Emergency Generator - Testing & Mainentance	0.724
EGEN-03	Building 3	NA	NA	Emergency Generator - Testing & Mainentance	0.724
EGEN-04-1	Building 4	NA	NA	Emergency Generator - Testing & Mainentance	0.724
EGEN-04-2	Building 4	NA	NA	Emergency Generator - Testing & Mainentance	0.724
EGEN-04-3	Building 4	NA	NA	Emergency Generator - Testing & Mainentance	4.748
DOCKS-01	Building 1 Docks	147	824	Cold Start + Idle	0.27
DOCKS-02	Building 2 Docks	87	824	Cold Start + Idle	0.16
DOCKS-03	Building 3 Docks	81	824	Cold Start + Idle	0.15
DOCKS-04-NW	Building 4 Docks	127	824	Cold Start + Idle	0.23
DOCKS-04-NE	Building 4 Docks	127	824	Cold Start + Idle	0.23
DOCKS-04-SE	Building 4 Docks	127	824	Cold Start + Idle	0.23
DOCKS-04-SW	Building 4 Docks	127	824	Cold Start + Idle	0.23
TRU-04-SE	Building 4 TRUs	133	265	TRU Emissions	29.49
TRU-04-SW	Building 4 TRUs	133	265	TRU Emissions	29.49
ONSITE	On-Site Areawide	824	824	On-Site Running Exhaust- all Trucks	3.23
OFFSITE-01	Off-Site Truck Route 1	618	824	Off-Site Running + TRU Exhaust - Primary	18.95
OFFSITE-02	Off-Site Truck Route 2	206	824	Off-Site Running +TRU Exhaust Alt Route	6.32
					97.34

Airport Commerce Center Industrial Project

Regional Emissions

Criteria Pollutant Emissions and GHG from TRUs - Unmitigated

							Annual Emissions (tons/yr)						
Phase Name	**Equipment Type**	**Fuel Type**	**Calendar Year**	**TRUs/day**	**Hrs/Day**	**hrs/yr**	ROG	NOx	CO	SOx	PM10E	PM2_5E	CO2e
Operation	Transport Refrigeration Units- Truck	Diesel	2028	53	0.9	17,887	0.07	0.70	0.06	0.001	0.04	0.03	111.20
	Transport Refrigeration Units- Trailer	Diesel	2028	80	1.6	47,032	0.27	1.88	0.25	0.003	0.03	0.03	366.78
On-Road Travel	Transport Refrigeration Units- Truck	Diesel	2028	53	1.66	31,920	0.12	1.24	0.11	0.002	0.06	0.06	198.44
	Transport Refrigeration Units- Trailer	Diesel	2028	80	2.10	61,241	0.35	2.45	0.33	0.005	0.04	0.04	477.58
				133			**0.34**	**2.58**	**0.31**	**0.005**	**0.07**	**0.06**	**477.97**

265
trips per day

TRU Hours per day are based on an average speed of 40 mph and a trip length of 66.5 miles per day within the basin and a 84 mile per day total trip length for GHG.

66.5 mi	1.6625 hr/day
84 mi	2.1 hr/day

Airport Commerce Center Industrial Project

Regional Emissions

Criteria Pollutant Emissions and GHG from TRUs - Mitigated Scenario

									Annual Emissions (tons/yr)							
Phase Name	**Equipment Type**	**Location**	**Fuel Type**	**Calendar Year**	**TRUs/day**	**Gallons/Hr/**	**Hrs/Day**	**hrs/yr**	**ROG**	**NOx**	**CO**	**SOx**	**PM10E**	**PM2_5E**	**CO2e**	**Gallons/Year**
Operation	Transport Refrigeration Units- Truck	On-Site	Diesel	2028	53	0.55	0.5	9600.0	0.03	0.37	0.03	0.001	0.02	0.02	60	5,318
	Transport Refrigeration Units- Trailer	On-Site	Diesel	2028	80	0.69	0.5	14581.3	0.08	0.58	0.08	0.001	0.01	0.01	114	10,133
On-Road Travel	Transport Refrigeration Units- Truck	Off-Site / in basin	Diesel	2028	53	0.55	1.7	31919.9	0.12	1.24	0.11	0.002	0.06	0.06	198	17,684
In-Basin	Transport Refrigeration Units- Trailer	Off-Site / in basin	Diesel	2028	80	0.69	1.7	48482.8	0.28	1.94	0.26	0.004	0.03	0.03	378	33,693
On-Road Travel	Transport Refrigeration Units- Truck	Off-Site /out of Basin	Diesel	2028	53	0.55	0.4	8400.0	0.03	0.33	0.03	0.000	0.02	0.02	52	4,654
Out-of-Basin	Transport Refrigeration Units- Trailer	Off-Site /out of Basin	Diesel	2028	80	0.69	0.4	12758.6	0.07	0.51	0.07	0.001	0.01	0.01	99	8,867
					133				**0.12**	**0.96**	**0.11**	**0.002**	**0.03**	**0.03**	**902**	**80,348**

TRU Hours per day are based on an average speed of 40 mph and a trip length of 66.5 miles per day within the basin and a 84 mile per day total trip length for GHG.

In-Basin	66.5	mi	1.6625 hr/day
Out-Basin (add	17.5	mi	0.4375 hr/day
	84	m iles total	

Airport Commerce Center Industrial Project

Transport Refrigeration Unit Emission Factors

Model Output: Off-Road Web Query (v1.1.0) Emissions Inventory - Kern (SJV) 2028 Exhaust Emissions

Units	Truck Type	Units	Avg Hrs/Day	Units	ROG	NOx	CO	SOx	PM10E	PM2_5E	CO2e
Truck TRU	MHDT	lb/hr	0.9	lb per operating hour	0.0073	0.0778	0.0067	0.0001	0.0040	0.0037	12.4334
Trailer TRU	HHDT	lb/hr	1.6	lb per operating hour	**0.012**	0.08	**0.011**	**0.000**	0.0014	0.0013	15.5968

Notes:

Trailer TRU Emissions are based on Instate and Out of State Trailers

Truck TRU Emissions are only reported for Instate Trailers

See Additional Calculations from WebQuery Data for dervation of hourly emission rates for TRUs.

Average Hours per Unit for the Inventory are Included for Reference. Operating time used for Localized Emissions Analysis for AAQA and HRAs based on the hours TRUs are expected to operate onsite.

Airport Commerce Center

Modeled Point Sources

					Point Source Release Parameters[3,4]										0.724
	Point Source ID	Modeled Source (s)	Location	Source Group	Number of Docks Doors Represented	Fraction of Source Group	Modeled Emissions Per Source Emissions[1,2] (g/s)	Stack Height (ft)	Stack Height (m)	Exhaust Temperature (K)	Stack Diameter (m)	Exit Velocity (m/s)	Flow Rate (m^3/s)	HARP SRC ID	Unmitigated HARP (lbs/yr)	Mitigated HARP (lbs/yr)
	EGEN1	Emergency Generator (300 hp)	Building 1	EGEN-01	NA	1	1.0	9.8	3	789	0.13	57.4	0.762	EGEN1	**0.724**	**0.724**
	EGEN2	Emergency Generator (300 hp)	Building 2	EGEN-02	NA	1	1.0	9.8	3	789	0.13	57.4	0.762	EGEN2	**0.724**	**0.724**
	EGEN3	Emergency Generator (300 hp)	Building 3	EGEN-03	NA	1	1.0	9.8	3	789	0.13	57.4	0.762	EGEN3	**0.724**	**0.724**
	EGEN4-1	Emergency Generator (300 hp)	Building 4 -North East	EGEN-04	NA	1	1.0	9.8	3	789	0.13	57.4	0.762	EGEN4-1	**0.724**	**0.724**
	EGEN4-2	Emergency Generator (300 hp)	Building 4 -South East	EGEN-05	NA	1	1.0	9.8	3	789	0.13	57.4	0.762	EGEN4-2	**0.724**	**0.724**
	EGEN4-3	Emergency Generator (1475 hp)	Building 4 -South East	EGEN-06	NA	1	1.0	14.1	4.3	750	0.25	52.2	2.562	EGEN4-3	**4.748**	**4.748**
45	IDLEX-01	Idling Trucks	Building 1 - South	DOCKS1	7	0.1556	0.1556	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-02	Idling Trucks	Building 1 - South	DOCKS1	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-03	Idling Trucks	Building 1 - South	DOCKS1	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061	DOCK1	5.31	0.27
	IDLEX-04	Idling Trucks	Building 1 - South	DOCKS1	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-05	Idling Trucks	Building 1 - South	DOCKS1	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-06	Idling Trucks	Building 1 - South	DOCKS1	6	0.1333	0.1333	12.6	3.84	366	0.10	51.71	0.4061			
45	IDLEX-07	Idling Trucks	Building 2 - South	DOCKS2	7	0.1556	0.1556	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-08	Idling Trucks	Building 2 - South	DOCKS2	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-09	Idling Trucks	Building 2 - South	DOCKS2	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061	DOCK2	3.14	0.16
	IDLEX-10	Idling Trucks	Building 2 - South	DOCKS2	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-11	Idling Trucks	Building 2 - South	DOCKS2	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-12	Idling Trucks	Building 2 - South	DOCKS2	6	0.1333	0.1333	12.6	3.84	366	0.10	51.71	0.4061			
20	IDLEX-13	Idling Trucks	Building 3 - West	DOCKS3	6	0.300	0.3000	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-14	Idling Trucks	Building 3 - West	DOCKS3	8	0.400	0.4000	12.6	3.84	366	0.10	51.71	0.4061	DOCK3	2.92	0.15
	IDLEX-15	Idling Trucks	Building 3 - West	DOCKS3	6	0.300	0.3000	12.6	3.84	366	0.10	51.71	0.4061			
42	IDLEX-16	Idling Trucks	Building 4 - NorthWest	DOCK4-NW	7	0.167	0.1667	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-17	Idling Trucks	Building 4 - NorthWest	DOCK4-NW	7	0.167	0.1667	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-18	Idling Trucks	Building 4 - NorthWest	DOCK4-NW	7	0.167	0.1667	12.6	3.84	366	0.10	51.71	0.4061	DOCk4_NW	4.59	0.23
	IDLEX-19	Idling Trucks	Building 4 - NorthWest	DOCK4-NW	7	0.167	0.1667	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-20	Idling Trucks	Building 4 - NorthWest	DOCK4-NW	7	0.167	0.1667	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-21	Idling Trucks	Building 4 - NorthWest	DOCK4-NW	7	0.167	0.1667	12.6	3.84	366	0.10	51.71	0.4061			
34	IDLEX-22	Idling Trucks	Building 4 - NorthEast	DOCK4-NE	7	0.206	0.2059	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-23	Idling Trucks	Building 4 - NorthEast	DOCK4-NE	7	0.206	0.2059	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-24	Idling Trucks	Building 4 - NorthEast	DOCK4-NE	7	0.206	0.2059	12.6	3.84	366	0.10	51.71	0.4061	DOCK4_NE	4.59	0.23
	IDLEX-25	Idling Trucks	Building 4 - NorthEast	DOCK4-NE	7	0.206	0.2059	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-26	Idling Trucks	Building 4 - NorthEast	DOCK4-NE	6	0.176	0.1765	12.6	3.84	366	0.10	51.71	0.4061			
39	IDLEX-27	Idling Trucks	Building 4 - SouthWest	DOCK4-SW	4	0.103	0.1026	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-28	Idling Trucks	Building 4 - SouthWest	DOCK4-SW	7	0.179	0.1795	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-29	Idling Trucks	Building 4 - SouthWest	DOCK4-SW	7	0.179	0.1795	12.6	3.84	366	0.10	51.71	0.4061	DOCK4_SW	4.59	0.23
	IDLEX-30	Idling Trucks	Building 4 - SouthWest	DOCK4-SW	7	0.179	0.1795	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-31	Idling Trucks	Building 4 - SouthWest	DOCK4-SW	7	0.179	0.1795	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-32	Idling Trucks	Building 4 - SouthWest	DOCK4-SW	7	0.179	0.1795	12.6	3.84	366	0.10	51.71	0.4061			
40	IDLEX-33	Idling Trucks	Building 4 - SouthEast	DOCK4-SE	7	0.175	0.1750	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-34	Idling Trucks	Building 4 - SouthEast	DOCK4-SE	7	0.175	0.1750	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-35	Idling Trucks	Building 4 - SouthEast	DOCK4-SE	7	0.175	0.1750	12.6	3.84	366	0.10	51.71	0.4061	DOCK4_SE	4.59	0.23
	IDLEX-36	Idling Trucks	Building 4 - SouthEast	DOCK4-SE	7	0.175	0.1750	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-37	Idling Trucks	Building 4 - SouthEast	DOCK4-SE	7	0.175	0.1750	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-38	Idling Trucks	Building 4 - SouthEast	DOCK4-SE	5	0.125	0.1250	12.6	3.84	366	0.10	51.71	0.4061			
265	TRU-16	TRU Exhaust	Building 4 - NorthWest	TRU4-NW	7	0.167	0.1667	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-17	TRU Exhaust	Building 4 - NorthWest	TRU4-NW	7	0.167	0.1667	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-18	TRU Exhaust	Building 4 - NorthWest	TRU4-NW	7	0.167	0.1667	13.0	3.96	501	0.04445	49.1	0.07619	TRU_4_NW	-	-
	TRU-19	TRU Exhaust	Building 4 - NorthWest	TRU4-NW	7	0.167	0.1667	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-20	TRU Exhaust	Building 4 - NorthWest	TRU4-NW	7	0.167	0.1667	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-21	TRU Exhaust	Building 4 - NorthWest	TRU4-NW	7	0.167	0.1667	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-22	TRU Exhaust	Building 4 - NorthEast	TRU4-NE	7	0.206	0.2059	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-23	TRU Exhaust	Building 4 - NorthEast	TRU4-NE	7	0.206	0.2059	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-24	TRU Exhaust	Building 4 - NorthEast	TRU4-NE	7	0.206	0.2059	13.0	3.96	501	0.04445	49.1	0.07619	TRU_4_NE	-	-
	TRU-25	TRU Exhaust	Building 4 - NorthEast	TRU4-NE	7	0.206	0.2059	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-26	TRU Exhaust	Building 4 - NorthEast	TRU4-NE	6	0.176	0.1765	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-27	TRU Exhaust	Building 4 - SouthWest	TRU4-SW	4	0.103	0.1026	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-28	TRU Exhaust	Building 4 - SouthWest	TRU4-SW	7	0.179	0.1795	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-29	TRU Exhaust	Building 4 - SouthWest	TRU4-SW	7	0.179	0.1795	13.0	3.96	501	0.04445	49.1	0.07619	TRU4_SW	67.47	29.49
	TRU-30	TRU Exhaust	Building 4 - SouthWest	TRU4-SW	7	0.179	0.1795	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-31	TRU Exhaust	Building 4 - SouthWest	TRU4-SW	7	0.179	0.1795	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-32	TRU Exhaust	Building 4 - SouthWest	TRU4-SW	7	0.179	0.1795	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-33	TRU Exhaust	Building 4 - SouthEast	TRU4-SE	7	0.175	0.1750	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-34	TRU Exhaust	Building 4 - SouthEast	TRU4-SE	7	0.175	0.1750	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-35	TRU Exhaust	Building 4 - SouthEast	TRU4-SE	7	0.175	0.1750	13.0	3.96	501	0.04445	49.1	0.07619	TRU4_SW	67.47	29.49
	TRU-36	TRU Exhaust	Building 4 - SouthEast	TRU4-SE	7	0.175	0.1750	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-37	TRU Exhaust	Building 4 - SouthEast	TRU4-SE	7	0.175	0.1750	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-38	TRU Exhaust	Building 4 - SouthEast	TRU4-SE	5	0.125	0.1250	13.0	3.96	501	0.04445	49.1	0.07619			

Airport Commerce Center

Modeled Source Parameters - Area Sources

					Area Source Release Parameters						
Description	**Location**	**Source ID**	**Source Group ID**	**Area (m^2)**	**Release Height (m)**	**Initial Vertical Dimension (Sigma Z)**	**AERMOD Area Source Emissions g/m^2-s**	**AERMOD Source Emission Rate (g/s)**	**HARP SRCID**	**HARP Emissions (lb/yr)**
On-Site Truck Travel	Entire Site	ONSITE	ONSITE	445,975	3.89	3.62	2.24E-06	1	ONSITE	**3.23**

On-site roadway travel treated with same release height and intitial vertical dimensions as line-volume sources

Since it is occurs in multiple diffuse areas over the entire site, it is modeled as a sitewide area source with an intial source release height to account for the exhaust plume rise

Airport Commerce Center

Modeled Source Parameters - Volume Sources

Source Type	Location	Source ID	Source Group ID	Truck Exhaust Height (m)	Plume Height (m)	Release Height (m)	Source Width (m)	Initial Lateral Dimension (Sigma Y)	Initial Vertical Dimension (Sigma Z)	AERMOD Rate (g/s)	HARP SRCID	HARP (lb/yr)
Route 1 - Via Airport Drive - Merle Haggard West	Off-Site Roadways	OFFSITE1	OFFSITE1	4.57	7.77	3.89	26	12.09	3.62	1	OFFSITE1	18.95
Route 2 - Via Petrol Way - Landings Way - Merle Haggard West	Off-Site Roadways	OFFSITE2	OFFSITE2	4.57	7.77	3.89	26	12.09	3.62	1	OFFSITE2	6.32
												25.26

Notes:

Truck Plume Height = 1.7 x Exhaust Release Height

Truck Width is set at 8.5 feet (2.6m) based on CalTrans legal limits. -->

Release Height for Truck Exhaust = Plume Height/2

Initial Lateral Dimension Sigma Y = Length (m)/4.3

Initial Vertical Dimension SigmaZ = Height (m)/2.15

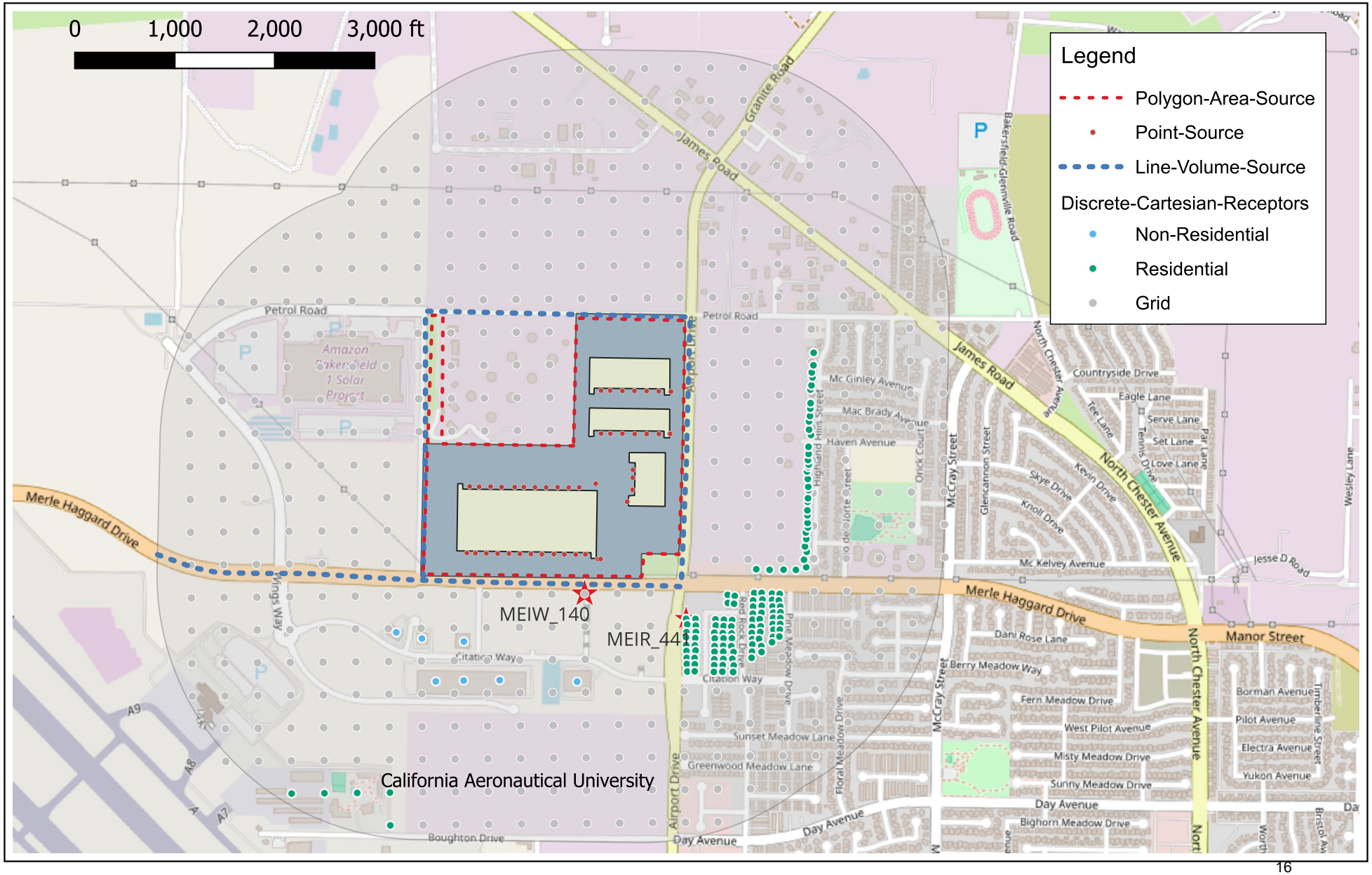
Off-Site Travel conservatively assigned emissions that account for different routes and overstate the emissons to consider different local travel routes

Assumed that 75% of trucks utilize Route 1 and 25% Utilize Route 2. Any truck that enters along Merle Haggard will be incorporated in these routes.

Emissions include Engine + TRU Exhaust from Trucks Serving Cold Storage Warehouse

AERMOD Sources & Receptors

Airport Commerce Center
Operational HRA



Airport Commerce Center Industrial Project

Operational HRA - Mitigated
HARP ADMRT Results — DPM

Executive Summary — Key Receptors

Coordinate system: NAD83 / UTM Zone 11 N (meters)
Rows shown are the receptors with non-blank **ID** values (e.g., MEIR, MEIW, ONSITE-MEIR).

Scenario	REC	ID	GROUP	UTM Easting (m)	UTM Northing (m)	CONC	Chronic HI	Cancer Risk	Risk Per Million
Resident	14	CAU-1	RES	313950	3923250	0.00267	5.3E-04	2.80E-06	2.80
Resident	15	CAU-2	RES	314050	3923250	0.00290	5.8E-04	3.04E-06	3.04
Resident	1	CAU-3	RES	314050	3923150	0.00260	5.2E-04	2.72E-06	2.72
Resident	12	CAU-4	RES	313750	3923250	0.00229	4.6E-04	2.41E-06	2.41
Resident	13	CAU-5	RES	313850	3923250	0.00242	4.8E-04	2.54E-06	2.54
Resident	441	MEIR	RES	314959	3923771	0.00805	1.6E-03	8.44E-06	8.44
Worker	140	MEIW	UCART1	314650	3923850	0.02834	5.7E-03	2.81E-06	2.81

Scenario inputs — sources & emissions

Pollutant: DPM (PolID 9901)

Sources & emissions (from IMPORTEMS)

Source	AnnualEms	MaxHrEms	MWAF	PolAbbrev
DOCK1	0.270	0	1	DieselExhPM
DOCK2	0.160	0	1	DieselExhPM
DOCK3	0.150	0	1	DieselExhPM
DOCK4_NE	0.230	0	1	DieselExhPM
DOCK4_NW	0.230	0	1	DieselExhPM
DOCK4_SW	0.230	0	1	DieselExhPM
DOCK4_SE	0.230	0	1	DieselExhPM
ONSITE	3.230	0	1	DieselExhPM
OFFSITE1	18.950	0	1	DieselExhPM
OFFSITE2	6.320	0	1	DieselExhPM
TRU4_SE	29.490	0	1	DieselExhPM
TRU4_SW	29.490	0	1	DieselExhPM
EGEN1	0.724	0	1	DieselExhPM
EGEN2	0.724	0	1	DieselExhPM
EGEN3	0.724	0	1	DieselExhPM
EGEN4-1	0.724	0	1	DieselExhPM
EGEN4-2	0.724	0	1	DieselExhPM
EGEN4-3	4.748	0	1	DieselExhPM

Source → plot-file mapping (from IMPORTPLOT)

Source	PE_PLT_BASENAME	HR1_PLT_BASENAME
DOCK1	DOCK1_PE.PLT	DOCK1_01.PLT
DOCK2	DOCK2_PE.PLT	DOCK2_01.PLT
DOCK3	DOCK3_PE.PLT	DOCK3_01.PLT
DOCK4_NE	DOCK4NE_PE.PLT	DOCK4NE_01.PLT
DOCK4_NW	DOCK4NW_PE.PLT	DOCK4NW_01.PLT
DOCK4_SW	DOCK4SW_01.PLT	DOCK4SW_01.PLT
DOCK4_SE	DOCK4SE_PE.PLT	DOCK4SE_PE.PLT
ONSITE	DOCK4SW_PE.PLT	DOCK4SW_01.PLT
OFFSITE1	OFFSITE1_PE.PLT	OFFSITE1_01.PLT
OFFSITE2	OFFSITE2_PE.PLT	OFFSITE2_01.PLT
TRU4_SE	TRU4SE_PE.PLT	TRU4SE_01.PLT
TRU4_SW	TRU4SW_PE.PLT	TRU4SE_01.PLT
EGEN1	EGEN1_PE.PLT	EGEN1_01.PLT
EGEN2	EGEN2_PE.PLT	EGEN2_01.PLT
EGEN3	EGEN3_PE.PLT	EGEN3_01.PLT
EGEN4-1	EGEN4_1_PE.PLT	EGEN4_1_01.PLT
EGEN4-2	EGEN4_2_PE.PLT	EGEN4_2_01.PLT
EGEN4-3	EGEN4_3_PE.PLT	EGEN4_3_01.PLT

Scenario: Resident

- Receptors: Receptors.csv
- ResidentHRAInput.hra
- ResidentOutput.txt
- ResidentCancerRisk.csv
- ResidentCancerRiskSumByRec.csv

Scenario: Worker

- Receptors: Receptors.csv
- WorkerHRAInput.hra
- WorkerOutput.txt
- WorkerCancerRisk.csv
- WorkerCancerRiskSumByRec.csv

Project Summary Report

HARP Project Summary Report 5/7/2026 4:42:57 AM

PROJECT INFORMATION
HARP Version: 22118
Project Name: HARPOpsMIT2
Project Output Directory: F:\Jobs\59010001\OpHRA\HARPOpsMIT2
HARP Database: NA

FACILITY INFORMATION
Origin
X (m):0
Y (m):0
Zone:1
No. of Sources:0
No. of Buildings:0

EMISSION INVENTORY
No. of Pollutants:18
No. of Background Pollutants:0

Emissions

ScrID	StkID	ProID	PolID	PolAbbrev	Multi	Annual Ems (lbs/yr)	MaxHr Ems (lbs/hr)	MWAF
DOCK1	0	0	9901	DieselExhPM	1	0.27	0	1
DOCK2	0	0	9901	DieselExhPM	1	0.16	0	1
DOCK3	0	0	9901	DieselExhPM	1	0.15	0	1
DOCK4_NE	0	0	9901	DieselExhPM	1	0.23	0	1
DOCK4_NW	0	0	9901	DieselExhPM	1	0.23	0	1
DOCK4_SW	0	0	9901	DieselExhPM	1	0.23	0	1
DOCK4_SE	0	0	9901	DieselExhPM	1	0.23	0	1
ONSITE	0	0	9901	DieselExhPM	1	3.23	0	1
OFFSITE1	0	0	9901	DieselExhPM	1	18.95	0	1
OFFSITE2	0	0	9901	DieselExhPM	1	6.32	0	1
TRU4_SE	0	0	9901	DieselExhPM	1	29.49	0	1
TRU4_SW	0	0	9901	DieselExhPM	1	29.49	0	1
EGEN1	0	0	9901	DieselExhPM	1	0.724	0	1
EGEN2	0	0	9901	DieselExhPM	1	0.724	0	1
EGEN3	0	0	9901	DieselExhPM	1	0.724	0	1
EGEN4-1	0	0	9901	DieselExhPM	1	0.724	0	1
EGEN4-2	0	0	9901	DieselExhPM	1	0.724	0	1
EGEN4-3	0	0	9901	DieselExhPM	1	4.748	0	1

Background

PolID	PolAbbrev	Conc (ug/m^3)	MWAF

Ground level concentration files (\glc\)

9901MAXHR.txt
9901PER.txt

POLLUTANT HEALTH INFORMATION
Health Database: C:\HARP2\Tables\HEALTH17320.mdb
Health Table Version: HEALTH25268
Official: True

PolID	PolAbbrev	InhCancer	OralCancer	AcuteREL	InhChronicREL	OralChronicREL	InhChronic8HRREL
9901	DieselExhPM	1.1			5		

LIST OF RISK ASSESSMENT FILES
Health risk analysis files (\hra\)

ResidentCancerRisk.csv
ResidentCancerRiskSumByRec.csv
ResidentGLCList.csv
ResidentHRAInput.hra
ResidentOutput.txt
ResidentPathwayRec.csv
ResidentPolDB.csv
WorkerCancerRisk.csv
WorkerCancerRiskSumByRec.csv
WorkerGLCList.csv
WorkerHRAInput.hra
WorkerOutput.txt
WorkerPathwayRec.csv
WorkerPolDB.csv

Spatial averaging files (\sa\)

Scenario inputs — sources & emissions

Pollutant: Diesel PM

Scenario: Resident

Exposure Inputs / Scenario Output

```
HARP2 - HRACalc (dated 22118) 5/7/2026 4:41:27 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: Derived

**********
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 70

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 0
16 to 70 Years Bin: 54

**********
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments.  The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********
INHALATION

Daily breathing rate: LongTerm24HR

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO

**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

**********
```

```
TIER 2 SETTINGS
Tier2 not used.

*********************************

Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: F:\Jobs\59010001\OpHRA\HARPOpsMIT2\hra\ResidentCancerRisk.csv
Cancer risk total by receptor saved to: F:\Jobs\59010001\OpHRA\HARPOpsMIT2\hra\ResidentCancerRiskSumByRec.csv
HRA ran successfully
```

Scenario: Resident — Pollutant: DieselExhPM (REL = 5 µg/m³)

DPM Summary by Receptor (inhalation only)

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
441	MEIR	RES	314959	3923771	0.00805	1.6E-03	8.44E-06	8.44
443		RES	314962	3923753	0.00759	1.5E-03	7.96E-06	7.96
442		RES	314988	3923770	0.00730	1.5E-03	7.66E-06	7.66
445		RES	314959	3923730	0.00725	1.4E-03	7.61E-06	7.61
447		RES	314958	3923714	0.00705	1.4E-03	7.39E-06	7.39
444		RES	314988	3923749	0.00694	1.4E-03	7.28E-06	7.28
449		RES	314958	3923690	0.00674	1.3E-03	7.08E-06	7.08
446		RES	314988	3923730	0.00667	1.3E-03	7.01E-06	7.01
451		RES	314959	3923672	0.00655	1.3E-03	6.87E-06	6.87
448		RES	314986	3923712	0.00653	1.3E-03	6.85E-06	6.85
453		RES	314959	3923652	0.00634	1.3E-03	6.66E-06	6.66
450		RES	314985	3923689	0.00632	1.3E-03	6.64E-06	6.64
455		RES	314959	3923633	0.00621	1.2E-03	6.51E-06	6.51
452		RES	314987	3923674	0.00614	1.2E-03	6.44E-06	6.44
457		RES	314961	3923610	0.00603	1.2E-03	6.32E-06	6.32
454		RES	314984	3923651	0.00602	1.2E-03	6.32E-06	6.32
456		RES	314984	3923632	0.00587	1.2E-03	6.16E-06	6.16
458		RES	314984	3923610	0.00576	1.2E-03	6.05E-06	6.05
459		RES	315048	3923768	0.00567	1.1E-03	5.95E-06	5.95
462		RES	315049	3923749	0.00557	1.1E-03	5.85E-06	5.85
465		RES	315044	3923727	0.00555	1.1E-03	5.83E-06	5.83
468		RES	315046	3923710	0.00541	1.1E-03	5.68E-06	5.68
471		RES	315045	3923686	0.00534	1.1E-03	5.61E-06	5.61
474		RES	315044	3923669	0.00527	1.1E-03	5.53E-06	5.53
477		RES	315044	3923646	0.00515	1.0E-03	5.41E-06	5.41
480		RES	315043	3923628	0.00510	1.0E-03	5.35E-06	5.35
460		RES	315075	3923767	0.00509	1.0E-03	5.34E-06	5.34
463		RES	315073	3923747	0.00508	1.0E-03	5.33E-06	5.33
466		RES	315070	3923726	0.00507	1.0E-03	5.32E-06	5.32
483		RES	315042	3923608	0.00503	1.0E-03	5.28E-06	5.28
469		RES	315073	3923710	0.00497	9.9E-04	5.22E-06	5.22
472		RES	315071	3923687	0.00493	9.9E-04	5.18E-06	5.18
475		RES	315071	3923669	0.00489	9.8E-04	5.13E-06	5.13
422		RES	315087	3923817	0.00482	9.6E-04	5.05E-06	5.05
478		RES	315071	3923647	0.00481	9.6E-04	5.05E-06	5.05
421		RES	315087	3923842	0.00480	9.6E-04	5.04E-06	5.04
481		RES	315069	3923628	0.00477	9.5E-04	5.00E-06	5.00
484		RES	315068	3923608	0.00474	9.5E-04	4.97E-06	4.97
464		RES	315097	3923746	0.00466	9.3E-04	4.89E-06	4.89
467		RES	315097	3923725	0.00463	9.3E-04	4.86E-06	4.86
461		RES	315099	3923765	0.00461	9.2E-04	4.83E-06	4.83
470		RES	315098	3923710	0.00459	9.2E-04	4.81E-06	4.81
473		RES	315096	3923686	0.00456	9.1E-04	4.78E-06	4.78
479		RES	315099	3923647	0.00447	8.9E-04	4.70E-06	4.70
476		RES	315103	3923668	0.00445	8.9E-04	4.67E-06	4.67
424		RES	315106	3923815	0.00444	8.9E-04	4.66E-06	4.66
482		RES	315103	3923627	0.00438	8.8E-04	4.59E-06	4.59
423		RES	315108	3923839	0.00438	8.8E-04	4.59E-06	4.59
485		RES	315101	3923607	0.00436	8.7E-04	4.58E-06	4.58
498		RES	315157	3923650	0.00379	7.6E-04	3.97E-06	3.97

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
490		RES	315159	3923725	0.00377	7.5E-04	3.96E-06	3.96
492		RES	315160	3923707	0.00377	7.5E-04	3.95E-06	3.95
494		RES	315160	3923690	0.00376	7.5E-04	3.95E-06	3.95
496		RES	315159	3923668	0.00375	7.5E-04	3.93E-06	3.93
488		RES	315160	3923744	0.00373	7.5E-04	3.92E-06	3.92
486		RES	315161	3923766	0.00366	7.3E-04	3.84E-06	3.84
440		RES	315162	3923784	0.00362	7.2E-04	3.80E-06	3.80
435		RES	315164	3923806	0.00358	7.2E-04	3.76E-06	3.76
432		RES	315164	3923825	0.00355	7.1E-04	3.72E-06	3.73
493		RES	315181	3923707	0.00354	7.1E-04	3.71E-06	3.71
495		RES	315188	3923685	0.00348	7.0E-04	3.65E-06	3.65
491		RES	315185	3923728	0.00348	7.0E-04	3.65E-06	3.65
497		RES	315188	3923667	0.00346	6.9E-04	3.63E-06	3.63
429		RES	315168	3923847	0.00345	6.9E-04	3.62E-06	3.62
489		RES	315186	3923745	0.00342	6.8E-04	3.59E-06	3.59
487		RES	315184	3923767	0.00341	6.8E-04	3.57E-06	3.57
438		RES	315189	3923787	0.00331	6.6E-04	3.47E-06	3.47
436		RES	315190	3923808	0.00328	6.6E-04	3.45E-06	3.45
425		RES	315175	3923920	0.00323	6.5E-04	3.39E-06	3.39
433		RES	315192	3923827	0.00322	6.4E-04	3.38E-06	3.38
430		RES	315190	3923847	0.00319	6.4E-04	3.35E-06	3.35
511		RES	315220	3923697	0.00317	6.3E-04	3.32E-06	3.32
509		RES	315223	3923713	0.00312	6.2E-04	3.28E-06	3.28
507		RES	315225	3923735	0.00306	6.1E-04	3.21E-06	3.21
505		RES	315223	3923752	0.00304	6.1E-04	3.19E-06	3.19
503		RES	315224	3923771	0.00300	6.0E-04	3.15E-06	3.15
501		RES	315225	3923787	0.00296	5.9E-04	3.11E-06	3.11
499		RES	315223	3923806	0.00296	5.9E-04	3.11E-06	3.11
510		RES	315243	3923714	0.00296	5.9E-04	3.10E-06	3.10
437		RES	315222	3923826	0.00293	5.9E-04	3.07E-06	3.07
508		RES	315244	3923735	0.00290	5.8E-04	3.04E-06	3.04
15	CAU-2	RES	314050	3923250	0.00290	5.8E-04	3.04E-06	3.04
431		RES	315222	3923845	0.00288	5.8E-04	3.02E-06	3.02
506		RES	315246	3923752	0.00286	5.7E-04	3.00E-06	3.00
426		RES	315215	3923917	0.00285	5.7E-04	2.99E-06	2.99
504		RES	315246	3923770	0.00282	5.6E-04	2.96E-06	2.96
502		RES	315247	3923787	0.00279	5.6E-04	2.93E-06	2.93
500		RES	315246	3923805	0.00278	5.6E-04	2.92E-06	2.92
439		RES	315243	3923824	0.00277	5.5E-04	2.90E-06	2.90
434		RES	315245	3923844	0.00270	5.4E-04	2.83E-06	2.83
14	CAU-1	RES	313950	3923250	0.00267	5.3E-04	2.80E-06	2.80
1	CAU-3	RES	314050	3923150	0.00260	5.2E-04	2.72E-06	2.72
427		RES	315258	3923917	0.00253	5.1E-04	2.66E-06	2.66
13	CAU-5	RES	313850	3923250	0.00242	4.8E-04	2.54E-06	2.54
12	CAU-4	RES	313750	3923250	0.00229	4.6E-04	2.41E-06	2.41
428		RES	315295	3923916	0.00226	4.5E-04	2.37E-06	2.37
513		RES	315320	3923947	0.00212	4.2E-04	2.22E-06	2.22
512		RES	315327	3923924	0.00209	4.2E-04	2.19E-06	2.19
514		RES	315329	3923971	0.00205	4.1E-04	2.15E-06	2.15
515		RES	315324	3923988	0.00204	4.1E-04	2.14E-06	2.14
516		RES	315328	3924010	0.00196	3.9E-04	2.06E-06	2.06
517		RES	315327	3924030	0.00195	3.9E-04	2.05E-06	2.05
518		RES	315334	3924045	0.00190	3.8E-04	1.99E-06	1.99

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
519		RES	315332	3924059	0.00187	3.7E-04	1.96E-06	1.96
520		RES	315332	3924082	0.00180	3.6E-04	1.89E-06	1.89
521		RES	315332	3924098	0.00176	3.5E-04	1.85E-06	1.85
522		RES	315334	3924124	0.00166	3.3E-04	1.75E-06	1.75
523		RES	315335	3924135	0.00161	3.2E-04	1.69E-06	1.69
524		RES	315337	3924160	0.00151	3.0E-04	1.58E-06	1.58
526		RES	315335	3924193	0.00150	3.0E-04	1.57E-06	1.57
525		RES	315336	3924169	0.00150	3.0E-04	1.57E-06	1.57
527		RES	315332	3924216	0.00149	3.0E-04	1.56E-06	1.56
528		RES	315337	3924229	0.00146	2.9E-04	1.53E-06	1.53
530		RES	315338	3924237	0.00144	2.9E-04	1.51E-06	1.51
529		RES	315339	3924245	0.00142	2.8E-04	1.49E-06	1.49
531		RES	315336	3924251	0.00141	2.8E-04	1.48E-06	1.48
532		RES	315338	3924270	0.00135	2.7E-04	1.42E-06	1.42
533		RES	315338	3924291	0.00132	2.6E-04	1.39E-06	1.39
534		RES	315346	3924327	0.00125	2.5E-04	1.31E-06	1.31
535		RES	315340	3924344	0.00122	2.4E-04	1.28E-06	1.28
536		RES	315340	3924369	0.00117	2.3E-04	1.23E-06	1.23
537		RES	315343	3924385	0.00116	2.3E-04	1.22E-06	1.22
538		RES	315344	3924408	0.00114	2.3E-04	1.20E-06	1.20
539		RES	315346	3924424	0.00112	2.2E-04	1.17E-06	1.17
540		RES	315346	3924466	0.00105	2.1E-04	1.10E-06	1.10
541		RES	315349	3924479	0.00104	2.1E-04	1.09E-06	1.09
542		RES	315352	3924503	0.00101	2.0E-04	1.06E-06	1.06
543		RES	315350	3924518	0.00100	2.0E-04	1.05E-06	1.05
544		RES	315355	3924540	0.00098	2.0E-04	1.02E-06	1.02
545		RES	315356	3924578	0.00091	1.8E-04	9.59E-07	0.96

Scenario: Worker

Exposure Inputs / Scenario Output

```
HARP2 - HRACalc (dated 22118) 5/7/2026 4:42:31 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: Cancer
Calculation Method: Derived

**********
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 16
Total Exposure Duration: 40

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 40

**********
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments.  The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********
INHALATION

Daily breathing rate: Moderate8HR

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO

**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

**********
```

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: F:\Jobs\59010001\OpHRA\HARPOpsMIT2\hra\WorkerCancerRisk.csv
Cancer risk total by receptor saved to: F:\Jobs\59010001\OpHRA\HARPOpsMIT2\hra\WorkerCancerRiskSumByRec.csv
HRA ran successfully

Scenario: Worker — Pollutant: DieselExhPM (REL = 5 µg/m³)

DPM Summary by Receptor (inhalation only)

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
140	MEIW	UCART1	314650	3923850	0.02834	5.7E-03	2.81E-06	2.81
139		UCART1	314550	3923850	0.02473	4.9E-03	2.45E-06	2.45
138		UCART1	314450	3923850	0.02307	4.6E-03	2.28E-06	2.28
137		UCART1	314350	3923850	0.02060	4.1E-03	2.04E-06	2.04
141		UCART1	314750	3923850	0.01813	3.6E-03	1.80E-06	1.80
136		UCART1	314250	3923850	0.01802	3.6E-03	1.78E-06	1.78
135		UCART1	314150	3923850	0.01511	3.0E-03	1.50E-06	1.50
120		UCART1	314550	3923750	0.01441	2.9E-03	1.43E-06	1.43
153		UCART1	314050	3923950	0.01406	2.8E-03	1.39E-06	1.39
142		UCART1	314850	3923850	0.01397	2.8E-03	1.38E-06	1.38
119		UCART1	314450	3923750	0.01373	2.7E-03	1.36E-06	1.36
121		UCART1	314650	3923750	0.01370	2.7E-03	1.36E-06	1.36
134		UCART1	314050	3923850	0.01299	2.6E-03	1.29E-06	1.29
152		UCART1	313950	3923950	0.01263	2.5E-03	1.25E-06	1.25
151		UCART1	313850	3923950	0.01234	2.5E-03	1.22E-06	1.22
150		UCART1	313750	3923950	0.01219	2.4E-03	1.21E-06	1.21
122		UCART1	314750	3923750	0.01197	2.4E-03	1.19E-06	1.19
118		UCART1	314350	3923750	0.01195	2.4E-03	1.18E-06	1.18
149		UCART1	313650	3923950	0.01179	2.4E-03	1.17E-06	1.17
133		UCART1	313950	3923850	0.01140	2.3E-03	1.13E-06	1.13
168		UCART1	314050	3924050	0.01135	2.3E-03	1.12E-06	1.12
147		UCART1	313450	3923950	0.01069	2.1E-03	1.06E-06	1.06
148		UCART1	313550	3923950	0.01043	2.1E-03	1.03E-06	1.03
132		UCART1	313850	3923850	0.01032	2.1E-03	1.02E-06	1.02
117		UCART1	314250	3923750	0.01002	2.0E-03	9.92E-07	0.99
183		UCART1	314050	3924150	0.00997	2.0E-03	9.88E-07	0.99
123		UCART1	314850	3923750	0.00968	1.9E-03	9.59E-07	0.96
131		UCART1	313750	3923850	0.00957	1.9E-03	9.48E-07	0.95
100		UCART1	314550	3923650	0.00947	1.9E-03	9.38E-07	0.94
101		UCART1	314650	3923650	0.00942	1.9E-03	9.33E-07	0.93
167		UCART1	313950	3924050	0.00912	1.8E-03	9.03E-07	0.90
130		UCART1	313650	3923850	0.00906	1.8E-03	8.98E-07	0.90
548		NON-RES	314280	3923708	0.00897	1.8E-03	8.88E-07	0.89
99		UCART1	314450	3923650	0.00897	1.8E-03	8.88E-07	0.89
102		UCART1	314750	3923650	0.00882	1.8E-03	8.73E-07	0.87
116		UCART1	314150	3923750	0.00847	1.7E-03	8.39E-07	0.84
129		UCART1	313550	3923850	0.00845	1.7E-03	8.37E-07	0.84
198		UCART1	314050	3924250	0.00824	1.6E-03	8.16E-07	0.82
98		UCART1	314350	3923650	0.00817	1.6E-03	8.09E-07	0.81
182		UCART1	313950	3924150	0.00805	1.6E-03	7.98E-07	0.80
166		UCART1	313850	3924050	0.00795	1.6E-03	7.87E-07	0.79
549		NON-RES	314624	3923582	0.00781	1.6E-03	7.73E-07	0.77
214		UCART1	314150	3924350	0.00774	1.5E-03	7.67E-07	0.77
103		UCART1	314850	3923650	0.00772	1.5E-03	7.64E-07	0.76
115		UCART1	314050	3923750	0.00763	1.5E-03	7.56E-07	0.76
547		NON-RES	314152	3923719	0.00755	1.5E-03	7.48E-07	0.75
546		NON-RES	314074	3923738	0.00746	1.5E-03	7.39E-07	0.74
165		UCART1	313750	3924050	0.00724	1.4E-03	7.17E-07	0.72
79		UCART1	314650	3923550	0.00715	1.4E-03	7.08E-07	0.71
550		NON-RES	314388	3923589	0.00710	1.4E-03	7.03E-07	0.70

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
97		UCART1	314250	3923650	0.00710	1.4E-03	7.03E-07	0.70
114		UCART1	313950	3923750	0.00707	1.4E-03	7.00E-07	0.70
197		UCART1	313950	3924250	0.00702	1.4E-03	6.95E-07	0.70
80		UCART1	314750	3923550	0.00690	1.4E-03	6.83E-07	0.68
128		UCART1	313450	3923850	0.00688	1.4E-03	6.82E-07	0.68
181		UCART1	313850	3924150	0.00686	1.4E-03	6.79E-07	0.68
215		UCART1	314250	3924350	0.00685	1.4E-03	6.78E-07	0.68
164		UCART1	313650	3924050	0.00684	1.4E-03	6.77E-07	0.68
78		UCART1	314550	3923550	0.00676	1.4E-03	6.69E-07	0.67
77		UCART1	314450	3923550	0.00664	1.3E-03	6.58E-07	0.66
213		UCART1	314050	3924350	0.00660	1.3E-03	6.54E-07	0.65
113		UCART1	313850	3923750	0.00660	1.3E-03	6.53E-07	0.65
81		UCART1	314850	3923550	0.00638	1.3E-03	6.31E-07	0.63
163		UCART1	313550	3924050	0.00637	1.3E-03	6.31E-07	0.63
551		NON-RES	314278	3923589	0.00634	1.3E-03	6.28E-07	0.63
216		UCART1	314350	3924350	0.00628	1.3E-03	6.22E-07	0.62
112		UCART1	313750	3923750	0.00628	1.3E-03	6.22E-07	0.62
76		UCART1	314350	3923550	0.00628	1.3E-03	6.22E-07	0.62
196		UCART1	313850	3924250	0.00618	1.2E-03	6.12E-07	0.61
162		UCART1	313450	3924050	0.00615	1.2E-03	6.09E-07	0.61
96		UCART1	314150	3923650	0.00614	1.2E-03	6.08E-07	0.61
180		UCART1	313750	3924150	0.00612	1.2E-03	6.06E-07	0.61
234		UCART1	314150	3924450	0.00607	1.2E-03	6.01E-07	0.60
212		UCART1	313950	3924350	0.00594	1.2E-03	5.88E-07	0.59
217		UCART1	314450	3924350	0.00591	1.2E-03	5.85E-07	0.59
111		UCART1	313650	3923750	0.00587	1.2E-03	5.81E-07	0.58
58		UCART1	314650	3923450	0.00580	1.2E-03	5.74E-07	0.57
552		NON-RES	314193	3923588	0.00568	1.1E-03	5.63E-07	0.56
57		UCART1	314550	3923450	0.00566	1.1E-03	5.61E-07	0.56
82		UCART1	314950	3923550	0.00564	1.1E-03	5.59E-07	0.56
59		UCART1	314750	3923450	0.00563	1.1E-03	5.58E-07	0.56
75		UCART1	314250	3923550	0.00562	1.1E-03	5.57E-07	0.56
179		UCART1	313650	3924150	0.00562	1.1E-03	5.57E-07	0.56
154		UCART1	315050	3923950	0.00560	1.1E-03	5.55E-07	0.55
95		UCART1	314050	3923650	0.00559	1.1E-03	5.54E-07	0.55
195		UCART1	313750	3924250	0.00552	1.1E-03	5.47E-07	0.55
211		UCART1	313850	3924350	0.00546	1.1E-03	5.41E-07	0.54
56		UCART1	314450	3923450	0.00544	1.1E-03	5.39E-07	0.54
233		UCART1	314050	3924450	0.00542	1.1E-03	5.37E-07	0.54
235		UCART1	314250	3924450	0.00542	1.1E-03	5.36E-07	0.54
60		UCART1	314850	3923450	0.00537	1.1E-03	5.31E-07	0.53
110		UCART1	313550	3923750	0.00534	1.1E-03	5.29E-07	0.53
169		UCART1	315050	3924050	0.00529	1.1E-03	5.23E-07	0.52
254		UCART1	314150	3924550	0.00521	1.0E-03	5.16E-07	0.52
94		UCART1	313950	3923650	0.00519	1.0E-03	5.14E-07	0.51
55		UCART1	314350	3923450	0.00516	1.0E-03	5.11E-07	0.51
232		UCART1	313950	3924450	0.00504	1.0E-03	4.99E-07	0.50
194		UCART1	313650	3924250	0.00502	1.0E-03	4.97E-07	0.50
74		UCART1	314150	3923550	0.00501	1.0E-03	4.96E-07	0.50
210		UCART1	313750	3924350	0.00501	1.0E-03	4.96E-07	0.50
178		UCART1	313550	3924150	0.00498	1.0E-03	4.93E-07	0.49
61		UCART1	314950	3923450	0.00495	9.9E-04	4.90E-07	0.49
218		UCART1	314550	3924350	0.00494	9.9E-04	4.89E-07	0.49

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
93		UCART1	313850	3923650	0.00493	9.9E-04	4.89E-07	0.49
274		UCART1	314150	3924650	0.00492	9.8E-04	4.88E-07	0.49
39		UCART1	314650	3923350	0.00489	9.8E-04	4.84E-07	0.48
177		UCART1	313450	3924150	0.00487	9.7E-04	4.82E-07	0.48
275		UCART1	314250	3924650	0.00480	9.6E-04	4.76E-07	0.48
40		UCART1	314750	3923350	0.00480	9.6E-04	4.75E-07	0.48
184		UCART1	315050	3924150	0.00479	9.6E-04	4.74E-07	0.47
236		UCART1	314350	3924450	0.00478	9.6E-04	4.73E-07	0.47
231		UCART1	313850	3924450	0.00476	9.5E-04	4.72E-07	0.47
38		UCART1	314550	3923350	0.00476	9.5E-04	4.72E-07	0.47
83		UCART1	315050	3923550	0.00476	9.5E-04	4.71E-07	0.47
92		UCART1	313750	3923650	0.00472	9.4E-04	4.68E-07	0.47
276		UCART1	314350	3924650	0.00470	9.4E-04	4.66E-07	0.47
255		UCART1	314250	3924550	0.00469	9.4E-04	4.65E-07	0.46
193		UCART1	313550	3924250	0.00467	9.3E-04	4.62E-07	0.46
41		UCART1	314850	3923350	0.00465	9.3E-04	4.60E-07	0.46
209		UCART1	313650	3924350	0.00465	9.3E-04	4.60E-07	0.46
54		UCART1	314250	3923450	0.00464	9.3E-04	4.60E-07	0.46
253		UCART1	314050	3924550	0.00463	9.3E-04	4.58E-07	0.46
277		UCART1	314450	3924650	0.00460	9.2E-04	4.56E-07	0.46
37		UCART1	314450	3923350	0.00458	9.2E-04	4.54E-07	0.45
230		UCART1	313750	3924450	0.00456	9.1E-04	4.52E-07	0.45
278		UCART1	314550	3924650	0.00456	9.1E-04	4.51E-07	0.45
109		UCART1	313450	3923750	0.00451	9.0E-04	4.46E-07	0.45
294		UCART1	314250	3924750	0.00445	8.9E-04	4.41E-07	0.44
192		UCART1	313450	3924250	0.00438	8.8E-04	4.34E-07	0.43
73		UCART1	314050	3923550	0.00438	8.8E-04	4.34E-07	0.43
36		UCART1	314350	3923350	0.00438	8.8E-04	4.34E-07	0.43
237		UCART1	314450	3924450	0.00436	8.7E-04	4.32E-07	0.43
42		UCART1	314950	3923350	0.00436	8.7E-04	4.32E-07	0.43
293		UCART1	314150	3924750	0.00435	8.7E-04	4.31E-07	0.43
91		UCART1	313650	3923650	0.00435	8.7E-04	4.30E-07	0.43
252		UCART1	313950	3924550	0.00434	8.7E-04	4.30E-07	0.43
295		UCART1	314350	3924750	0.00433	8.7E-04	4.29E-07	0.43
62		UCART1	315050	3923450	0.00431	8.6E-04	4.27E-07	0.43
208		UCART1	313550	3924350	0.00428	8.6E-04	4.23E-07	0.42
229		UCART1	313650	3924450	0.00423	8.5E-04	4.19E-07	0.42
22		UCART1	314750	3923250	0.00421	8.4E-04	4.17E-07	0.42
21		UCART1	314650	3923250	0.00421	8.4E-04	4.17E-07	0.42
256		UCART1	314350	3924550	0.00420	8.4E-04	4.16E-07	0.42
72		UCART1	313950	3923550	0.00418	8.4E-04	4.14E-07	0.41
251		UCART1	313850	3924550	0.00416	8.3E-04	4.12E-07	0.41
53		UCART1	314150	3923450	0.00416	8.3E-04	4.12E-07	0.41
296		UCART1	314450	3924750	0.00410	8.2E-04	4.06E-07	0.41
20		UCART1	314550	3923250	0.00408	8.2E-04	4.04E-07	0.40
273		UCART1	314050	3924650	0.00408	8.2E-04	4.04E-07	0.40
23		UCART1	314850	3923250	0.00407	8.1E-04	4.03E-07	0.40
207		UCART1	313450	3924350	0.00402	8.0E-04	3.98E-07	0.40
199		UCART1	315050	3924250	0.00400	8.0E-04	3.96E-07	0.40
228		UCART1	313550	3924450	0.00400	8.0E-04	3.96E-07	0.40
238		UCART1	314550	3924450	0.00399	8.0E-04	3.96E-07	0.40
250		UCART1	313750	3924550	0.00399	8.0E-04	3.95E-07	0.40
35		UCART1	314250	3923350	0.00398	8.0E-04	3.94E-07	0.39

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
257		UCART1	314450	3924550	0.00397	7.9E-04	3.93E-07	0.39
19		UCART1	314450	3923250	0.00396	7.9E-04	3.92E-07	0.39
43		UCART1	315050	3923350	0.00393	7.9E-04	3.89E-07	0.39
24		UCART1	314950	3923250	0.00390	7.8E-04	3.87E-07	0.39
90		UCART1	313550	3923650	0.00390	7.8E-04	3.87E-07	0.39
71		UCART1	313850	3923550	0.00390	7.8E-04	3.86E-07	0.39
297		UCART1	314550	3924750	0.00390	7.8E-04	3.86E-07	0.39
84		UCART1	315150	3923550	0.00381	7.6E-04	3.78E-07	0.38
249		UCART1	313650	3924550	0.00380	7.6E-04	3.77E-07	0.38
272		UCART1	313950	3924650	0.00380	7.6E-04	3.76E-07	0.38
18		UCART1	314350	3923250	0.00379	7.6E-04	3.75E-07	0.38
258		UCART1	314550	3924550	0.00377	7.5E-04	3.74E-07	0.37
227		UCART1	313450	3924450	0.00376	7.5E-04	3.73E-07	0.37
8		UCART1	314750	3923150	0.00373	7.5E-04	3.69E-07	0.37
52		UCART1	314050	3923450	0.00369	7.4E-04	3.66E-07	0.37
70		UCART1	313750	3923550	0.00369	7.4E-04	3.65E-07	0.37
63		UCART1	315150	3923450	0.00369	7.4E-04	3.65E-07	0.37
7		UCART1	314650	3923150	0.00366	7.3E-04	3.62E-07	0.36
9		UCART1	314850	3923150	0.00361	7.2E-04	3.58E-07	0.36
271		UCART1	313850	3924650	0.00361	7.2E-04	3.57E-07	0.36
292		UCART1	314050	3924750	0.00360	7.2E-04	3.56E-07	0.36
25		UCART1	315050	3923250	0.00359	7.2E-04	3.55E-07	0.36
248		UCART1	313550	3924550	0.00359	7.2E-04	3.55E-07	0.36
6		UCART1	314550	3923150	0.00358	7.2E-04	3.55E-07	0.35
34		UCART1	314150	3923350	0.00358	7.2E-04	3.55E-07	0.35
89		UCART1	313450	3923650	0.00353	7.1E-04	3.50E-07	0.35
298		UCART1	314650	3924750	0.00350	7.0E-04	3.47E-07	0.35
10		UCART1	314950	3923150	0.00350	7.0E-04	3.47E-07	0.35
270		UCART1	313750	3924650	0.00350	7.0E-04	3.47E-07	0.35
155		UCART1	315150	3923950	0.00349	7.0E-04	3.46E-07	0.35
5		UCART1	314450	3923150	0.00347	6.9E-04	3.44E-07	0.34
247		UCART1	313450	3924550	0.00347	6.9E-04	3.44E-07	0.34
17		UCART1	314250	3923250	0.00346	6.9E-04	3.43E-07	0.34
44		UCART1	315150	3923350	0.00345	6.9E-04	3.42E-07	0.34
51		UCART1	313950	3923450	0.00343	6.9E-04	3.40E-07	0.34
69		UCART1	313650	3923550	0.00342	6.8E-04	3.39E-07	0.34
269		UCART1	313650	3924650	0.00335	6.7E-04	3.32E-07	0.33
4		UCART1	314350	3923150	0.00330	6.6E-04	3.27E-07	0.33
11		UCART1	315050	3923150	0.00329	6.6E-04	3.26E-07	0.33
291		UCART1	313950	3924750	0.00327	6.5E-04	3.24E-07	0.32
50		UCART1	313850	3923450	0.00327	6.5E-04	3.23E-07	0.32
68		UCART1	313550	3923550	0.00326	6.5E-04	3.23E-07	0.32
299		UCART1	314750	3924750	0.00325	6.5E-04	3.22E-07	0.32
33		UCART1	314050	3923350	0.00325	6.5E-04	3.22E-07	0.32
268		UCART1	313550	3924650	0.00324	6.5E-04	3.20E-07	0.32
219		UCART1	315050	3924350	0.00323	6.5E-04	3.20E-07	0.32
170		UCART1	315150	3924050	0.00320	6.4E-04	3.17E-07	0.32
26		UCART1	315150	3923250	0.00320	6.4E-04	3.17E-07	0.32
290		UCART1	313850	3924750	0.00315	6.3E-04	3.12E-07	0.31
16		UCART1	314150	3923250	0.00314	6.3E-04	3.11E-07	0.31
267		UCART1	313450	3924650	0.00313	6.3E-04	3.10E-07	0.31
64		UCART1	315250	3923450	0.00307	6.1E-04	3.04E-07	0.30
49		UCART1	313750	3923450	0.00302	6.0E-04	2.99E-07	0.30

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
85		UCART1	315250	3923550	0.00302	6.0E-04	2.99E-07	0.30
289		UCART1	313750	3924750	0.00302	6.0E-04	2.99E-07	0.30
3		UCART1	314250	3923150	0.00301	6.0E-04	2.98E-07	0.30
45		UCART1	315250	3923350	0.00299	6.0E-04	2.96E-07	0.30
32		UCART1	313950	3923350	0.00298	6.0E-04	2.95E-07	0.29
288		UCART1	313650	3924750	0.00296	5.9E-04	2.93E-07	0.29
104		UCART1	315250	3923650	0.00295	5.9E-04	2.93E-07	0.29
287		UCART1	313550	3924750	0.00288	5.8E-04	2.85E-07	0.29
67		UCART1	313450	3923550	0.00287	5.7E-04	2.84E-07	0.28
27		UCART1	315250	3923250	0.00286	5.7E-04	2.84E-07	0.28
48		UCART1	313650	3923450	0.00285	5.7E-04	2.82E-07	0.28
239		UCART1	315050	3924450	0.00283	5.7E-04	2.80E-07	0.28
314		UCART1	314050	3924850	0.00281	5.6E-04	2.78E-07	0.28
31		UCART1	313850	3923350	0.00280	5.6E-04	2.78E-07	0.28
2		UCART1	314150	3923150	0.00278	5.6E-04	2.75E-07	0.28
315		UCART1	314150	3924850	0.00276	5.5E-04	2.74E-07	0.27
185		UCART1	315150	3924150	0.00274	5.5E-04	2.72E-07	0.27
312		UCART1	313850	3924850	0.00273	5.5E-04	2.70E-07	0.27
313		UCART1	313950	3924850	0.00273	5.5E-04	2.70E-07	0.27
316		UCART1	314250	3924850	0.00270	5.4E-04	2.68E-07	0.27
300		UCART1	314850	3924750	0.00270	5.4E-04	2.67E-07	0.27
311		UCART1	313750	3924850	0.00265	5.3E-04	2.63E-07	0.26
317		UCART1	314350	3924850	0.00265	5.3E-04	2.63E-07	0.26
47		UCART1	313550	3923450	0.00264	5.3E-04	2.61E-07	0.26
30		UCART1	313750	3923350	0.00263	5.3E-04	2.60E-07	0.26
310		UCART1	313650	3924850	0.00260	5.2E-04	2.57E-07	0.26
46		UCART1	315350	3923350	0.00259	5.2E-04	2.56E-07	0.26
259		UCART1	315050	3924550	0.00255	5.1E-04	2.53E-07	0.25
65		UCART1	315350	3923450	0.00254	5.1E-04	2.51E-07	0.25
156		UCART1	315250	3923950	0.00254	5.1E-04	2.51E-07	0.25
318		UCART1	314450	3924850	0.00247	4.9E-04	2.44E-07	0.24
86		UCART1	315350	3923550	0.00246	4.9E-04	2.43E-07	0.24
29		UCART1	313650	3923350	0.00239	4.8E-04	2.37E-07	0.24
105		UCART1	315350	3923650	0.00238	4.8E-04	2.35E-07	0.24
200		UCART1	315150	3924250	0.00237	4.7E-04	2.34E-07	0.23
332		UCART1	313750	3924950	0.00233	4.7E-04	2.31E-07	0.23
171		UCART1	315250	3924050	0.00232	4.6E-04	2.30E-07	0.23
319		UCART1	314550	3924850	0.00231	4.6E-04	2.29E-07	0.23
333		UCART1	313850	3924950	0.00228	4.6E-04	2.26E-07	0.23
334		UCART1	313950	3924950	0.00228	4.6E-04	2.26E-07	0.23
28		UCART1	313550	3923350	0.00225	4.5E-04	2.23E-07	0.22
335		UCART1	314050	3924950	0.00224	4.5E-04	2.22E-07	0.22
124		UCART1	315350	3923750	0.00221	4.4E-04	2.19E-07	0.22
336		UCART1	314150	3924950	0.00213	4.3E-04	2.11E-07	0.21
143		UCART1	315350	3923850	0.00208	4.2E-04	2.06E-07	0.21
66		UCART1	315450	3923450	0.00208	4.2E-04	2.06E-07	0.21
337		UCART1	314250	3924950	0.00207	4.1E-04	2.05E-07	0.21
320		UCART1	314650	3924850	0.00207	4.1E-04	2.05E-07	0.20
338		UCART1	314350	3924950	0.00203	4.1E-04	2.01E-07	0.20
220		UCART1	315150	3924350	0.00202	4.0E-04	2.00E-07	0.20
157		UCART1	315350	3923950	0.00199	4.0E-04	1.97E-07	0.20
87		UCART1	315450	3923550	0.00199	4.0E-04	1.97E-07	0.20
106		UCART1	315450	3923650	0.00196	3.9E-04	1.94E-07	0.19

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
352		UCART1	313950	3925050	0.00192	3.8E-04	1.90E-07	0.19
279		UCART1	315050	3924650	0.00192	3.8E-04	1.90E-07	0.19
186		UCART1	315250	3924150	0.00192	3.8E-04	1.90E-07	0.19
339		UCART1	314450	3924950	0.00185	3.7E-04	1.83E-07	0.18
301		UCART1	314950	3924750	0.00184	3.7E-04	1.82E-07	0.18
353		UCART1	314050	3925050	0.00184	3.7E-04	1.82E-07	0.18
172		UCART1	315350	3924050	0.00183	3.7E-04	1.81E-07	0.18
125		UCART1	315450	3923750	0.00181	3.6E-04	1.79E-07	0.18
321		UCART1	314750	3924850	0.00180	3.6E-04	1.78E-07	0.18
354		UCART1	314150	3925050	0.00177	3.5E-04	1.75E-07	0.17
240		UCART1	315150	3924450	0.00176	3.5E-04	1.74E-07	0.17
340		UCART1	314550	3924950	0.00174	3.5E-04	1.72E-07	0.17
144		UCART1	315450	3923850	0.00171	3.4E-04	1.69E-07	0.17
88		UCART1	315550	3923550	0.00170	3.4E-04	1.68E-07	0.17
201		UCART1	315250	3924250	0.00170	3.4E-04	1.68E-07	0.17
355		UCART1	314250	3925050	0.00168	3.4E-04	1.66E-07	0.17
158		UCART1	315450	3923950	0.00164	3.3E-04	1.63E-07	0.16
356		UCART1	314350	3925050	0.00164	3.3E-04	1.62E-07	0.16
107		UCART1	315550	3923650	0.00161	3.2E-04	1.60E-07	0.16
370		UCART1	314050	3925150	0.00158	3.2E-04	1.57E-07	0.16
341		UCART1	314650	3924950	0.00157	3.1E-04	1.56E-07	0.16
126		UCART1	315550	3923750	0.00154	3.1E-04	1.53E-07	0.15
173		UCART1	315450	3924050	0.00152	3.0E-04	1.51E-07	0.15
371		UCART1	314150	3925150	0.00151	3.0E-04	1.50E-07	0.15
187		UCART1	315350	3924150	0.00151	3.0E-04	1.49E-07	0.15
260		UCART1	315150	3924550	0.00150	3.0E-04	1.49E-07	0.15
221		UCART1	315250	3924350	0.00149	3.0E-04	1.48E-07	0.15
357		UCART1	314450	3925050	0.00148	3.0E-04	1.46E-07	0.15
322		UCART1	314850	3924850	0.00146	2.9E-04	1.44E-07	0.14
372		UCART1	314250	3925150	0.00145	2.9E-04	1.44E-07	0.14
145		UCART1	315550	3923850	0.00144	2.9E-04	1.43E-07	0.14
373		UCART1	314350	3925150	0.00144	2.9E-04	1.42E-07	0.14
159		UCART1	315550	3923950	0.00140	2.8E-04	1.39E-07	0.14
358		UCART1	314550	3925050	0.00140	2.8E-04	1.39E-07	0.14
108		UCART1	315650	3923650	0.00140	2.8E-04	1.38E-07	0.14
202		UCART1	315350	3924250	0.00138	2.8E-04	1.37E-07	0.14
127		UCART1	315650	3923750	0.00134	2.7E-04	1.32E-07	0.13
241		UCART1	315250	3924450	0.00132	2.6E-04	1.31E-07	0.13
342		UCART1	314750	3924950	0.00132	2.6E-04	1.30E-07	0.13
174		UCART1	315550	3924050	0.00131	2.6E-04	1.30E-07	0.13
386		UCART1	314150	3925250	0.00131	2.6E-04	1.30E-07	0.13
374		UCART1	314450	3925150	0.00129	2.6E-04	1.28E-07	0.13
359		UCART1	314650	3925050	0.00128	2.6E-04	1.27E-07	0.13
188		UCART1	315450	3924150	0.00128	2.6E-04	1.26E-07	0.13
387		UCART1	314250	3925250	0.00126	2.5E-04	1.25E-07	0.12
388		UCART1	314350	3925250	0.00125	2.5E-04	1.24E-07	0.12
302		UCART1	315050	3924750	0.00125	2.5E-04	1.24E-07	0.12
146		UCART1	315650	3923850	0.00124	2.5E-04	1.23E-07	0.12
375		UCART1	314550	3925150	0.00123	2.5E-04	1.22E-07	0.12
160		UCART1	315650	3923950	0.00123	2.5E-04	1.21E-07	0.12
280		UCART1	315150	3924650	0.00121	2.4E-04	1.20E-07	0.12
222		UCART1	315350	3924350	0.00118	2.4E-04	1.17E-07	0.12
203		UCART1	315450	3924250	0.00116	2.3E-04	1.15E-07	0.12

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
343		UCART1	314850	3924950	0.00116	2.3E-04	1.14E-07	0.11
323		UCART1	314950	3924850	0.00115	2.3E-04	1.13E-07	0.11
389		UCART1	314450	3925250	0.00115	2.3E-04	1.13E-07	0.11
175		UCART1	315650	3924050	0.00114	2.3E-04	1.13E-07	0.11
376		UCART1	314650	3925150	0.00113	2.3E-04	1.12E-07	0.11
189		UCART1	315550	3924150	0.00112	2.2E-04	1.11E-07	0.11
261		UCART1	315250	3924550	0.00112	2.2E-04	1.11E-07	0.11
400		UCART1	314250	3925350	0.00111	2.2E-04	1.10E-07	0.11
390		UCART1	314550	3925250	0.00111	2.2E-04	1.09E-07	0.11
401		UCART1	314350	3925350	0.00110	2.2E-04	1.08E-07	0.11
161		UCART1	315750	3923950	0.00109	2.2E-04	1.08E-07	0.11
360		UCART1	314750	3925050	0.00106	2.1E-04	1.05E-07	0.10
242		UCART1	315350	3924450	0.00105	2.1E-04	1.04E-07	0.10
223		UCART1	315450	3924350	0.00103	2.1E-04	1.02E-07	0.10
176		UCART1	315750	3924050	0.00103	2.1E-04	1.02E-07	0.10
391		UCART1	314650	3925250	0.00102	2.0E-04	1.01E-07	0.10
190		UCART1	315650	3924150	0.00101	2.0E-04	9.97E-08	0.10
204		SCHOOL	315550	3924250	0.00100	2.0E-04	9.92E-08	0.10
324		UCART1	315050	3924850	0.00099	2.0E-04	9.84E-08	0.10
361		UCART1	314850	3925050	0.00099	2.0E-04	9.77E-08	0.10
303		UCART1	315150	3924750	0.00098	2.0E-04	9.67E-08	0.10
402		UCART1	314450	3925350	0.00097	1.9E-04	9.59E-08	0.10
262		UCART1	315350	3924550	0.00097	1.9E-04	9.58E-08	0.10
281		UCART1	315250	3924650	0.00097	1.9E-04	9.56E-08	0.10
377		UCART1	314750	3925150	0.00094	1.9E-04	9.35E-08	0.09
344		UCART1	314950	3924950	0.00094	1.9E-04	9.31E-08	0.09
243		UCART1	315450	3924450	0.00093	1.9E-04	9.23E-08	0.09
403		UCART1	314550	3925350	0.00093	1.9E-04	9.23E-08	0.09
191		UCART1	315750	3924150	0.00092	1.8E-04	9.10E-08	0.09
392		UCART1	314750	3925250	0.00090	1.8E-04	8.92E-08	0.09
224		UCART1	315550	3924350	0.00089	1.8E-04	8.81E-08	0.09
412		UCART1	314450	3925450	0.00088	1.8E-04	8.69E-08	0.09
325		UCART1	315150	3924850	0.00087	1.7E-04	8.62E-08	0.09
378		UCART1	314850	3925150	0.00087	1.7E-04	8.59E-08	0.09
263		UCART1	315450	3924550	0.00087	1.7E-04	8.57E-08	0.09
404		UCART1	314650	3925350	0.00087	1.7E-04	8.57E-08	0.09
304		UCART1	315250	3924750	0.00086	1.7E-04	8.50E-08	0.09
345		UCART1	315050	3924950	0.00085	1.7E-04	8.44E-08	0.08
205		SCHOOL	315650	3924250	0.00085	1.7E-04	8.43E-08	0.08
282		UCART1	315350	3924650	0.00084	1.7E-04	8.31E-08	0.08
362		UCART1	314950	3925050	0.00083	1.7E-04	8.21E-08	0.08
413		UCART1	314550	3925450	0.00083	1.7E-04	8.19E-08	0.08
225		UCART1	315650	3924350	0.00080	1.6E-04	7.94E-08	0.08
244		UCART1	315550	3924450	0.00080	1.6E-04	7.89E-08	0.08
405		UCART1	314750	3925350	0.00079	1.6E-04	7.85E-08	0.08
346		UCART1	315150	3924950	0.00077	1.5E-04	7.67E-08	0.08
414		UCART1	314650	3925450	0.00077	1.5E-04	7.61E-08	0.08
305		UCART1	315350	3924750	0.00077	1.5E-04	7.58E-08	0.08
363		UCART1	315050	3925050	0.00076	1.5E-04	7.57E-08	0.08
326		UCART1	315250	3924850	0.00076	1.5E-04	7.54E-08	0.08
283		UCART1	315450	3924650	0.00076	1.5E-04	7.53E-08	0.08
379		UCART1	314950	3925150	0.00076	1.5E-04	7.51E-08	0.08
206		UCART1	315750	3924250	0.00076	1.5E-04	7.48E-08	0.07

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
226		UCART1	315750	3924350	0.00075	1.5E-04	7.47E-08	0.07
393		UCART1	314850	3925250	0.00075	1.5E-04	7.44E-08	0.07
264		UCART1	315550	3924550	0.00075	1.5E-04	7.39E-08	0.07
245		UCART1	315650	3924450	0.00074	1.5E-04	7.32E-08	0.07
415		UCART1	314750	3925450	0.00073	1.5E-04	7.24E-08	0.07
284		UCART1	315550	3924650	0.00072	1.4E-04	7.17E-08	0.07
306		UCART1	315450	3924750	0.00072	1.4E-04	7.08E-08	0.07
265		UCART1	315650	3924550	0.00071	1.4E-04	7.06E-08	0.07
347		UCART1	315250	3924950	0.00070	1.4E-04	6.95E-08	0.07
246		UCART1	315750	3924450	0.00070	1.4E-04	6.90E-08	0.07
394		UCART1	314950	3925250	0.00070	1.4E-04	6.90E-08	0.07
364		UCART1	315150	3925050	0.00069	1.4E-04	6.86E-08	0.07
327		UCART1	315350	3924850	0.00069	1.4E-04	6.79E-08	0.07
406		UCART1	314850	3925350	0.00068	1.4E-04	6.71E-08	0.07
285		UCART1	315650	3924650	0.00067	1.3E-04	6.67E-08	0.07
380		UCART1	315050	3925150	0.00067	1.3E-04	6.59E-08	0.07
328		UCART1	315450	3924850	0.00066	1.3E-04	6.55E-08	0.07
407		UCART1	314950	3925350	0.00066	1.3E-04	6.55E-08	0.07
395		UCART1	315050	3925250	0.00065	1.3E-04	6.43E-08	0.06
307		UCART1	315550	3924750	0.00065	1.3E-04	6.41E-08	0.06
416		UCART1	314850	3925450	0.00064	1.3E-04	6.39E-08	0.06
365		UCART1	315250	3925050	0.00064	1.3E-04	6.36E-08	0.06
348		UCART1	315350	3924950	0.00064	1.3E-04	6.30E-08	0.06
266		UCART1	315750	3924550	0.00063	1.3E-04	6.26E-08	0.06
381		UCART1	315150	3925150	0.00062	1.2E-04	6.17E-08	0.06
308		UCART1	315650	3924750	0.00062	1.2E-04	6.12E-08	0.06
396		UCART1	315150	3925250	0.00061	1.2E-04	6.07E-08	0.06
329		UCART1	315550	3924850	0.00061	1.2E-04	6.06E-08	0.06
417		UCART1	314950	3925450	0.00060	1.2E-04	5.99E-08	0.06
366		UCART1	315350	3925050	0.00060	1.2E-04	5.97E-08	0.06
408		UCART1	315050	3925350	0.00060	1.2E-04	5.96E-08	0.06
286		UCART1	315750	3924650	0.00060	1.2E-04	5.90E-08	0.06
349		UCART1	315450	3924950	0.00059	1.2E-04	5.87E-08	0.06
350		UCART1	315550	3924950	0.00058	1.2E-04	5.77E-08	0.06
382		UCART1	315250	3925150	0.00058	1.2E-04	5.77E-08	0.06
309		UCART1	315750	3924750	0.00058	1.2E-04	5.69E-08	0.06
397		UCART1	315250	3925250	0.00057	1.1E-04	5.66E-08	0.06
418		UCART1	315050	3925450	0.00057	1.1E-04	5.62E-08	0.06
330		UCART1	315650	3924850	0.00056	1.1E-04	5.53E-08	0.06
367		UCART1	315450	3925050	0.00055	1.1E-04	5.48E-08	0.05
398		UCART1	315350	3925250	0.00055	1.1E-04	5.42E-08	0.05
410		UCART1	315250	3925350	0.00054	1.1E-04	5.39E-08	0.05
383		UCART1	315350	3925150	0.00054	1.1E-04	5.36E-08	0.05
419		UCART1	315150	3925450	0.00053	1.1E-04	5.22E-08	0.05
331		UCART1	315750	3924850	0.00052	1.0E-04	5.17E-08	0.05
384		UCART1	315450	3925150	0.00052	1.0E-04	5.16E-08	0.05
368		UCART1	315550	3925050	0.00052	1.0E-04	5.13E-08	0.05
409		UCART1	315150	3925350	0.00052	1.0E-04	5.13E-08	0.05
369		UCART1	315650	3925050	0.00052	1.0E-04	5.13E-08	0.05
351		UCART1	315650	3924950	0.00052	1.0E-04	5.13E-08	0.05
411		UCART1	315350	3925350	0.00050	1.0E-04	4.96E-08	0.05
385		UCART1	315550	3925150	0.00048	9.6E-05	4.76E-08	0.05
420		UCART1	315250	3925450	0.00046	9.3E-05	4.59E-08	0.05

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
399		UCART1	315450	3925250	0.00044	8.9E-05	4.39E-08	0.04

Airport Commerce Center Industrial Project

Operational HRA - Unmitigated
HARP ADMRT Results — DPM

Executive Summary — Key Receptors

Coordinate system: NAD83 / UTM Zone 11 N (meters)
Rows shown are the receptors with non-blank **ID** values (e.g., MEIR, MEIW, ONSITE-MEIR).

Scenario	REC	ID	GROUP	UTM Easting (m)	UTM Northing (m)	CONC	Chronic HI	Cancer Risk	Risk Per Million
Resident	14	CAU-1	RES	313950	3923250	0.00757	1.5E-03	7.95E-06	7.95
Resident	15	CAU-2	RES	314050	3923250	0.00812	1.6E-03	8.52E-06	8.52
Resident	1	CAU-3	RES	314050	3923150	0.00735	1.5E-03	7.72E-06	7.72
Resident	12	CAU-4	RES	313750	3923250	0.00621	1.2E-03	6.52E-06	6.52
Resident	13	CAU-5	RES	313850	3923250	0.00691	1.4E-03	7.26E-06	7.26
Resident	441	MEIR	RES	314959	3923771	0.01694	3.4E-03	1.78E-05	17.78
Worker	140	MEIW	UCART1	314650	3923850	0.05996	1.2E-02	5.94E-06	5.94

Scenario inputs — sources & emissions

Pollutant: DPM (PolID 9901)

Sources & emissions (from IMPORTEMS)

Source	AnnualEms	MaxHrEms	MWAF	PolAbbrev
DOCK1	2.660	0	1	DieselExhPM
DOCK2	1.570	0	1	DieselExhPM
DOCK3	1.460	0	1	DieselExhPM
DOCK4_NE	2.300	0	1	DieselExhPM
DOCK4_NW	2.300	0	1	DieselExhPM
DOCK4_SW	2.300	0	1	DieselExhPM
DOCK4_SE	2.300	0	1	DieselExhPM
ONSITE	3.230	0	1	DieselExhPM
OFFSITE1	18.950	0	1	DieselExhPM
OFFSITE2	6.320	0	1	DieselExhPM
TRU4_SE	67.470	0	1	DieselExhPM
TRU4_SW	67.470	0	1	DieselExhPM
EGEN1	0.724	0	1	DieselExhPM
EGEN2	0.724	0	1	DieselExhPM
EGEN3	0.724	0	1	DieselExhPM
EGEN4-1	0.724	0	1	DieselExhPM
EGEN4-2	0.724	0	1	DieselExhPM
EGEN4-3	4.748	0	1	DieselExhPM

Source → plot-file mapping (from IMPORTPLOT)

Source	PE_PLT_BASENAME	HR1_PLT_BASENAME
DOCK1	DOCK1_PE.PLT	DOCK1_01.PLT
DOCK2	DOCK2_PE.PLT	DOCK2_01.PLT
DOCK3	DOCK3_PE.PLT	DOCK3_01.PLT
DOCK4_NE	DOCK4NE_01.PLT	DOCK4NE_01.PLT
DOCK4_NW	DOCK4NW_PE.PLT	DOCK4NW_01.PLT
DOCK4_SW	DOCK4SW_PE.PLT	DOCK4SW_01.PLT
DOCK4_SE	DOCK4SE_PE.PLT	DOCK4SE_01.PLT
ONSITE	ONSITE_PE.PLT	ONSITE_01.PLT
OFFSITE1	OFFSITE1_PE.PLT	OFFSITE1_01.PLT
OFFSITE2	OFFSITE2_PE.PLT	OFFSITE2_01.PLT
TRU4_SE	TRU4SE_PE.PLT	TRU4SE_01.PLT
TRU4_SW	TRU4SW_PE.PLT	TRU4SW_01.PLT
EGEN1	EGEN1_PE.PLT	EGEN1_01.PLT
EGEN2	EGEN2_PE.PLT	EGEN2_01.PLT
EGEN3	EGEN3_PE.PLT	EGEN3_01.PLT
EGEN4-1	EGEN4_1_PE.PLT	EGEN4_1_01.PLT
EGEN4-2	EGEN4_2_PE.PLT	EGEN4_2_01.PLT
EGEN4-3	EGEN4_3_PE.PLT	EGEN4_3_01.PLT

Scenario: Resident

- Receptors: Receptors.csv
- ResidentHRAInput.hra
- ResidentOutput.txt
- ResidentCancerRisk.csv
- ResidentCancerRiskSumByRec.csv

Scenario: Worker

- Receptors: Receptors.csv
- WorkerHRAInput.hra
- WorkerOutput.txt
- WorkerCancerRisk.csv
- WorkerCancerRiskSumByRec.csv

Project Summary Report

HARP Project Summary Report 5/8/2026 5:08:55 AM

PROJECT INFORMATION
HARP Version: 22118
Project Name: HARPOpsUNMIT2
Project Output Directory: F:\Jobs\59010001\OpHRA\HARPOpsUNMIT2
HARP Database: NA

FACILITY INFORMATION
Origin
X (m):0
Y (m):0
Zone:1
No. of Sources:0
No. of Buildings:0

EMISSION INVENTORY
No. of Pollutants:18
No. of Background Pollutants:0

Emissions

ScrID	StkID	ProID	PolID	PolAbbrev	Multi	Annual Ems (lbs/yr)	MaxHr Ems (lbs/hr)	MWAF
DOCK1	0	0	9901	DieselExhPM	1	2.66	0	1
DOCK2	0	0	9901	DieselExhPM	1	1.57	0	1
DOCK3	0	0	9901	DieselExhPM	1	1.46	0	1
DOCK4_NE	0	0	9901	DieselExhPM	1	2.3	0	1
DOCK4_NW	0	0	9901	DieselExhPM	1	2.3	0	1
DOCK4_SW	0	0	9901	DieselExhPM	1	2.3	0	1
DOCK4_SE	0	0	9901	DieselExhPM	1	2.3	0	1
ONSITE	0	0	9901	DieselExhPM	1	3.23	0	1
OFFSITE1	0	0	9901	DieselExhPM	1	18.95	0	1
OFFSITE2	0	0	9901	DieselExhPM	1	6.32	0	1
TRU4_SE	0	0	9901	DieselExhPM	1	67.47	0	1
TRU4_SW	0	0	9901	DieselExhPM	1	67.47	0	1
EGEN1	0	0	9901	DieselExhPM	1	0.724	0	1
EGEN2	0	0	9901	DieselExhPM	1	0.724	0	1
EGEN3	0	0	9901	DieselExhPM	1	0.724	0	1
EGEN4-1	0	0	9901	DieselExhPM	1	0.724	0	1
EGEN4-2	0	0	9901	DieselExhPM	1	0.724	0	1
EGEN4-3	0	0	9901	DieselExhPM	1	4.748	0	1

Background

PolID	PolAbbrev	Conc (ug/m^3)	MWAF

Ground level concentration files (\glc\)

9901MAXHR.txt
9901PER.txt

POLLUTANT HEALTH INFORMATION
Health Database: C:\HARP2\Tables\HEALTH17320.mdb
Health Table Version: HEALTH25268
Official: True

PolID	PolAbbrev	InhCancer	OralCancer	AcuteREL	InhChronicREL	OralChronicREL	InhChronic8HRREL
9901	DieselExhPM	1.1			5		

LIST OF RISK ASSESSMENT FILES
Health risk analysis files (\hra\)

ResidentCancerRisk.csv
ResidentCancerRiskSumByRec.csv
ResidentGLCList.csv
ResidentHRAInput.hra
ResidentOutput.txt
ResidentPathwayRec.csv
ResidentPolDB.csv
WorkerCancerRisk.csv
WorkerCancerRiskSumByRec.csv
WorkerGLCList.csv
WorkerHRAInput.hra
WorkerOutput.txt
WorkerPathwayRec.csv
WorkerPolDB.csv

Spatial averaging files (\sa\)

Scenario inputs — sources & emissions

Pollutant: Diesel PM

Scenario: Resident

Exposure Inputs / Scenario Output

```
HARP2 - HRACalc (dated 22118) 5/8/2026 5:08:39 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: Derived

**********
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 70

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 0
16 to 70 Years Bin: 54

**********
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments.  The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********
INHALATION

Daily breathing rate: LongTerm24HR

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO

**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

**********
```

```
TIER 2 SETTINGS
Tier2 not used.

*********************************

Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: F:\Jobs\59010001\OpHRA\HARPOpsUNMIT2\hra\ResidentCancerRisk.csv
Cancer risk total by receptor saved to: F:\Jobs\59010001\OpHRA\HARPOpsUNMIT2\hra\ResidentCancerRiskSumByRec.csv
HRA ran successfully
```

Scenario: Resident — Pollutant: DieselExhPM (REL = 5 µg/m³)

DPM Summary by Receptor (inhalation only)

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
441	MEIR	RES	314959	3923771	0.01694	3.4E-03	1.78E-05	17.78
443		RES	314962	3923753	0.01632	3.3E-03	1.71E-05	17.13
445		RES	314959	3923730	0.01589	3.2E-03	1.67E-05	16.67
447		RES	314958	3923714	0.01584	3.2E-03	1.66E-05	16.62
449		RES	314958	3923690	0.01570	3.1E-03	1.65E-05	16.48
442		RES	314988	3923770	0.01569	3.1E-03	1.65E-05	16.47
451		RES	314959	3923672	0.01548	3.1E-03	1.62E-05	16.24
444		RES	314988	3923749	0.01532	3.1E-03	1.61E-05	16.08
453		RES	314959	3923652	0.01513	3.0E-03	1.59E-05	15.88
446		RES	314988	3923730	0.01492	3.0E-03	1.57E-05	15.66
455		RES	314959	3923633	0.01474	2.9E-03	1.55E-05	15.47
448		RES	314986	3923712	0.01473	2.9E-03	1.55E-05	15.46
450		RES	314985	3923689	0.01472	2.9E-03	1.54E-05	15.45
452		RES	314987	3923674	0.01462	2.9E-03	1.53E-05	15.35
454		RES	314984	3923651	0.01456	2.9E-03	1.53E-05	15.29
456		RES	314984	3923632	0.01429	2.9E-03	1.50E-05	15.00
457		RES	314961	3923610	0.01414	2.8E-03	1.48E-05	14.85
458		RES	314984	3923610	0.01391	2.8E-03	1.46E-05	14.60
465		RES	315044	3923727	0.01325	2.6E-03	1.39E-05	13.90
468		RES	315046	3923710	0.01309	2.6E-03	1.37E-05	13.74
462		RES	315049	3923749	0.01306	2.6E-03	1.37E-05	13.71
459		RES	315048	3923768	0.01291	2.6E-03	1.36E-05	13.55
483		RES	315042	3923608	0.01283	2.6E-03	1.35E-05	13.46
480		RES	315043	3923628	0.01283	2.6E-03	1.35E-05	13.46
471		RES	315045	3923686	0.01279	2.6E-03	1.34E-05	13.42
474		RES	315044	3923669	0.01274	2.5E-03	1.34E-05	13.37
477		RES	315044	3923646	0.01273	2.5E-03	1.34E-05	13.36
466		RES	315070	3923726	0.01242	2.5E-03	1.30E-05	13.04
469		RES	315073	3923710	0.01238	2.5E-03	1.30E-05	13.00
472		RES	315071	3923687	0.01229	2.5E-03	1.29E-05	12.89
484		RES	315068	3923608	0.01218	2.4E-03	1.28E-05	12.78
463		RES	315073	3923747	0.01215	2.4E-03	1.28E-05	12.76
475		RES	315071	3923669	0.01206	2.4E-03	1.27E-05	12.66
481		RES	315069	3923628	0.01202	2.4E-03	1.26E-05	12.62
478		RES	315071	3923647	0.01201	2.4E-03	1.26E-05	12.61
460		RES	315075	3923767	0.01179	2.4E-03	1.24E-05	12.38
473		RES	315096	3923686	0.01172	2.3E-03	1.23E-05	12.30
470		RES	315098	3923710	0.01165	2.3E-03	1.22E-05	12.23
467		RES	315097	3923725	0.01155	2.3E-03	1.21E-05	12.12
476		RES	315103	3923668	0.01149	2.3E-03	1.21E-05	12.07
479		RES	315099	3923647	0.01132	2.3E-03	1.19E-05	11.89
485		RES	315101	3923607	0.01130	2.3E-03	1.19E-05	11.86
464		RES	315097	3923746	0.01128	2.3E-03	1.18E-05	11.84
482		RES	315103	3923627	0.01127	2.3E-03	1.18E-05	11.83
422		RES	315087	3923817	0.01111	2.2E-03	1.17E-05	11.66
461		RES	315099	3923765	0.01106	2.2E-03	1.16E-05	11.61
421		RES	315087	3923842	0.01104	2.2E-03	1.16E-05	11.59
423		RES	315108	3923839	0.01050	2.1E-03	1.10E-05	11.02
424		RES	315106	3923815	0.01046	2.1E-03	1.10E-05	10.98
498		RES	315157	3923650	0.01043	2.1E-03	1.10E-05	10.95

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
496		RES	315159	3923668	0.01035	2.1E-03	1.09E-05	10.86
494		RES	315160	3923690	0.01012	2.0E-03	1.06E-05	10.62
492		RES	315160	3923707	0.00987	2.0E-03	1.04E-05	10.36
488		RES	315160	3923744	0.00977	2.0E-03	1.03E-05	10.25
490		RES	315159	3923725	0.00976	2.0E-03	1.02E-05	10.24
497		RES	315188	3923667	0.00969	1.9E-03	1.02E-05	10.17
486		RES	315161	3923766	0.00958	1.9E-03	1.01E-05	10.06
495		RES	315188	3923685	0.00947	1.9E-03	9.94E-06	9.94
425		RES	315175	3923920	0.00942	1.9E-03	9.88E-06	9.88
491		RES	315185	3923728	0.00936	1.9E-03	9.83E-06	9.83
493		RES	315181	3923707	0.00936	1.9E-03	9.82E-06	9.82
432		RES	315164	3923825	0.00931	1.9E-03	9.77E-06	9.77
435		RES	315164	3923806	0.00928	1.9E-03	9.74E-06	9.74
440		RES	315162	3923784	0.00926	1.9E-03	9.72E-06	9.72
489		RES	315186	3923745	0.00924	1.8E-03	9.70E-06	9.70
429		RES	315168	3923847	0.00909	1.8E-03	9.54E-06	9.54
487		RES	315184	3923767	0.00903	1.8E-03	9.47E-06	9.47
436		RES	315190	3923808	0.00890	1.8E-03	9.35E-06	9.35
511		RES	315220	3923697	0.00881	1.8E-03	9.25E-06	9.25
438		RES	315189	3923787	0.00879	1.8E-03	9.22E-06	9.22
433		RES	315192	3923827	0.00878	1.8E-03	9.21E-06	9.21
509		RES	315223	3923713	0.00878	1.8E-03	9.21E-06	9.21
426		RES	315215	3923917	0.00877	1.8E-03	9.20E-06	9.20
430		RES	315190	3923847	0.00858	1.7E-03	9.00E-06	9.00
507		RES	315225	3923735	0.00857	1.7E-03	9.00E-06	9.00
510		RES	315243	3923714	0.00846	1.7E-03	8.88E-06	8.88
499		RES	315223	3923806	0.00839	1.7E-03	8.80E-06	8.80
501		RES	315225	3923787	0.00838	1.7E-03	8.79E-06	8.79
505		RES	315223	3923752	0.00835	1.7E-03	8.76E-06	8.76
503		RES	315224	3923771	0.00828	1.7E-03	8.69E-06	8.69
437		RES	315222	3923826	0.00822	1.6E-03	8.62E-06	8.62
508		RES	315244	3923735	0.00820	1.6E-03	8.60E-06	8.60
502		RES	315247	3923787	0.00813	1.6E-03	8.54E-06	8.54
15	CAU-2	RES	314050	3923250	0.00812	1.6E-03	8.52E-06	8.52
504		RES	315246	3923770	0.00811	1.6E-03	8.51E-06	8.51
427		RES	315258	3923917	0.00810	1.6E-03	8.50E-06	8.50
500		RES	315246	3923805	0.00805	1.6E-03	8.45E-06	8.45
506		RES	315246	3923752	0.00801	1.6E-03	8.41E-06	8.41
431		RES	315222	3923845	0.00796	1.6E-03	8.35E-06	8.35
439		RES	315243	3923824	0.00788	1.6E-03	8.27E-06	8.27
434		RES	315245	3923844	0.00780	1.6E-03	8.19E-06	8.19
14	CAU-1	RES	313950	3923250	0.00757	1.5E-03	7.95E-06	7.95
428		RES	315295	3923916	0.00741	1.5E-03	7.78E-06	7.78
1	CAU-3	RES	314050	3923150	0.00735	1.5E-03	7.72E-06	7.72
515		RES	315324	3923988	0.00698	1.4E-03	7.33E-06	7.33
13	CAU-5	RES	313850	3923250	0.00691	1.4E-03	7.26E-06	7.26
514		RES	315329	3923971	0.00690	1.4E-03	7.24E-06	7.24
513		RES	315320	3923947	0.00682	1.4E-03	7.16E-06	7.16
512		RES	315327	3923924	0.00679	1.4E-03	7.13E-06	7.13
516		RES	315328	3924010	0.00675	1.4E-03	7.09E-06	7.09
518		RES	315334	3924045	0.00668	1.3E-03	7.01E-06	7.01
517		RES	315327	3924030	0.00667	1.3E-03	7.00E-06	7.00
519		RES	315332	3924059	0.00664	1.3E-03	6.97E-06	6.97

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
520		RES	315332	3924082	0.00641	1.3E-03	6.73E-06	6.73
523		RES	315335	3924135	0.00639	1.3E-03	6.71E-06	6.71
527		RES	315332	3924216	0.00639	1.3E-03	6.70E-06	6.70
528		RES	315337	3924229	0.00638	1.3E-03	6.69E-06	6.69
524		RES	315337	3924160	0.00637	1.3E-03	6.69E-06	6.69
530		RES	315338	3924237	0.00635	1.3E-03	6.66E-06	6.66
525		RES	315336	3924169	0.00633	1.3E-03	6.64E-06	6.64
522		RES	315334	3924124	0.00631	1.3E-03	6.63E-06	6.63
529		RES	315339	3924245	0.00630	1.3E-03	6.61E-06	6.61
531		RES	315336	3924251	0.00626	1.3E-03	6.57E-06	6.57
521		RES	315332	3924098	0.00621	1.2E-03	6.52E-06	6.52
12	CAU-4	RES	313750	3923250	0.00621	1.2E-03	6.52E-06	6.52
526		RES	315335	3924193	0.00618	1.2E-03	6.49E-06	6.49
532		RES	315338	3924270	0.00601	1.2E-03	6.31E-06	6.31
533		RES	315338	3924291	0.00563	1.1E-03	5.91E-06	5.91
539		RES	315346	3924424	0.00510	1.0E-03	5.36E-06	5.36
538		RES	315344	3924408	0.00507	1.0E-03	5.32E-06	5.32
534		RES	315346	3924327	0.00505	1.0E-03	5.30E-06	5.30
537		RES	315343	3924385	0.00492	9.8E-04	5.16E-06	5.16
535		RES	315340	3924344	0.00481	9.6E-04	5.04E-06	5.04
540		RES	315346	3924466	0.00480	9.6E-04	5.04E-06	5.04
536		RES	315340	3924369	0.00476	9.5E-04	4.99E-06	4.99
542		RES	315352	3924503	0.00474	9.5E-04	4.98E-06	4.98
543		RES	315350	3924518	0.00470	9.4E-04	4.93E-06	4.93
541		RES	315349	3924479	0.00468	9.4E-04	4.91E-06	4.91
544		RES	315355	3924540	0.00449	9.0E-04	4.71E-06	4.71
545		RES	315356	3924578	0.00435	8.7E-04	4.56E-06	4.56

Scenario: Worker

Exposure Inputs / Scenario Output

```
HARP2 - HRACalc (dated 22118) 5/8/2026 5:11:58 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
**********
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: Cancer
Calculation Method: Derived

**********
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 16
Total Exposure Duration: 40

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 40

**********
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments.  The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

**********
INHALATION

Daily breathing rate: Moderate8HR

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO

**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

**********
```

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: F:\Jobs\59010001\OpHRA\HARPOpsUNMIT2\hra\WorkerCancerRisk.csv
Cancer risk total by receptor saved to: F:\Jobs\59010001\OpHRA\HARPOpsUNMIT2\hra\WorkerCancerRiskSumByRec.csv
HRA ran successfully

Scenario: Worker — Pollutant: DieselExhPM (REL = 5 µg/m³)

DPM Summary by Receptor (inhalation only)

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
140	MEIW	UCART1	314650	3923850	0.05996	1.2E-02	5.94E-06	5.94
139		UCART1	314550	3923850	0.05217	1.0E-02	5.17E-06	5.17
138		UCART1	314450	3923850	0.04602	9.2E-03	4.56E-06	4.56
137		UCART1	314350	3923850	0.04139	8.3E-03	4.10E-06	4.10
141		UCART1	314750	3923850	0.03604	7.2E-03	3.57E-06	3.57
136		UCART1	314250	3923850	0.03329	6.7E-03	3.30E-06	3.30
120		UCART1	314550	3923750	0.03220	6.4E-03	3.19E-06	3.19
119		UCART1	314450	3923750	0.03066	6.1E-03	3.04E-06	3.04
121		UCART1	314650	3923750	0.03026	6.1E-03	3.00E-06	3.00
118		UCART1	314350	3923750	0.02743	5.5E-03	2.72E-06	2.72
122		UCART1	314750	3923750	0.02629	5.3E-03	2.60E-06	2.60
153		UCART1	314050	3923950	0.02603	5.2E-03	2.58E-06	2.58
142		UCART1	314850	3923850	0.02600	5.2E-03	2.57E-06	2.57
135		UCART1	314150	3923850	0.02547	5.1E-03	2.52E-06	2.52
168		UCART1	314050	3924050	0.02537	5.1E-03	2.51E-06	2.51
183		UCART1	314050	3924150	0.02381	4.8E-03	2.36E-06	2.36
152		UCART1	313950	3923950	0.02265	4.5E-03	2.24E-06	2.24
198		UCART1	314050	3924250	0.02255	4.5E-03	2.23E-06	2.23
101		UCART1	314650	3923650	0.02235	4.5E-03	2.21E-06	2.21
134		UCART1	314050	3923850	0.02217	4.4E-03	2.20E-06	2.20
100		UCART1	314550	3923650	0.02212	4.4E-03	2.19E-06	2.19
117		UCART1	314250	3923750	0.02145	4.3E-03	2.12E-06	2.12
99		UCART1	314450	3923650	0.02140	4.3E-03	2.12E-06	2.12
123		UCART1	314850	3923750	0.02137	4.3E-03	2.12E-06	2.12
214		UCART1	314150	3924350	0.02106	4.2E-03	2.09E-06	2.09
215		UCART1	314250	3924350	0.02077	4.2E-03	2.06E-06	2.06
151		UCART1	313850	3923950	0.02076	4.2E-03	2.06E-06	2.06
548		NON-RES	314280	3923708	0.02066	4.1E-03	2.05E-06	2.05
102		UCART1	314750	3923650	0.02049	4.1E-03	2.03E-06	2.03
98		UCART1	314350	3923650	0.02022	4.0E-03	2.00E-06	2.00
167		UCART1	313950	3924050	0.01995	4.0E-03	1.98E-06	1.98
150		UCART1	313750	3923950	0.01993	4.0E-03	1.97E-06	1.97
216		UCART1	314350	3924350	0.01971	3.9E-03	1.95E-06	1.95
213		UCART1	314050	3924350	0.01945	3.9E-03	1.93E-06	1.93
182		UCART1	313950	3924150	0.01940	3.9E-03	1.92E-06	1.92
133		UCART1	313950	3923850	0.01927	3.9E-03	1.91E-06	1.91
549		NON-RES	314624	3923582	0.01903	3.8E-03	1.88E-06	1.88
217		UCART1	314450	3924350	0.01865	3.7E-03	1.85E-06	1.85
149		UCART1	313650	3923950	0.01854	3.7E-03	1.84E-06	1.84
197		UCART1	313950	3924250	0.01843	3.7E-03	1.82E-06	1.82
550		NON-RES	314388	3923589	0.01817	3.6E-03	1.80E-06	1.80
103		UCART1	314850	3923650	0.01792	3.6E-03	1.77E-06	1.77
79		UCART1	314650	3923550	0.01779	3.6E-03	1.76E-06	1.76
132		UCART1	313850	3923850	0.01755	3.5E-03	1.74E-06	1.74
218		UCART1	314550	3924350	0.01752	3.5E-03	1.73E-06	1.73
234		UCART1	314150	3924450	0.01713	3.4E-03	1.70E-06	1.70
116		UCART1	314150	3923750	0.01707	3.4E-03	1.69E-06	1.69
97		UCART1	314250	3923650	0.01686	3.4E-03	1.67E-06	1.67
212		UCART1	313950	3924350	0.01681	3.4E-03	1.66E-06	1.66
166		UCART1	313850	3924050	0.01680	3.4E-03	1.66E-06	1.66

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
80		UCART1	314750	3923550	0.01673	3.3E-03	1.66E-06	1.66
77		UCART1	314450	3923550	0.01668	3.3E-03	1.65E-06	1.65
78		UCART1	314550	3923550	0.01665	3.3E-03	1.65E-06	1.65
76		UCART1	314350	3923550	0.01656	3.3E-03	1.64E-06	1.64
148		UCART1	313550	3923950	0.01655	3.3E-03	1.64E-06	1.64
131		UCART1	313750	3923850	0.01655	3.3E-03	1.64E-06	1.64
181		UCART1	313850	3924150	0.01643	3.3E-03	1.63E-06	1.63
147		UCART1	313450	3923950	0.01630	3.3E-03	1.61E-06	1.61
196		UCART1	313850	3924250	0.01607	3.2E-03	1.59E-06	1.59
547		NON-RES	314152	3923719	0.01591	3.2E-03	1.58E-06	1.58
551		NON-RES	314278	3923589	0.01573	3.1E-03	1.56E-06	1.56
81		UCART1	314850	3923550	0.01569	3.1E-03	1.55E-06	1.55
236		UCART1	314350	3924450	0.01565	3.1E-03	1.55E-06	1.55
211		UCART1	313850	3924350	0.01563	3.1E-03	1.55E-06	1.55
235		UCART1	314250	3924450	0.01557	3.1E-03	1.54E-06	1.54
130		UCART1	313650	3923850	0.01539	3.1E-03	1.52E-06	1.52
233		UCART1	314050	3924450	0.01533	3.1E-03	1.52E-06	1.52
165		UCART1	313750	3924050	0.01493	3.0E-03	1.48E-06	1.48
58		UCART1	314650	3923450	0.01485	3.0E-03	1.47E-06	1.47
115		UCART1	314050	3923750	0.01473	2.9E-03	1.46E-06	1.46
231		UCART1	313850	3924450	0.01463	2.9E-03	1.45E-06	1.45
546		NON-RES	314074	3923738	0.01458	2.9E-03	1.44E-06	1.44
180		UCART1	313750	3924150	0.01454	2.9E-03	1.44E-06	1.44
59		UCART1	314750	3923450	0.01452	2.9E-03	1.44E-06	1.44
57		UCART1	314550	3923450	0.01452	2.9E-03	1.44E-06	1.44
195		UCART1	313750	3924250	0.01451	2.9E-03	1.44E-06	1.44
75		UCART1	314250	3923550	0.01450	2.9E-03	1.44E-06	1.44
55		UCART1	314350	3923450	0.01442	2.9E-03	1.43E-06	1.43
56		UCART1	314450	3923450	0.01437	2.9E-03	1.42E-06	1.42
129		UCART1	313550	3923850	0.01436	2.9E-03	1.42E-06	1.42
232		UCART1	313950	3924450	0.01432	2.9E-03	1.42E-06	1.42
237		UCART1	314450	3924450	0.01429	2.9E-03	1.41E-06	1.41
210		UCART1	313750	3924350	0.01422	2.8E-03	1.41E-06	1.41
254		UCART1	314150	3924550	0.01412	2.8E-03	1.40E-06	1.40
238		UCART1	314550	3924450	0.01411	2.8E-03	1.40E-06	1.40
82		UCART1	314950	3923550	0.01396	2.8E-03	1.38E-06	1.38
114		UCART1	313950	3923750	0.01389	2.8E-03	1.38E-06	1.38
96		UCART1	314150	3923650	0.01389	2.8E-03	1.37E-06	1.38
164		UCART1	313650	3924050	0.01374	2.7E-03	1.36E-06	1.36
60		UCART1	314850	3923450	0.01362	2.7E-03	1.35E-06	1.35
253		UCART1	314050	3924550	0.01345	2.7E-03	1.33E-06	1.33
230		UCART1	313750	3924450	0.01342	2.7E-03	1.33E-06	1.33
256		UCART1	314350	3924550	0.01332	2.7E-03	1.32E-06	1.32
255		UCART1	314250	3924550	0.01322	2.6E-03	1.31E-06	1.31
179		UCART1	313650	3924150	0.01319	2.6E-03	1.31E-06	1.31
552		NON-RES	314193	3923588	0.01317	2.6E-03	1.30E-06	1.30
40		UCART1	314750	3923350	0.01315	2.6E-03	1.30E-06	1.30
194		UCART1	313650	3924250	0.01309	2.6E-03	1.30E-06	1.30
61		UCART1	314950	3923450	0.01281	2.6E-03	1.27E-06	1.27
252		UCART1	313950	3924550	0.01281	2.6E-03	1.27E-06	1.27
36		UCART1	314350	3923350	0.01277	2.6E-03	1.26E-06	1.26
113		UCART1	313850	3923750	0.01276	2.6E-03	1.26E-06	1.26
39		UCART1	314650	3923350	0.01275	2.5E-03	1.26E-06	1.26

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
163		UCART1	313550	3924050	0.01272	2.5E-03	1.26E-06	1.26
276		UCART1	314350	3924650	0.01271	2.5E-03	1.26E-06	1.26
37		UCART1	314450	3923350	0.01266	2.5E-03	1.25E-06	1.25
154		UCART1	315050	3923950	0.01262	2.5E-03	1.25E-06	1.25
38		UCART1	314550	3923350	0.01261	2.5E-03	1.25E-06	1.25
54		UCART1	314250	3923450	0.01260	2.5E-03	1.25E-06	1.25
257		UCART1	314450	3924550	0.01247	2.5E-03	1.24E-06	1.24
229		UCART1	313650	3924450	0.01246	2.5E-03	1.23E-06	1.23
128		UCART1	313450	3923850	0.01240	2.5E-03	1.23E-06	1.23
112		UCART1	313750	3923750	0.01234	2.5E-03	1.22E-06	1.22
251		UCART1	313850	3924550	0.01233	2.5E-03	1.22E-06	1.22
209		UCART1	313650	3924350	0.01231	2.5E-03	1.22E-06	1.22
74		UCART1	314150	3923550	0.01222	2.4E-03	1.21E-06	1.21
41		UCART1	314850	3923350	0.01219	2.4E-03	1.21E-06	1.21
273		UCART1	314050	3924650	0.01217	2.4E-03	1.20E-06	1.20
274		UCART1	314150	3924650	0.01216	2.4E-03	1.20E-06	1.20
250		UCART1	313750	3924550	0.01215	2.4E-03	1.20E-06	1.20
258		UCART1	314550	3924550	0.01211	2.4E-03	1.20E-06	1.20
83		UCART1	315050	3923550	0.01207	2.4E-03	1.20E-06	1.20
95		UCART1	314050	3923650	0.01207	2.4E-03	1.19E-06	1.19
277		UCART1	314450	3924650	0.01207	2.4E-03	1.19E-06	1.19
162		UCART1	313450	3924050	0.01205	2.4E-03	1.19E-06	1.19
193		UCART1	313550	3924250	0.01203	2.4E-03	1.19E-06	1.19
275		UCART1	314250	3924650	0.01197	2.4E-03	1.19E-06	1.19
249		UCART1	313650	3924550	0.01196	2.4E-03	1.18E-06	1.18
169		UCART1	315050	3924050	0.01177	2.4E-03	1.17E-06	1.17
272		UCART1	313950	3924650	0.01167	2.3E-03	1.16E-06	1.16
178		UCART1	313550	3924150	0.01160	2.3E-03	1.15E-06	1.15
228		UCART1	313550	3924450	0.01151	2.3E-03	1.14E-06	1.14
278		UCART1	314550	3924650	0.01150	2.3E-03	1.14E-06	1.14
111		UCART1	313650	3923750	0.01148	2.3E-03	1.14E-06	1.14
62		UCART1	315050	3923450	0.01148	2.3E-03	1.14E-06	1.14
21		UCART1	314650	3923250	0.01148	2.3E-03	1.14E-06	1.14
295		UCART1	314350	3924750	0.01148	2.3E-03	1.14E-06	1.14
22		UCART1	314750	3923250	0.01147	2.3E-03	1.14E-06	1.14
42		UCART1	314950	3923350	0.01146	2.3E-03	1.13E-06	1.13
19		UCART1	314450	3923250	0.01143	2.3E-03	1.13E-06	1.13
18		UCART1	314350	3923250	0.01140	2.3E-03	1.13E-06	1.13
23		UCART1	314850	3923250	0.01131	2.3E-03	1.12E-06	1.12
208		UCART1	313550	3924350	0.01127	2.3E-03	1.12E-06	1.12
293		UCART1	314150	3924750	0.01121	2.2E-03	1.11E-06	1.11
20		UCART1	314550	3923250	0.01120	2.2E-03	1.11E-06	1.11
184		UCART1	315050	3924150	0.01120	2.2E-03	1.11E-06	1.11
271		UCART1	313850	3924650	0.01120	2.2E-03	1.11E-06	1.11
177		UCART1	313450	3924150	0.01110	2.2E-03	1.10E-06	1.10
192		UCART1	313450	3924250	0.01109	2.2E-03	1.10E-06	1.10
35		UCART1	314250	3923350	0.01104	2.2E-03	1.09E-06	1.09
94		UCART1	313950	3923650	0.01103	2.2E-03	1.09E-06	1.09
270		UCART1	313750	3924650	0.01098	2.2E-03	1.09E-06	1.09
294		UCART1	314250	3924750	0.01092	2.2E-03	1.08E-06	1.08
227		UCART1	313450	3924450	0.01085	2.2E-03	1.07E-06	1.07
110		UCART1	313550	3923750	0.01076	2.2E-03	1.07E-06	1.07
292		UCART1	314050	3924750	0.01075	2.1E-03	1.06E-06	1.06

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
24		UCART1	314950	3923250	0.01074	2.1E-03	1.06E-06	1.06
248		UCART1	313550	3924550	0.01073	2.1E-03	1.06E-06	1.06
296		UCART1	314450	3924750	0.01071	2.1E-03	1.06E-06	1.06
93		UCART1	313850	3923650	0.01069	2.1E-03	1.06E-06	1.06
9		UCART1	314850	3923150	0.01062	2.1E-03	1.05E-06	1.05
43		UCART1	315050	3923350	0.01061	2.1E-03	1.05E-06	1.05
7		UCART1	314650	3923150	0.01056	2.1E-03	1.05E-06	1.05
291		UCART1	313950	3924750	0.01056	2.1E-03	1.05E-06	1.05
207		UCART1	313450	3924350	0.01051	2.1E-03	1.04E-06	1.04
8		UCART1	314750	3923150	0.01051	2.1E-03	1.04E-06	1.04
73		UCART1	314050	3923550	0.01048	2.1E-03	1.04E-06	1.04
84		UCART1	315150	3923550	0.01043	2.1E-03	1.03E-06	1.03
53		UCART1	314150	3923450	0.01041	2.1E-03	1.03E-06	1.03
5		UCART1	314450	3923150	0.01041	2.1E-03	1.03E-06	1.03
269		UCART1	313650	3924650	0.01040	2.1E-03	1.03E-06	1.03
290		UCART1	313850	3924750	0.01039	2.1E-03	1.03E-06	1.03
199		UCART1	315050	3924250	0.01033	2.1E-03	1.02E-06	1.02
268		UCART1	313550	3924650	0.01022	2.0E-03	1.01E-06	1.01
247		UCART1	313450	3924550	0.01020	2.0E-03	1.01E-06	1.01
297		UCART1	314550	3924750	0.01015	2.0E-03	1.01E-06	1.01
4		UCART1	314350	3923150	0.01015	2.0E-03	1.00E-06	1.00
6		UCART1	314550	3923150	0.01011	2.0E-03	1.00E-06	1.00
25		UCART1	315050	3923250	0.01003	2.0E-03	9.94E-07	0.99
92		UCART1	313750	3923650	0.00999	2.0E-03	9.89E-07	0.99
267		UCART1	313450	3924650	0.00998	2.0E-03	9.88E-07	0.99
63		UCART1	315150	3923450	0.00997	2.0E-03	9.87E-07	0.99
10		UCART1	314950	3923150	0.00987	2.0E-03	9.77E-07	0.98
289		UCART1	313750	3924750	0.00986	2.0E-03	9.77E-07	0.98
44		UCART1	315150	3923350	0.00978	2.0E-03	9.69E-07	0.97
34		UCART1	314150	3923350	0.00978	2.0E-03	9.68E-07	0.97
298		UCART1	314650	3924750	0.00970	1.9E-03	9.61E-07	0.96
288		UCART1	313650	3924750	0.00967	1.9E-03	9.57E-07	0.96
313		UCART1	313950	3924850	0.00966	1.9E-03	9.57E-07	0.96
109		UCART1	313450	3923750	0.00958	1.9E-03	9.48E-07	0.95
17		UCART1	314250	3923250	0.00957	1.9E-03	9.48E-07	0.95
52		UCART1	314050	3923450	0.00957	1.9E-03	9.48E-07	0.95
155		UCART1	315150	3923950	0.00954	1.9E-03	9.44E-07	0.94
91		UCART1	313650	3923650	0.00942	1.9E-03	9.33E-07	0.93
11		UCART1	315050	3923150	0.00942	1.9E-03	9.32E-07	0.93
312		UCART1	313850	3924850	0.00940	1.9E-03	9.30E-07	0.93
72		UCART1	313950	3923550	0.00940	1.9E-03	9.30E-07	0.93
311		UCART1	313750	3924850	0.00931	1.9E-03	9.22E-07	0.92
315		UCART1	314150	3924850	0.00925	1.8E-03	9.16E-07	0.92
26		UCART1	315150	3923250	0.00918	1.8E-03	9.09E-07	0.91
16		UCART1	314150	3923250	0.00910	1.8E-03	9.01E-07	0.90
64		UCART1	315250	3923450	0.00910	1.8E-03	9.01E-07	0.90
71		UCART1	313850	3923550	0.00906	1.8E-03	8.97E-07	0.90
317		UCART1	314350	3924850	0.00899	1.8E-03	8.91E-07	0.89
33		UCART1	314050	3923350	0.00899	1.8E-03	8.90E-07	0.89
314		UCART1	314050	3924850	0.00895	1.8E-03	8.87E-07	0.89
85		UCART1	315250	3923550	0.00888	1.8E-03	8.79E-07	0.88
310		UCART1	313650	3924850	0.00879	1.8E-03	8.70E-07	0.87
287		UCART1	313550	3924750	0.00878	1.8E-03	8.69E-07	0.87

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
51		UCART1	313950	3923450	0.00873	1.7E-03	8.64E-07	0.86
70		UCART1	313750	3923550	0.00870	1.7E-03	8.62E-07	0.86
170		UCART1	315150	3924050	0.00870	1.7E-03	8.61E-07	0.86
219		UCART1	315050	3924350	0.00869	1.7E-03	8.61E-07	0.86
316		UCART1	314250	3924850	0.00869	1.7E-03	8.61E-07	0.86
90		UCART1	313550	3923650	0.00868	1.7E-03	8.60E-07	0.86
104		UCART1	315250	3923650	0.00858	1.7E-03	8.49E-07	0.85
27		UCART1	315250	3923250	0.00857	1.7E-03	8.49E-07	0.85
3		UCART1	314250	3923150	0.00855	1.7E-03	8.47E-07	0.85
333		UCART1	313850	3924950	0.00853	1.7E-03	8.44E-07	0.84
2		UCART1	314150	3923150	0.00852	1.7E-03	8.43E-07	0.84
45		UCART1	315250	3923350	0.00848	1.7E-03	8.40E-07	0.84
185		UCART1	315150	3924150	0.00841	1.7E-03	8.33E-07	0.83
318		UCART1	314450	3924850	0.00832	1.7E-03	8.24E-07	0.82
89		UCART1	313450	3923650	0.00821	1.6E-03	8.13E-07	0.81
332		UCART1	313750	3924950	0.00818	1.6E-03	8.10E-07	0.81
46		UCART1	315350	3923350	0.00808	1.6E-03	8.01E-07	0.80
319		UCART1	314550	3924850	0.00804	1.6E-03	7.97E-07	0.80
69		UCART1	313650	3923550	0.00800	1.6E-03	7.92E-07	0.79
200		UCART1	315150	3924250	0.00799	1.6E-03	7.92E-07	0.79
334		UCART1	313950	3924950	0.00799	1.6E-03	7.91E-07	0.79
86		UCART1	315350	3923550	0.00787	1.6E-03	7.79E-07	0.78
32		UCART1	313950	3923350	0.00784	1.6E-03	7.76E-07	0.78
65		UCART1	315350	3923450	0.00784	1.6E-03	7.76E-07	0.78
299		UCART1	314750	3924750	0.00784	1.6E-03	7.76E-07	0.78
336		UCART1	314150	3924950	0.00782	1.6E-03	7.74E-07	0.77
338		UCART1	314350	3924950	0.00779	1.6E-03	7.71E-07	0.77
335		UCART1	314050	3924950	0.00776	1.6E-03	7.68E-07	0.77
50		UCART1	313850	3923450	0.00769	1.5E-03	7.61E-07	0.76
49		UCART1	313750	3923450	0.00765	1.5E-03	7.58E-07	0.76
68		UCART1	313550	3923550	0.00764	1.5E-03	7.56E-07	0.76
337		UCART1	314250	3924950	0.00762	1.5E-03	7.55E-07	0.75
156		UCART1	315250	3923950	0.00756	1.5E-03	7.48E-07	0.75
105		UCART1	315350	3923650	0.00748	1.5E-03	7.41E-07	0.74
171		UCART1	315250	3924050	0.00743	1.5E-03	7.36E-07	0.74
239		UCART1	315050	3924450	0.00743	1.5E-03	7.35E-07	0.74
48		UCART1	313650	3923450	0.00731	1.5E-03	7.24E-07	0.72
31		UCART1	313850	3923350	0.00730	1.5E-03	7.23E-07	0.72
143		UCART1	315350	3923850	0.00729	1.5E-03	7.22E-07	0.72
352		UCART1	313950	3925050	0.00725	1.4E-03	7.18E-07	0.72
353		UCART1	314050	3925050	0.00724	1.4E-03	7.17E-07	0.72
67		UCART1	313450	3923550	0.00718	1.4E-03	7.11E-07	0.71
354		UCART1	314150	3925050	0.00717	1.4E-03	7.10E-07	0.71
66		UCART1	315450	3923450	0.00714	1.4E-03	7.07E-07	0.71
124		UCART1	315350	3923750	0.00714	1.4E-03	7.07E-07	0.71
186		UCART1	315250	3924150	0.00713	1.4E-03	7.06E-07	0.71
300		UCART1	314850	3924750	0.00708	1.4E-03	7.01E-07	0.70
321		UCART1	314750	3924850	0.00708	1.4E-03	7.01E-07	0.70
340		UCART1	314550	3924950	0.00700	1.4E-03	6.93E-07	0.69
339		UCART1	314450	3924950	0.00699	1.4E-03	6.92E-07	0.69
355		UCART1	314250	3925050	0.00695	1.4E-03	6.88E-07	0.69
259		UCART1	315050	3924550	0.00691	1.4E-03	6.84E-07	0.68
201		UCART1	315250	3924250	0.00688	1.4E-03	6.81E-07	0.68

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
356		UCART1	314350	3925050	0.00688	1.4E-03	6.81E-07	0.68
370		UCART1	314050	3925150	0.00681	1.4E-03	6.74E-07	0.67
320		UCART1	314650	3924850	0.00679	1.4E-03	6.72E-07	0.67
30		UCART1	313750	3923350	0.00672	1.3E-03	6.66E-07	0.67
220		UCART1	315150	3924350	0.00666	1.3E-03	6.59E-07	0.66
87		UCART1	315450	3923550	0.00665	1.3E-03	6.59E-07	0.66
157		UCART1	315350	3923950	0.00658	1.3E-03	6.51E-07	0.65
47		UCART1	313550	3923450	0.00657	1.3E-03	6.51E-07	0.65
172		UCART1	315350	3924050	0.00656	1.3E-03	6.50E-07	0.65
29		UCART1	313650	3923350	0.00656	1.3E-03	6.49E-07	0.65
144		UCART1	315450	3923850	0.00651	1.3E-03	6.44E-07	0.64
372		UCART1	314250	3925150	0.00648	1.3E-03	6.41E-07	0.64
371		UCART1	314150	3925150	0.00645	1.3E-03	6.39E-07	0.64
106		UCART1	315450	3923650	0.00642	1.3E-03	6.36E-07	0.64
341		UCART1	314650	3924950	0.00637	1.3E-03	6.31E-07	0.63
187		UCART1	315350	3924150	0.00633	1.3E-03	6.27E-07	0.63
373		UCART1	314350	3925150	0.00632	1.3E-03	6.26E-07	0.63
358		UCART1	314550	3925050	0.00626	1.3E-03	6.20E-07	0.62
342		UCART1	314750	3924950	0.00624	1.2E-03	6.18E-07	0.62
202		UCART1	315350	3924250	0.00620	1.2E-03	6.14E-07	0.61
357		UCART1	314450	3925050	0.00619	1.2E-03	6.13E-07	0.61
28		UCART1	313550	3923350	0.00617	1.2E-03	6.11E-07	0.61
88		UCART1	315550	3923550	0.00615	1.2E-03	6.09E-07	0.61
158		UCART1	315450	3923950	0.00614	1.2E-03	6.08E-07	0.61
240		UCART1	315150	3924450	0.00609	1.2E-03	6.03E-07	0.60
359		UCART1	314650	3925050	0.00608	1.2E-03	6.02E-07	0.60
386		UCART1	314150	3925250	0.00600	1.2E-03	5.94E-07	0.59
387		UCART1	314250	3925250	0.00598	1.2E-03	5.92E-07	0.59
125		UCART1	315450	3923750	0.00596	1.2E-03	5.90E-07	0.59
107		UCART1	315550	3923650	0.00596	1.2E-03	5.90E-07	0.59
173		UCART1	315450	3924050	0.00590	1.2E-03	5.85E-07	0.58
375		UCART1	314550	3925150	0.00587	1.2E-03	5.81E-07	0.58
126		UCART1	315550	3923750	0.00583	1.2E-03	5.77E-07	0.58
279		UCART1	315050	3924650	0.00580	1.2E-03	5.74E-07	0.57
374		UCART1	314450	3925150	0.00578	1.2E-03	5.72E-07	0.57
188		UCART1	315450	3924150	0.00578	1.2E-03	5.72E-07	0.57
388		UCART1	314350	3925250	0.00575	1.1E-03	5.69E-07	0.57
203		UCART1	315450	3924250	0.00571	1.1E-03	5.65E-07	0.57
301		UCART1	314950	3924750	0.00566	1.1E-03	5.60E-07	0.56
159		UCART1	315550	3923950	0.00565	1.1E-03	5.59E-07	0.56
376		UCART1	314650	3925150	0.00564	1.1E-03	5.59E-07	0.56
127		UCART1	315650	3923750	0.00564	1.1E-03	5.59E-07	0.56
145		UCART1	315550	3923850	0.00556	1.1E-03	5.50E-07	0.55
390		UCART1	314550	3925250	0.00551	1.1E-03	5.45E-07	0.55
400		UCART1	314250	3925350	0.00545	1.1E-03	5.39E-07	0.54
389		UCART1	314450	3925250	0.00540	1.1E-03	5.35E-07	0.53
174		UCART1	315550	3924050	0.00538	1.1E-03	5.33E-07	0.53
221		UCART1	315250	3924350	0.00536	1.1E-03	5.31E-07	0.53
189		UCART1	315550	3924150	0.00535	1.1E-03	5.30E-07	0.53
204		SCHOOL	315550	3924250	0.00535	1.1E-03	5.29E-07	0.53
260		UCART1	315150	3924550	0.00534	1.1E-03	5.28E-07	0.53
361		UCART1	314850	3925050	0.00531	1.1E-03	5.26E-07	0.53
401		UCART1	314350	3925350	0.00530	1.1E-03	5.24E-07	0.52

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
108		UCART1	315650	3923650	0.00529	1.1E-03	5.24E-07	0.52
322		UCART1	314850	3924850	0.00528	1.1E-03	5.23E-07	0.52
241		UCART1	315250	3924450	0.00527	1.1E-03	5.22E-07	0.52
360		UCART1	314750	3925050	0.00526	1.1E-03	5.21E-07	0.52
391		UCART1	314650	3925250	0.00526	1.1E-03	5.20E-07	0.52
160		UCART1	315650	3923950	0.00512	1.0E-03	5.07E-07	0.51
146		UCART1	315650	3923850	0.00511	1.0E-03	5.06E-07	0.51
190		UCART1	315650	3924150	0.00500	1.0E-03	4.96E-07	0.50
205		SCHOOL	315650	3924250	0.00500	1.0E-03	4.95E-07	0.50
378		UCART1	314850	3925150	0.00499	1.0E-03	4.95E-07	0.49
403		UCART1	314550	3925350	0.00499	1.0E-03	4.94E-07	0.49
242		UCART1	315350	3924450	0.00497	9.9E-04	4.92E-07	0.49
323		UCART1	314950	3924850	0.00497	9.9E-04	4.92E-07	0.49
302		UCART1	315050	3924750	0.00496	9.9E-04	4.91E-07	0.49
175		UCART1	315650	3924050	0.00495	9.9E-04	4.90E-07	0.49
261		UCART1	315250	3924550	0.00495	9.9E-04	4.90E-07	0.49
402		UCART1	314450	3925350	0.00493	9.9E-04	4.88E-07	0.49
280		UCART1	315150	3924650	0.00487	9.7E-04	4.83E-07	0.48
404		UCART1	314650	3925350	0.00482	9.6E-04	4.78E-07	0.48
343		UCART1	314850	3924950	0.00476	9.5E-04	4.72E-07	0.47
206		UCART1	315750	3924250	0.00473	9.5E-04	4.69E-07	0.47
191		UCART1	315750	3924150	0.00472	9.4E-04	4.67E-07	0.47
222		UCART1	315350	3924350	0.00471	9.4E-04	4.67E-07	0.47
412		UCART1	314450	3925450	0.00465	9.3E-04	4.60E-07	0.46
243		UCART1	315450	3924450	0.00464	9.3E-04	4.59E-07	0.46
176		UCART1	315750	3924050	0.00462	9.2E-04	4.58E-07	0.46
413		UCART1	314550	3925450	0.00458	9.2E-04	4.54E-07	0.45
161		UCART1	315750	3923950	0.00458	9.2E-04	4.53E-07	0.45
281		UCART1	315250	3924650	0.00457	9.1E-04	4.52E-07	0.45
377		UCART1	314750	3925150	0.00454	9.1E-04	4.50E-07	0.45
344		UCART1	314950	3924950	0.00450	9.0E-04	4.45E-07	0.45
405		UCART1	314750	3925350	0.00449	9.0E-04	4.44E-07	0.44
392		UCART1	314750	3925250	0.00447	8.9E-04	4.42E-07	0.44
324		UCART1	315050	3924850	0.00446	8.9E-04	4.42E-07	0.44
223		UCART1	315450	3924350	0.00442	8.8E-04	4.38E-07	0.44
303		UCART1	315150	3924750	0.00442	8.8E-04	4.38E-07	0.44
415		UCART1	314750	3925450	0.00439	8.8E-04	4.34E-07	0.43
414		UCART1	314650	3925450	0.00438	8.8E-04	4.34E-07	0.43
263		UCART1	315450	3924550	0.00437	8.7E-04	4.33E-07	0.43
393		UCART1	314850	3925250	0.00436	8.7E-04	4.32E-07	0.43
262		UCART1	315350	3924550	0.00433	8.7E-04	4.29E-07	0.43
362		UCART1	314950	3925050	0.00426	8.5E-04	4.22E-07	0.42
224		UCART1	315550	3924350	0.00423	8.5E-04	4.19E-07	0.42
394		UCART1	314950	3925250	0.00422	8.4E-04	4.18E-07	0.42
244		UCART1	315550	3924450	0.00420	8.4E-04	4.16E-07	0.42
325		UCART1	315150	3924850	0.00419	8.4E-04	4.15E-07	0.41
345		UCART1	315050	3924950	0.00418	8.4E-04	4.14E-07	0.41
283		UCART1	315450	3924650	0.00411	8.2E-04	4.07E-07	0.41
407		UCART1	314950	3925350	0.00410	8.2E-04	4.06E-07	0.41
225		UCART1	315650	3924350	0.00407	8.1E-04	4.03E-07	0.40
363		UCART1	315050	3925050	0.00407	8.1E-04	4.03E-07	0.40
305		UCART1	315350	3924750	0.00407	8.1E-04	4.03E-07	0.40
264		UCART1	315550	3924550	0.00403	8.1E-04	3.99E-07	0.40

REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
282		UCART1	315350	3924650	0.00403	8.1E-04	3.99E-07	0.40
406		UCART1	314850	3925350	0.00402	8.0E-04	3.98E-07	0.40
346		UCART1	315150	3924950	0.00398	8.0E-04	3.94E-07	0.39
304		UCART1	315250	3924750	0.00395	7.9E-04	3.91E-07	0.39
226		UCART1	315750	3924350	0.00394	7.9E-04	3.91E-07	0.39
326		UCART1	315250	3924850	0.00389	7.8E-04	3.85E-07	0.38
265		UCART1	315650	3924550	0.00381	7.6E-04	3.77E-07	0.38
245		UCART1	315650	3924450	0.00379	7.6E-04	3.75E-07	0.38
379		UCART1	314950	3925150	0.00379	7.6E-04	3.75E-07	0.37
306		UCART1	315450	3924750	0.00378	7.6E-04	3.75E-07	0.37
347		UCART1	315250	3924950	0.00374	7.5E-04	3.71E-07	0.37
381		UCART1	315150	3925150	0.00374	7.5E-04	3.70E-07	0.37
327		UCART1	315350	3924850	0.00373	7.5E-04	3.70E-07	0.37
364		UCART1	315150	3925050	0.00371	7.4E-04	3.68E-07	0.37
266		UCART1	315750	3924550	0.00371	7.4E-04	3.68E-07	0.37
380		UCART1	315050	3925150	0.00370	7.4E-04	3.67E-07	0.37
284		UCART1	315550	3924650	0.00368	7.4E-04	3.64E-07	0.36
395		UCART1	315050	3925250	0.00368	7.4E-04	3.64E-07	0.36
348		UCART1	315350	3924950	0.00365	7.3E-04	3.61E-07	0.36
417		UCART1	314950	3925450	0.00364	7.3E-04	3.60E-07	0.36
365		UCART1	315250	3925050	0.00361	7.2E-04	3.58E-07	0.36
285		UCART1	315650	3924650	0.00360	7.2E-04	3.56E-07	0.36
286		UCART1	315750	3924650	0.00359	7.2E-04	3.55E-07	0.36
396		UCART1	315150	3925250	0.00356	7.1E-04	3.52E-07	0.35
308		UCART1	315650	3924750	0.00355	7.1E-04	3.52E-07	0.35
329		UCART1	315550	3924850	0.00355	7.1E-04	3.51E-07	0.35
416		UCART1	314850	3925450	0.00352	7.0E-04	3.48E-07	0.35
397		UCART1	315250	3925250	0.00347	6.9E-04	3.43E-07	0.34
418		UCART1	315050	3925450	0.00346	6.9E-04	3.43E-07	0.34
307		UCART1	315550	3924750	0.00345	6.9E-04	3.41E-07	0.34
349		UCART1	315450	3924950	0.00344	6.9E-04	3.40E-07	0.34
366		UCART1	315350	3925050	0.00344	6.9E-04	3.40E-07	0.34
367		UCART1	315450	3925050	0.00341	6.8E-04	3.38E-07	0.34
382		UCART1	315250	3925150	0.00340	6.8E-04	3.36E-07	0.34
328		UCART1	315450	3924850	0.00338	6.8E-04	3.35E-07	0.33
408		UCART1	315050	3925350	0.00336	6.7E-04	3.33E-07	0.33
330		UCART1	315650	3924850	0.00332	6.6E-04	3.29E-07	0.33
246		UCART1	315750	3924450	0.00332	6.6E-04	3.28E-07	0.33
383		UCART1	315350	3925150	0.00329	6.6E-04	3.25E-07	0.33
309		UCART1	315750	3924750	0.00326	6.5E-04	3.23E-07	0.32
409		UCART1	315150	3925350	0.00325	6.5E-04	3.22E-07	0.32
398		UCART1	315350	3925250	0.00323	6.5E-04	3.20E-07	0.32
410		UCART1	315250	3925350	0.00321	6.4E-04	3.18E-07	0.32
419		UCART1	315150	3925450	0.00317	6.3E-04	3.14E-07	0.31
384		UCART1	315450	3925150	0.00313	6.3E-04	3.10E-07	0.31
385		UCART1	315550	3925150	0.00312	6.2E-04	3.09E-07	0.31
411		UCART1	315350	3925350	0.00309	6.2E-04	3.06E-07	0.31
350		UCART1	315550	3924950	0.00309	6.2E-04	3.06E-07	0.31
351		UCART1	315650	3924950	0.00306	6.1E-04	3.03E-07	0.30
368		UCART1	315550	3925050	0.00304	6.1E-04	3.01E-07	0.30
331		UCART1	315750	3924850	0.00296	5.9E-04	2.93E-07	0.29
399		UCART1	315450	3925250	0.00291	5.8E-04	2.88E-07	0.29
369		UCART1	315650	3925050	0.00288	5.8E-04	2.85E-07	0.28

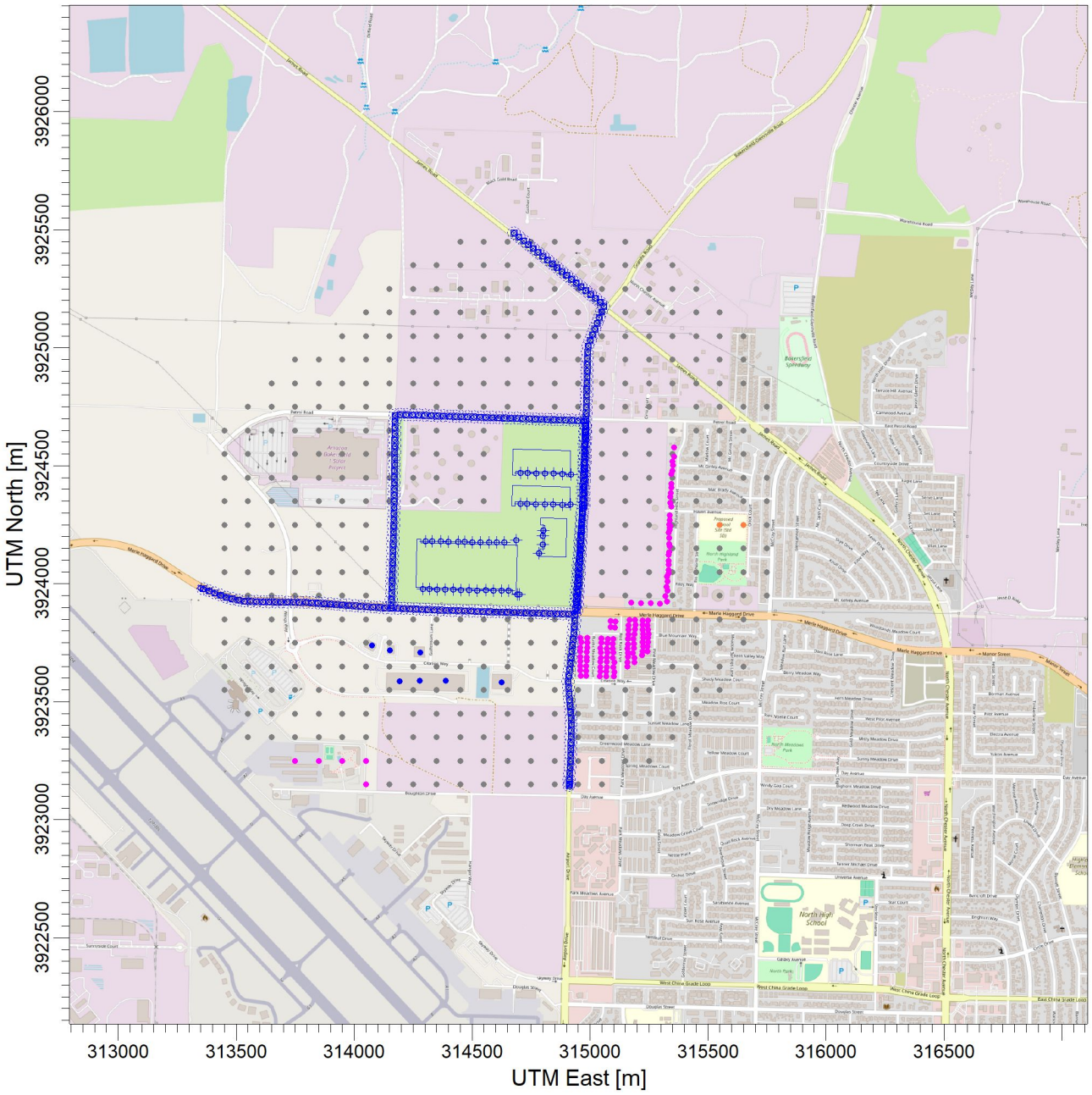
REC	ID	GROUP	X	Y	CONC	Chronic HI	Cancer Risk	Risk Per Million
420		UCART1	315250	3925450	0.00279	5.6E-04	2.76E-07	0.28

Appendix B

Supplemental Health Risk Assessment

PROJECT TITLE:

Airport Commerce Center Industrial Project
Source and Receptor Configuration - Supplemental Operational HRA - Addl' Truck Routes



COMMENTS:	SOURCES: **72**	COMPANY NAME:	
	RECEPTORS: **552**	MODELER:	
		SCALE: 1:27,154 0 1 km	
		DATE: **8/4/2026**	PROJECT NO.:

AERMOD View - Lakes Environmental Software

F:\Jobs\59010001\OpHRA 2\OpHRA\OpHRA.isc

Airport Commerce Center - Supplemental HRA

Modeled - Line Volume Sources

Source Type	Location	Source ID	Source Group ID	Truck Exhaust Height (m)	Plume Height (m)	Release Height (m)	Source Width (m)	Initial Lateral Dimension (Sigma Y)	Initial Vertical Dimension (Sigma Z)	AERMOD Rate (g/s)	HARP SRCID	HARP (lb/yr)
Route 1 - Via Airport Drive - Merle Haggard West	Off-Site Roadways	OFFSITE1	OFFSITE1	4.57	7.77	3.89	26	12.09	3.62	1	OFFSITE1	7.58
Route 2 - Via Petrol Way - Landings Way - Merle Haggard West	Off-Site Roadways	OFFSITE2	OFFSITE2	4.57	7.77	3.89	26	12.09	3.62	1	OFFSITE2	2.53
Route 3 - Via Airport Drive, Southbound	Off-Site Roadways	OFFSITE3	OFFSITE 3	4.57	7.77	3.89	26	12.09	3.62	1	OFFSITE3	7.58
Route 4 - Via Airport Drive, Northbound to James Road	Off-Site Roadways	OFFSITE 4	OFFSITE 4	4.57	7.77	3.89	26	12.09	3.62	1	OFFSITE4	7.58
Notes:												**25.26**

Truck Plume Height = 1.7 x Exhaust Release Height

Truck Width is set at 8.5 feet (2.6m) based on CalTrans legal limits.

Release Height for Truck Exhaust = Plume Height/2

Initial Lateral Dimension Sigma Y = Length (m)/4.3

Initial Vertical Dimension SigmaZ = Height (m)/2.15

Supplemental analysis conservatively assumed that off-site travel could occur across several routes, despite the traffic study indicating the travel would occur only to or from the west along Merle Haggard Drive, or to the north on Airport Drive (to James Road).

Route 1: Trucks would travel along Merle Haggard from the west of the project site, and enter or exit the project site on Airport Drive between Petrol Road and Merle Haggard.

Route 2: Trucks would around the project site from Airport Drive (between Petrol Road and Merle Haggard) to Petrol Road to Landings Way, accessing various entrances to the project site.

Route 3: Trucks would travel along Airport Drive to or from the south of the project site, and enter or exit the project site on Airport Drive between Petrol Road and Merle Haggard.

Route 4: Trucks would travel along Airport Drive to or from the north of the project site, along James Road.

Conservatively assumed that 30% of trucks would utilize Route 1, 30% of trucks would utilize Route 3, 30% of trucks would utilize Route 4, 10% of trucks would utilize Route 2 (which is the farthest from any sensitive receptor, thereby the analysis assumes more traffic is traversing closer to receptors) .

Emissions include Engine Running Exhaust + TRU Exhaust from Trucks Serving Cold Storage Warehouse

Airport Commerce Center - Supplemental HRA

Modeled - Area Sources

Description	Location	Source ID	Source Group ID	Area (m^2)	Release Height (m)	Initial Vertical Dimension (Sigma Z)	AERMOD Area Source Emissions g/m^2-s	AERMOD Source Emission Rate (g/s)	HARP SRCID	HARP Emissions (lb/yr)
On-Site Truck Travel	Entire Site	ONSITE	ONSITE	445,975	3.89	3.62	2.24E-06	1	ONSITE	**3.23**

On-site roadway travel treated with same release height and intitial vertical dimensions as line-volume sources

Since it is occurs in multiple diffuse areas over the entire site, it is modeled as a sitewide area source with an intial source release height to account for the exhaust plume rise

Airport Commerce Center - Supplemental HRA

Modeled Point Sources

							Point Source Release Parameters[3,4]								
	Point Source ID	Modeled Source (s)	Location	Source Group	Number of Docks Doors Represented	Fraction of Source Group	Modeled Emissions Per Source Emissions[1,2] (g/s)	Stack Height (ft)	Stack Height (m)	Exhaust Temperature (K)	Stack Diameter (m)	Exit Velocity (m/s)	Flow Rate (m^3/s)	HARP SRC ID	Unmitigated HARP (lbs/yr)	Mitigated HARP (lbs/yr)
	EGEN1	Emergency Generator (300 hp)	Building 1	EGEN-01	NA	1	1.0	9.8	3	789	0.13	57.4	0.762	EGEN1	**0.724**	**0.724**
	EGEN2	Emergency Generator (300 hp)	Building 2	EGEN-02	NA	1	1.0	9.8	3	789	0.13	57.4	0.762	EGEN2	**0.724**	**0.724**
	EGEN3	Emergency Generator (300 hp)	Building 3	EGEN-03	NA	1	1.0	9.8	3	789	0.13	57.4	0.762	EGEN3	**0.724**	**0.724**
	EGEN4-1	Emergency Generator (300 hp)	Building 4 -North East	EGEN-04	NA	1	1.0	9.8	3	789	0.13	57.4	0.762	EGEN4-1	**0.724**	**0.724**
	EGEN4-2	Emergency Generator (300 hp)	Building 4 -South East	EGEN-05	NA	1	1.0	9.8	3	789	0.13	57.4	0.762	EGEN4-2	**0.724**	**0.724**
	EGEN4-3	Emergency Generator (1475 hp)	Building 4 -South East	EGEN-06	NA	1	1.0	14.1	4.3	750	0.25	52.2	2.562	EGEN4-3	**4.748**	**4.748**
45	IDLEX-01	Idling Trucks	Building 1 - South	DOCKS1	7	0.1556	0.1556	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-02	Idling Trucks	Building 1 - South	DOCKS1	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-03	Idling Trucks	Building 1 - South	DOCKS1	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061	DOCK1	5.31	0.27
	IDLEX-04	Idling Trucks	Building 1 - South	DOCKS1	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-05	Idling Trucks	Building 1 - South	DOCKS1	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-06	Idling Trucks	Building 1 - South	DOCKS1	6	0.1333	0.1333	12.6	3.84	366	0.10	51.71	0.4061			
45	IDLEX-07	Idling Trucks	Building 2 - South	DOCKS2	7	0.1556	0.1556	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-08	Idling Trucks	Building 2 - South	DOCKS2	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-09	Idling Trucks	Building 2 - South	DOCKS2	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061	DOCK2	3.14	0.16
	IDLEX-10	Idling Trucks	Building 2 - South	DOCKS2	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-11	Idling Trucks	Building 2 - South	DOCKS2	8	0.1778	0.1778	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-12	Idling Trucks	Building 2 - South	DOCKS2	6	0.1333	0.1333	12.6	3.84	366	0.10	51.71	0.4061			
20	IDLEX-13	Idling Trucks	Building 3 - West	DOCKS3	6	0.300	0.3000	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-14	Idling Trucks	Building 3 - West	DOCKS3	8	0.400	0.4000	12.6	3.84	366	0.10	51.71	0.4061	DOCK3	2.92	0.15
	IDLEX-15	Idling Trucks	Building 3 - West	DOCKS3	6	0.300	0.3000	12.6	3.84	366	0.10	51.71	0.4061			
42	IDLEX-16	Idling Trucks	Building 4 - NorthWest	DOCK4-NW	7	0.167	0.1667	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-17	Idling Trucks	Building 4 - NorthWest	DOCK4-NW	7	0.167	0.1667	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-18	Idling Trucks	Building 4 - NorthWest	DOCK4-NW	7	0.167	0.1667	12.6	3.84	366	0.10	51.71	0.4061	DOCk4_NW	4.59	0.23
	IDLEX-19	Idling Trucks	Building 4 - NorthWest	DOCK4-NW	7	0.167	0.1667	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-20	Idling Trucks	Building 4 - NorthWest	DOCK4-NW	7	0.167	0.1667	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-21	Idling Trucks	Building 4 - NorthWest	DOCK4-NW	7	0.167	0.1667	12.6	3.84	366	0.10	51.71	0.4061			
34	IDLEX-22	Idling Trucks	Building 4 - NorthEast	DOCK4-NE	7	0.206	0.2059	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-23	Idling Trucks	Building 4 - NorthEast	DOCK4-NE	7	0.206	0.2059	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-24	Idling Trucks	Building 4 - NorthEast	DOCK4-NE	7	0.206	0.2059	12.6	3.84	366	0.10	51.71	0.4061	DOCK4_NE	4.59	0.23
	IDLEX-25	Idling Trucks	Building 4 - NorthEast	DOCK4-NE	7	0.206	0.2059	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-26	Idling Trucks	Building 4 - NorthEast	DOCK4-NE	6	0.176	0.1765	12.6	3.84	366	0.10	51.71	0.4061			
39	IDLEX-27	Idling Trucks	Building 4 - SouthWest	DOCK4-SW	4	0.103	0.1026	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-28	Idling Trucks	Building 4 - SouthWest	DOCK4-SW	7	0.179	0.1795	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-29	Idling Trucks	Building 4 - SouthWest	DOCK4-SW	7	0.179	0.1795	12.6	3.84	366	0.10	51.71	0.4061	DOCK4_SW	4.59	0.23
	IDLEX-30	Idling Trucks	Building 4 - SouthWest	DOCK4-SW	7	0.179	0.1795	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-31	Idling Trucks	Building 4 - SouthWest	DOCK4-SW	7	0.179	0.1795	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-32	Idling Trucks	Building 4 - SouthWest	DOCK4-SW	7	0.179	0.1795	12.6	3.84	366	0.10	51.71	0.4061			
40	IDLEX-33	Idling Trucks	Building 4 - SouthEast	DOCK4-SE	7	0.175	0.1750	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-34	Idling Trucks	Building 4 - SouthEast	DOCK4-SE	7	0.175	0.1750	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-35	Idling Trucks	Building 4 - SouthEast	DOCK4-SE	7	0.175	0.1750	12.6	3.84	366	0.10	51.71	0.4061	DOCK4_SE	4.59	0.23
	IDLEX-36	Idling Trucks	Building 4 - SouthEast	DOCK4-SE	7	0.175	0.1750	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-37	Idling Trucks	Building 4 - SouthEast	DOCK4-SE	7	0.175	0.1750	12.6	3.84	366	0.10	51.71	0.4061			
	IDLEX-38	Idling Trucks	Building 4 - SouthEast	DOCK4-SE	5	0.125	0.1250	12.6	3.84	366	0.10	51.71	0.4061			
265	TRU-16	TRU Exhaust	Building 4 - NorthWest	TRU4-NW	7	0.167	0.1667	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-17	TRU Exhaust	Building 4 - NorthWest	TRU4-NW	7	0.167	0.1667	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-18	TRU Exhaust	Building 4 - NorthWest	TRU4-NW	7	0.167	0.1667	13.0	3.96	501	0.04445	49.1	0.07619	TRU_4_NW	-	-
	TRU-19	TRU Exhaust	Building 4 - NorthWest	TRU4-NW	7	0.167	0.1667	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-20	TRU Exhaust	Building 4 - NorthWest	TRU4-NW	7	0.167	0.1667	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-21	TRU Exhaust	Building 4 - NorthWest	TRU4-NW	7	0.167	0.1667	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-22	TRU Exhaust	Building 4 - NorthEast	TRU4-NE	7	0.206	0.2059	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-23	TRU Exhaust	Building 4 - NorthEast	TRU4-NE	7	0.206	0.2059	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-24	TRU Exhaust	Building 4 - NorthEast	TRU4-NE	7	0.206	0.2059	13.0	3.96	501	0.04445	49.1	0.07619	TRU_4_NE	-	-
	TRU-25	TRU Exhaust	Building 4 - NorthEast	TRU4-NE	7	0.206	0.2059	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-26	TRU Exhaust	Building 4 - NorthEast	TRU4-NE	6	0.176	0.1765	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-27	TRU Exhaust	Building 4 - SouthWest	TRU4-SW	4	0.103	0.1026	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-28	TRU Exhaust	Building 4 - SouthWest	TRU4-SW	7	0.179	0.1795	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-29	TRU Exhaust	Building 4 - SouthWest	TRU4-SW	7	0.179	0.1795	13.0	3.96	501	0.04445	49.1	0.07619	TRU4_SW	67.47	29.49
	TRU-30	TRU Exhaust	Building 4 - SouthWest	TRU4-SW	7	0.179	0.1795	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-31	TRU Exhaust	Building 4 - SouthWest	TRU4-SW	7	0.179	0.1795	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-32	TRU Exhaust	Building 4 - SouthWest	TRU4-SW	7	0.179	0.1795	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-33	TRU Exhaust	Building 4 - SouthEast	TRU4-SE	7	0.175	0.1750	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-34	TRU Exhaust	Building 4 - SouthEast	TRU4-SE	7	0.175	0.1750	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-35	TRU Exhaust	Building 4 - SouthEast	TRU4-SE	7	0.175	0.1750	13.0	3.96	501	0.04445	49.1	0.07619	TRU4_SW	67.47	29.49
	TRU-36	TRU Exhaust	Building 4 - SouthEast	TRU4-SE	7	0.175	0.1750	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-37	TRU Exhaust	Building 4 - SouthEast	TRU4-SE	7	0.175	0.1750	13.0	3.96	501	0.04445	49.1	0.07619			
	TRU-38	TRU Exhaust	Building 4 - SouthEast	TRU4-SE	5	0.125	0.1250	13.0	3.96	501	0.04445	49.1	0.07619			

Notes:

1. Source Emissions for trucks calculated using the traffic study truck trips, fleet mix and operational emissions using EMFAC-PL idling rates. See Particulate Matter (DPM) Emissions from Idling Trucks.

2. Emissions for emergency generators are consistent with CalEEMod based on SJVAPCD BACT requirements of Tier 4 Final EF of 0.015 g/bhp-hr for maintenane and testing operations (50 hours) plus 50 hours of emergency usage for 100 hours total averaged over year.

3. Truck Idling Parameters from San Joaquin Valley APCD Road Modeling Using AERMOD - Transcript of Presentation

Website: https://www.slideserve.com/roger/san-joaquin-valley-apcd-road-modeling-using-aermod

4. Exhaust parameters are based on horizontal release, using parameters based on Engine HP from ARB/CAPCOA Diesel Internal Combustion Engine Risk Tool User Guide , July 2024. https://capcoa.org/wp-content/uploads/2024/07/DICE-Tool-User-Guide.pdf

Notes:

Truck Plume Height = 1.7 x Exhaust Release Height

Truck Width is set at 8.5 feet (2.6m) based on CalTrans legal limits. -->

Release Height for Truck Exhaust = Plume Height/2

Initial Lateral Dimension Sigma Y = Length (m)/4.3

Initial Vertical Dimension SigmaZ = Height (m)/2.15

Airport Commerce Center Project - Supplemental HRA

On-Site and 1/4 mile Vicinity Emissions during Operations
PM10 Exhaust as Diesel Particulate Matter Emissions
Mitigated Scenario

Location	On-Site/Off-Site	Process	Vehicle Type	One-Way Trips/day	Round-Trips (Daily Visits)	Process Units	Quantity per Round Trip	Daily Quantity	PM10E / DPM	EF unit	DPM lb/day	DPM lb/yr
Warehouse	On-Site	Cold Start	All Trucks	824	412	Starts	1	412	6.61E-05	g/start	0.0001	0.02
Warehouse	On-Site	Idle	All Trucks	824	412	Idle-hours	0.25	103	0.018	g/idle-hr	0.0041	1.49
Warehouse	On-Site	Running Exhaust	All Trucks	824	412	miles	0.79	327	0.012	g/mi	0.0089	3.23
Roads	Off-Site	Running Exhaust	All Trucks	824	412	miles	2.40	989	0.008	g/mi	0.0175	6.39

Warehouse Operations - Cold Storage - TRU Emissions (lbs/day) -

Location	On-Site/Off-Site	Process	Vehicle Type	One-Way Trips/day	Round-Trips (Daily Visits)	Process Units	Quantity per Vehicle Visit (RT)	Daily Quantity	PM10E / DPM	EF unit	DPM lb/day	DPM lb/yr
Cold Storage	On-Site	Truck TRU Exhaust	MHD Trucks	105	53	Op hours	0.5	26.3	0.004	lb/hr	0.11	38.41
Cold Storage	On-Site	Trailer TRU Exhaust	HHD Trucks	160	80	Op hours	0.5	39.9	0.0014	lb/hr	0.06	20.56
Roads	Off-Site	Truck TRU Exhaust	MHD Trucks	105	53	miles	2.4	126.2	2.67E-04	lb/mi	0.03	12.29
Roads	Off-Site	Trailer TRU Exhaust	HHD Trucks	160	80	miles	2.4	191.8	9.40E-05	lb/mi	0.02	6.58

lb/day	lb/yr
0.24	88.98

Note: Emission factor for TRU Exhaust on roads is converted to a lb/mi based on a speed of 15 mph.

```
HARP2 - HRACalc (dated 22118) 8/4/2026 5:28:42 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
*********************************
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: Derived

*********************************
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 30

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 14
16 to 70 Years Bin: 0

*********************************
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments.  The remaining pathways are only used for
cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

*********************************
INHALATION

Daily breathing rate: LongTerm24HR

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO

**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

*********************************
TIER 2 SETTINGS
Tier2 not used.

*********************************

Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: F:\Jobs\59010001\OpHRA
2\OpHRA\HARPOpsMIT3\HARPOpsMIT3\hra\OpHRASupplementalResCancerRisk.csv
Cancer risk total by receptor saved to: F:\Jobs\59010001\OpHRA
2\OpHRA\HARPOpsMIT3\HARPOpsMIT3\hra\OpHRASupplementalResCancerRiskSumByRec.csv
HRA ran successfully
```

Residential HARP2 Output

Notes:

REC 441 is the residential receptor with the highest health risks; all other residential receptors would experience lower health risks.
REC 140, 139, 138, 137, 141, 136, 142, 120, 121, 119, 122, 135, and 123 are not residential receptors (which can be verified by their UTMs); they are receptor points in areas with vacant land and/or commercial establishments.
The health risks at these receptors is analyzed under the worker scenario (although all receptors are run as residential or worker per HARP run).

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK
140	ALL		314650	3923850	2.23E-05	30YrCancerDerived_Inh	2.23E-05
139	ALL		314550	3923850	1.89E-05	30YrCancerDerived_Inh	1.89E-05
138	ALL		314450	3923850	1.73E-05	30YrCancerDerived_Inh	1.73E-05
137	ALL		314350	3923850	1.49E-05	30YrCancerDerived_Inh	1.49E-05
141	ALL		314750	3923850	1.44E-05	30YrCancerDerived_Inh	1.44E-05
136	ALL		314250	3923850	1.24E-05	30YrCancerDerived_Inh	1.24E-05
142	ALL		314850	3923850	1.20E-05	30YrCancerDerived_Inh	1.20E-05
120	ALL		314550	3923750	1.18E-05	30YrCancerDerived_Inh	1.18E-05
121	ALL		314650	3923750	1.15E-05	30YrCancerDerived_Inh	1.15E-05
119	ALL		314450	3923750	1.09E-05	30YrCancerDerived_Inh	1.09E-05
122	ALL		314750	3923750	1.06E-05	30YrCancerDerived_Inh	1.06E-05
135	ALL		314150	3923850	9.88E-06	30YrCancerDerived_Inh	9.88E-06
123	ALL		314850	3923750	9.82E-06	30YrCancerDerived_Inh	9.82E-06
441	ALL		314958.8	3923771	9.68E-06	30YrCancerDerived_Inh	9.68E-06
153	ALL		314050	3923950	9.32E-06	30YrCancerDerived_Inh	9.32E-06
118	ALL		314350	3923750	9.13E-06	30YrCancerDerived_Inh	9.13E-06
443	ALL		314962.2	3923753	9.13E-06	30YrCancerDerived_Inh	9.13E-06
445	ALL		314959.5	3923730	9.06E-06	30YrCancerDerived_Inh	9.06E-06
103	ALL		314850	3923650	9.01E-06	30YrCancerDerived_Inh	9.01E-06
447	ALL		314958.1	3923714	8.96E-06	30YrCancerDerived_Inh	8.96E-06
449	ALL		314958.1	3923690	8.72E-06	30YrCancerDerived_Inh	8.72E-06
102	ALL		314750	3923650	8.55E-06	30YrCancerDerived_Inh	8.55E-06
451	ALL		314958.8	3923672	8.49E-06	30YrCancerDerived_Inh	8.49E-06
101	ALL		314650	3923650	8.44E-06	30YrCancerDerived_Inh	8.44E-06
81	ALL		314850	3923550	8.40E-06	30YrCancerDerived_Inh	8.40E-06
168	ALL		314050	3924050	8.35E-06	30YrCancerDerived_Inh	8.35E-06
134	ALL		314050	3923850	8.29E-06	30YrCancerDerived_Inh	8.29E-06
453	ALL		314959.5	3923652	8.28E-06	30YrCancerDerived_Inh	8.28E-06
61	ALL		314950	3923450	8.15E-06	30YrCancerDerived_Inh	8.15E-06
455	ALL		314959.5	3923633	8.13E-06	30YrCancerDerived_Inh	8.13E-06
100	ALL		314550	3923650	8.11E-06	30YrCancerDerived_Inh	8.11E-06
82	ALL		314950	3923550	8.06E-06	30YrCancerDerived_Inh	8.06E-06
152	ALL		313950	3923950	8.02E-06	30YrCancerDerived_Inh	8.02E-06
457	ALL		314960.9	3923610	7.89E-06	30YrCancerDerived_Inh	7.89E-06
42	ALL		314950	3923350	7.87E-06	30YrCancerDerived_Inh	7.87E-06
442	ALL		314987.6	3923770	7.78E-06	30YrCancerDerived_Inh	7.78E-06
183	ALL		314050	3924150	7.61E-06	30YrCancerDerived_Inh	7.61E-06
151	ALL		313850	3923950	7.58E-06	30YrCancerDerived_Inh	7.58E-06
444	ALL		314988.2	3923749	7.54E-06	30YrCancerDerived_Inh	7.54E-06
60	ALL		314850	3923450	7.42E-06	30YrCancerDerived_Inh	7.42E-06
99	ALL		314450	3923650	7.40E-06	30YrCancerDerived_Inh	7.40E-06
446	ALL		314988.2	3923730	7.40E-06	30YrCancerDerived_Inh	7.40E-06

448	ALL	314986.2	3923712	7.38E-06	30YrCancerDerived_Inh	7.38E-06
150	ALL	313750	3923950	7.36E-06	30YrCancerDerived_Inh	7.36E-06
450	ALL	314984.9	3923689	7.30E-06	30YrCancerDerived_Inh	7.30E-06
24	ALL	314950	3923250	7.30E-06	30YrCancerDerived_Inh	7.30E-06
117	ALL	314250	3923750	7.28E-06	30YrCancerDerived_Inh	7.28E-06
80	ALL	314750	3923550	7.21E-06	30YrCancerDerived_Inh	7.21E-06
454	ALL	314983.6	3923651	7.14E-06	30YrCancerDerived_Inh	7.14E-06
549	ALL	314624.3	3923582	7.13E-06	30YrCancerDerived_Inh	7.13E-06
133	ALL	313950	3923850	7.12E-06	30YrCancerDerived_Inh	7.12E-06
452	ALL	314986.9	3923674	7.11E-06	30YrCancerDerived_Inh	7.11E-06
149	ALL	313650	3923950	7.03E-06	30YrCancerDerived_Inh	7.03E-06
456	ALL	314984.2	3923632	7.00E-06	30YrCancerDerived_Inh	7.00E-06
458	ALL	314983.6	3923610	6.94E-06	30YrCancerDerived_Inh	6.94E-06
41	ALL	314850	3923350	6.85E-06	30YrCancerDerived_Inh	6.85E-06
10	ALL	314950	3923150	6.81E-06	30YrCancerDerived_Inh	6.81E-06
548	ALL	314280.2	3923708	6.76E-06	30YrCancerDerived_Inh	6.76E-06
79	ALL	314650	3923550	6.74E-06	30YrCancerDerived_Inh	6.74E-06
167	ALL	313950	3924050	6.57E-06	30YrCancerDerived_Inh	6.57E-06
98	ALL	314350	3923650	6.50E-06	30YrCancerDerived_Inh	6.50E-06
23	ALL	314850	3923250	6.43E-06	30YrCancerDerived_Inh	6.43E-06
198	ALL	314050	3924250	6.33E-06	30YrCancerDerived_Inh	6.33E-06
132	ALL	313850	3923850	6.29E-06	30YrCancerDerived_Inh	6.29E-06
147	ALL	313450	3923950	6.18E-06	30YrCancerDerived_Inh	6.18E-06
59	ALL	314750	3923450	6.17E-06	30YrCancerDerived_Inh	6.17E-06
148	ALL	313550	3923950	6.16E-06	30YrCancerDerived_Inh	6.16E-06
182	ALL	313950	3924150	6.12E-06	30YrCancerDerived_Inh	6.12E-06
78	ALL	314550	3923550	6.00E-06	30YrCancerDerived_Inh	6.00E-06
116	ALL	314150	3923750	5.92E-06	30YrCancerDerived_Inh	5.92E-06
550	ALL	314388.4	3923589	5.87E-06	30YrCancerDerived_Inh	5.87E-06
131	ALL	313750	3923850	5.71E-06	30YrCancerDerived_Inh	5.71E-06
58	ALL	314650	3923450	5.69E-06	30YrCancerDerived_Inh	5.69E-06
77	ALL	314450	3923550	5.68E-06	30YrCancerDerived_Inh	5.68E-06
214	ALL	314150	3924350	5.61E-06	30YrCancerDerived_Inh	5.61E-06
166	ALL	313850	3924050	5.57E-06	30YrCancerDerived_Inh	5.57E-06
465	ALL	315044.4	3923727	5.56E-06	30YrCancerDerived_Inh	5.56E-06
459	ALL	315048.5	3923768	5.52E-06	30YrCancerDerived_Inh	5.52E-06
40	ALL	314750	3923350	5.51E-06	30YrCancerDerived_Inh	5.51E-06
462	ALL	315049.1	3923749	5.48E-06	30YrCancerDerived_Inh	5.48E-06
468	ALL	315045.8	3923710	5.47E-06	30YrCancerDerived_Inh	5.47E-06
471	ALL	315045.1	3923686	5.47E-06	30YrCancerDerived_Inh	5.47E-06
197	ALL	313950	3924250	5.45E-06	30YrCancerDerived_Inh	5.45E-06
474	ALL	315044.4	3923669	5.44E-06	30YrCancerDerived_Inh	5.44E-06
9	ALL	314850	3923150	5.44E-06	30YrCancerDerived_Inh	5.44E-06
394	ALL	314950	3925250	5.43E-06	30YrCancerDerived_Inh	5.43E-06
97	ALL	314250	3923650	5.43E-06	30YrCancerDerived_Inh	5.43E-06
477	ALL	315043.8	3923646	5.39E-06	30YrCancerDerived_Inh	5.39E-06
480	ALL	315043.1	3923628	5.38E-06	30YrCancerDerived_Inh	5.38E-06
483	ALL	315041.9	3923608	5.37E-06	30YrCancerDerived_Inh	5.37E-06
547	ALL	314152.5	3923719	5.36E-06	30YrCancerDerived_Inh	5.36E-06
154	ALL	315050	3923950	5.32E-06	30YrCancerDerived_Inh	5.32E-06

130	ALL	313650	3923850	5.32E-06	30YrCancerDerived_Inh	5.32E-06
215	ALL	314250	3924350	5.31E-06	30YrCancerDerived_Inh	5.31E-06
216	ALL	314350	3924350	5.24E-06	30YrCancerDerived_Inh	5.24E-06
57	ALL	314550	3923450	5.21E-06	30YrCancerDerived_Inh	5.21E-06
115	ALL	314050	3923750	5.20E-06	30YrCancerDerived_Inh	5.20E-06
76	ALL	314350	3923550	5.18E-06	30YrCancerDerived_Inh	5.18E-06
301	ALL	314950	3924750	5.18E-06	30YrCancerDerived_Inh	5.18E-06
546	ALL	314074.4	3923738	5.15E-06	30YrCancerDerived_Inh	5.15E-06
169	ALL	315050	3924050	5.15E-06	30YrCancerDerived_Inh	5.15E-06
181	ALL	313850	3924150	5.14E-06	30YrCancerDerived_Inh	5.14E-06
83	ALL	315050	3923550	5.13E-06	30YrCancerDerived_Inh	5.13E-06
217	ALL	314450	3924350	5.10E-06	30YrCancerDerived_Inh	5.10E-06
213	ALL	314050	3924350	5.05E-06	30YrCancerDerived_Inh	5.05E-06
551	ALL	314278.4	3923589	5.03E-06	30YrCancerDerived_Inh	5.03E-06
466	ALL	315070.4	3923726	4.97E-06	30YrCancerDerived_Inh	4.97E-06
22	ALL	314750	3923250	4.96E-06	30YrCancerDerived_Inh	4.96E-06
165	ALL	313750	3924050	4.95E-06	30YrCancerDerived_Inh	4.95E-06
406	ALL	314850	3925350	4.95E-06	30YrCancerDerived_Inh	4.95E-06
39	ALL	314650	3923350	4.94E-06	30YrCancerDerived_Inh	4.94E-06
463	ALL	315073.2	3923747	4.92E-06	30YrCancerDerived_Inh	4.92E-06
472	ALL	315071.2	3923687	4.92E-06	30YrCancerDerived_Inh	4.92E-06
129	ALL	313550	3923850	4.92E-06	30YrCancerDerived_Inh	4.92E-06
475	ALL	315071.2	3923669	4.91E-06	30YrCancerDerived_Inh	4.91E-06
469	ALL	315072.5	3923710	4.91E-06	30YrCancerDerived_Inh	4.91E-06
484	ALL	315067.8	3923608	4.90E-06	30YrCancerDerived_Inh	4.90E-06
481	ALL	315069.2	3923628	4.89E-06	30YrCancerDerived_Inh	4.89E-06
478	ALL	315071.2	3923647	4.89E-06	30YrCancerDerived_Inh	4.89E-06
460	ALL	315074.5	3923767	4.88E-06	30YrCancerDerived_Inh	4.88E-06
62	ALL	315050	3923450	4.87E-06	30YrCancerDerived_Inh	4.87E-06
184	ALL	315050	3924150	4.86E-06	30YrCancerDerived_Inh	4.86E-06
323	ALL	314950	3924850	4.81E-06	30YrCancerDerived_Inh	4.81E-06
196	ALL	313850	3924250	4.79E-06	30YrCancerDerived_Inh	4.79E-06
56	ALL	314450	3923450	4.78E-06	30YrCancerDerived_Inh	4.78E-06
114	ALL	313950	3923750	4.73E-06	30YrCancerDerived_Inh	4.73E-06
43	ALL	315050	3923350	4.65E-06	30YrCancerDerived_Inh	4.65E-06
212	ALL	313950	3924350	4.64E-06	30YrCancerDerived_Inh	4.64E-06
344	ALL	314950	3924950	4.63E-06	30YrCancerDerived_Inh	4.63E-06
164	ALL	313650	3924050	4.55E-06	30YrCancerDerived_Inh	4.55E-06
422	ALL	315086.7	3923817	4.55E-06	30YrCancerDerived_Inh	4.55E-06
96	ALL	314150	3923650	4.53E-06	30YrCancerDerived_Inh	4.53E-06
421	ALL	315086.7	3923842	4.52E-06	30YrCancerDerived_Inh	4.52E-06
180	ALL	313750	3924150	4.52E-06	30YrCancerDerived_Inh	4.52E-06
75	ALL	314250	3923550	4.48E-06	30YrCancerDerived_Inh	4.48E-06
405	ALL	314750	3925350	4.48E-06	30YrCancerDerived_Inh	4.48E-06
473	ALL	315095.9	3923686	4.47E-06	30YrCancerDerived_Inh	4.47E-06
464	ALL	315096.6	3923746	4.47E-06	30YrCancerDerived_Inh	4.47E-06
38	ALL	314550	3923350	4.47E-06	30YrCancerDerived_Inh	4.47E-06
380	ALL	315050	3925150	4.47E-06	30YrCancerDerived_Inh	4.47E-06
467	ALL	315097.3	3923725	4.47E-06	30YrCancerDerived_Inh	4.47E-06
470	ALL	315097.9	3923710	4.46E-06	30YrCancerDerived_Inh	4.46E-06

479	ALL	315098.6	3923647	4.44E-06	30YrCancerDerived_Inh	4.44E-06
363	ALL	315050	3925050	4.42E-06	30YrCancerDerived_Inh	4.42E-06
199	ALL	315050	3924250	4.42E-06	30YrCancerDerived_Inh	4.42E-06
461	ALL	315099.3	3923765	4.39E-06	30YrCancerDerived_Inh	4.39E-06
485	ALL	315100.6	3923607	4.39E-06	30YrCancerDerived_Inh	4.39E-06
476	ALL	315102.6	3923668	4.38E-06	30YrCancerDerived_Inh	4.38E-06
218	ALL	314550	3924350	4.38E-06	30YrCancerDerived_Inh	4.38E-06
25	ALL	315050	3923250	4.38E-06	30YrCancerDerived_Inh	4.38E-06
55	ALL	314350	3923450	4.37E-06	30YrCancerDerived_Inh	4.37E-06
552	ALL	314193.3	3923588	4.37E-06	30YrCancerDerived_Inh	4.37E-06
482	ALL	315102.6	3923627	4.37E-06	30YrCancerDerived_Inh	4.37E-06
113	ALL	313850	3923750	4.35E-06	30YrCancerDerived_Inh	4.35E-06
234	ALL	314150	3924450	4.34E-06	30YrCancerDerived_Inh	4.34E-06
211	ALL	313850	3924350	4.30E-06	30YrCancerDerived_Inh	4.30E-06
21	ALL	314650	3923250	4.28E-06	30YrCancerDerived_Inh	4.28E-06
195	ALL	313750	3924250	4.25E-06	30YrCancerDerived_Inh	4.25E-06
219	ALL	315050	3924350	4.24E-06	30YrCancerDerived_Inh	4.24E-06
415	ALL	314750	3925450	4.20E-06	30YrCancerDerived_Inh	4.20E-06
424	ALL	315105.7	3923815	4.20E-06	30YrCancerDerived_Inh	4.20E-06
163	ALL	313550	3924050	4.17E-06	30YrCancerDerived_Inh	4.17E-06
379	ALL	314950	3925150	4.15E-06	30YrCancerDerived_Inh	4.15E-06
128	ALL	313450	3923850	4.14E-06	30YrCancerDerived_Inh	4.14E-06
423	ALL	315108.1	3923839	4.13E-06	30YrCancerDerived_Inh	4.13E-06
233	ALL	314050	3924450	4.11E-06	30YrCancerDerived_Inh	4.11E-06
235	ALL	314250	3924450	4.10E-06	30YrCancerDerived_Inh	4.10E-06
37	ALL	314450	3923350	4.09E-06	30YrCancerDerived_Inh	4.09E-06
8	ALL	314750	3923150	4.09E-06	30YrCancerDerived_Inh	4.09E-06
179	ALL	313650	3924150	4.07E-06	30YrCancerDerived_Inh	4.07E-06
11	ALL	315050	3923150	4.06E-06	30YrCancerDerived_Inh	4.06E-06
112	ALL	313750	3923750	4.06E-06	30YrCancerDerived_Inh	4.06E-06
393	ALL	314850	3925250	4.06E-06	30YrCancerDerived_Inh	4.06E-06
239	ALL	315050	3924450	4.05E-06	30YrCancerDerived_Inh	4.05E-06
362	ALL	314950	3925050	4.04E-06	30YrCancerDerived_Inh	4.04E-06
95	ALL	314050	3923650	4.03E-06	30YrCancerDerived_Inh	4.03E-06
210	ALL	313750	3924350	3.94E-06	30YrCancerDerived_Inh	3.94E-06
232	ALL	313950	3924450	3.94E-06	30YrCancerDerived_Inh	3.94E-06
259	ALL	315050	3924550	3.94E-06	30YrCancerDerived_Inh	3.94E-06
236	ALL	314350	3924450	3.93E-06	30YrCancerDerived_Inh	3.93E-06
162	ALL	313450	3924050	3.92E-06	30YrCancerDerived_Inh	3.92E-06
74	ALL	314150	3923550	3.87E-06	30YrCancerDerived_Inh	3.87E-06
20	ALL	314550	3923250	3.83E-06	30YrCancerDerived_Inh	3.83E-06
194	ALL	313650	3924250	3.82E-06	30YrCancerDerived_Inh	3.82E-06
54	ALL	314250	3923450	3.81E-06	30YrCancerDerived_Inh	3.81E-06
84	ALL	315150	3923550	3.79E-06	30YrCancerDerived_Inh	3.79E-06
231	ALL	313850	3924450	3.77E-06	30YrCancerDerived_Inh	3.77E-06
36	ALL	314350	3923350	3.77E-06	30YrCancerDerived_Inh	3.77E-06
111	ALL	313650	3923750	3.76E-06	30YrCancerDerived_Inh	3.76E-06
63	ALL	315150	3923450	3.75E-06	30YrCancerDerived_Inh	3.75E-06
237	ALL	314450	3924450	3.73E-06	30YrCancerDerived_Inh	3.73E-06
279	ALL	315050	3924650	3.73E-06	30YrCancerDerived_Inh	3.73E-06

414	ALL	314650	3925450	3.70E-06	30YrCancerDerived_Inh	3.70E-06
94	ALL	313950	3923650	3.67E-06	30YrCancerDerived_Inh	3.67E-06
498	ALL	315157.5	3923650	3.67E-06	30YrCancerDerived_Inh	3.67E-06
254	ALL	314150	3924550	3.64E-06	30YrCancerDerived_Inh	3.64E-06
209	ALL	313650	3924350	3.64E-06	30YrCancerDerived_Inh	3.64E-06
230	ALL	313750	3924450	3.64E-06	30YrCancerDerived_Inh	3.64E-06
496	ALL	315158.8	3923668	3.61E-06	30YrCancerDerived_Inh	3.61E-06
494	ALL	315160.2	3923690	3.61E-06	30YrCancerDerived_Inh	3.61E-06
44	ALL	315150	3923350	3.60E-06	30YrCancerDerived_Inh	3.60E-06
492	ALL	315160.2	3923707	3.60E-06	30YrCancerDerived_Inh	3.60E-06
490	ALL	315159	3923725	3.59E-06	30YrCancerDerived_Inh	3.59E-06
7	ALL	314650	3923150	3.59E-06	30YrCancerDerived_Inh	3.59E-06
178	ALL	313550	3924150	3.58E-06	30YrCancerDerived_Inh	3.58E-06
238	ALL	314550	3924450	3.55E-06	30YrCancerDerived_Inh	3.55E-06
488	ALL	315159.9	3923744	3.54E-06	30YrCancerDerived_Inh	3.54E-06
19	ALL	314450	3923250	3.54E-06	30YrCancerDerived_Inh	3.54E-06
345	ALL	315050	3924950	3.54E-06	30YrCancerDerived_Inh	3.54E-06
193	ALL	313550	3924250	3.51E-06	30YrCancerDerived_Inh	3.51E-06
300	ALL	314850	3924750	3.50E-06	30YrCancerDerived_Inh	3.50E-06
302	ALL	315050	3924750	3.50E-06	30YrCancerDerived_Inh	3.50E-06
253	ALL	314050	3924550	3.47E-06	30YrCancerDerived_Inh	3.47E-06
486	ALL	315161.5	3923766	3.47E-06	30YrCancerDerived_Inh	3.47E-06
324	ALL	315050	3924850	3.47E-06	30YrCancerDerived_Inh	3.47E-06
255	ALL	314250	3924550	3.46E-06	30YrCancerDerived_Inh	3.46E-06
93	ALL	313850	3923650	3.44E-06	30YrCancerDerived_Inh	3.44E-06
440	ALL	315162.5	3923784	3.43E-06	30YrCancerDerived_Inh	3.43E-06
110	ALL	313550	3923750	3.43E-06	30YrCancerDerived_Inh	3.43E-06
177	ALL	313450	3924150	3.42E-06	30YrCancerDerived_Inh	3.42E-06
26	ALL	315150	3923250	3.41E-06	30YrCancerDerived_Inh	3.41E-06
435	ALL	315163.7	3923806	3.39E-06	30YrCancerDerived_Inh	3.39E-06
252	ALL	313950	3924550	3.38E-06	30YrCancerDerived_Inh	3.38E-06
493	ALL	315180.9	3923707	3.37E-06	30YrCancerDerived_Inh	3.37E-06
229	ALL	313650	3924450	3.37E-06	30YrCancerDerived_Inh	3.37E-06
155	ALL	315150	3923950	3.36E-06	30YrCancerDerived_Inh	3.36E-06
432	ALL	315164	3923825	3.36E-06	30YrCancerDerived_Inh	3.36E-06
278	ALL	314550	3924650	3.36E-06	30YrCancerDerived_Inh	3.36E-06
256	ALL	314350	3924550	3.35E-06	30YrCancerDerived_Inh	3.35E-06
35	ALL	314250	3923350	3.33E-06	30YrCancerDerived_Inh	3.33E-06
495	ALL	315187.6	3923685	3.33E-06	30YrCancerDerived_Inh	3.33E-06
274	ALL	314150	3924650	3.32E-06	30YrCancerDerived_Inh	3.32E-06
208	ALL	313550	3924350	3.32E-06	30YrCancerDerived_Inh	3.32E-06
53	ALL	314150	3923450	3.32E-06	30YrCancerDerived_Inh	3.32E-06
497	ALL	315188.3	3923667	3.31E-06	30YrCancerDerived_Inh	3.31E-06
277	ALL	314450	3924650	3.31E-06	30YrCancerDerived_Inh	3.31E-06
276	ALL	314350	3924650	3.31E-06	30YrCancerDerived_Inh	3.31E-06
251	ALL	313850	3924550	3.31E-06	30YrCancerDerived_Inh	3.31E-06
491	ALL	315184.9	3923728	3.31E-06	30YrCancerDerived_Inh	3.31E-06
6	ALL	314550	3923150	3.30E-06	30YrCancerDerived_Inh	3.30E-06
73	ALL	314050	3923550	3.29E-06	30YrCancerDerived_Inh	3.29E-06
429	ALL	315167.5	3923847	3.28E-06	30YrCancerDerived_Inh	3.28E-06

18	ALL	314350	3923250	3.28E-06	30YrCancerDerived_Inh	3.28E-06
257	ALL	314450	3924550	3.28E-06	30YrCancerDerived_Inh	3.28E-06
275	ALL	314250	3924650	3.28E-06	30YrCancerDerived_Inh	3.28E-06
92	ALL	313750	3923650	3.26E-06	30YrCancerDerived_Inh	3.26E-06
192	ALL	313450	3924250	3.26E-06	30YrCancerDerived_Inh	3.26E-06
489	ALL	315186.2	3923745	3.25E-06	30YrCancerDerived_Inh	3.25E-06
258	ALL	314550	3924550	3.24E-06	30YrCancerDerived_Inh	3.24E-06
487	ALL	315183.6	3923767	3.23E-06	30YrCancerDerived_Inh	3.23E-06
250	ALL	313750	3924550	3.20E-06	30YrCancerDerived_Inh	3.20E-06
170	ALL	315150	3924050	3.18E-06	30YrCancerDerived_Inh	3.18E-06
228	ALL	313550	3924450	3.18E-06	30YrCancerDerived_Inh	3.18E-06
299	ALL	314750	3924750	3.18E-06	30YrCancerDerived_Inh	3.18E-06
438	ALL	315188.9	3923787	3.14E-06	30YrCancerDerived_Inh	3.14E-06
436	ALL	315190.1	3923808	3.12E-06	30YrCancerDerived_Inh	3.12E-06
207	ALL	313450	3924350	3.10E-06	30YrCancerDerived_Inh	3.10E-06
425	ALL	315174.7	3923920	3.10E-06	30YrCancerDerived_Inh	3.10E-06
72	ALL	313950	3923550	3.09E-06	30YrCancerDerived_Inh	3.09E-06
5	ALL	314450	3923150	3.08E-06	30YrCancerDerived_Inh	3.08E-06
249	ALL	313650	3924550	3.07E-06	30YrCancerDerived_Inh	3.07E-06
433	ALL	315192.5	3923827	3.06E-06	30YrCancerDerived_Inh	3.06E-06
322	ALL	314850	3924850	3.06E-06	30YrCancerDerived_Inh	3.06E-06
430	ALL	315190.1	3923847	3.04E-06	30YrCancerDerived_Inh	3.04E-06
295	ALL	314350	3924750	3.03E-06	30YrCancerDerived_Inh	3.03E-06
511	ALL	315220.4	3923697	3.01E-06	30YrCancerDerived_Inh	3.01E-06
273	ALL	314050	3924650	3.01E-06	30YrCancerDerived_Inh	3.01E-06
297	ALL	314550	3924750	3.00E-06	30YrCancerDerived_Inh	3.00E-06
294	ALL	314250	3924750	3.00E-06	30YrCancerDerived_Inh	3.00E-06
109	ALL	313450	3923750	3.00E-06	30YrCancerDerived_Inh	3.00E-06
64	ALL	315250	3923450	2.99E-06	30YrCancerDerived_Inh	2.99E-06
91	ALL	313650	3923650	2.99E-06	30YrCancerDerived_Inh	2.99E-06
296	ALL	314450	3924750	2.99E-06	30YrCancerDerived_Inh	2.99E-06
227	ALL	313450	3924450	2.98E-06	30YrCancerDerived_Inh	2.98E-06
509	ALL	315223	3923713	2.97E-06	30YrCancerDerived_Inh	2.97E-06
343	ALL	314850	3924950	2.96E-06	30YrCancerDerived_Inh	2.96E-06
45	ALL	315250	3923350	2.96E-06	30YrCancerDerived_Inh	2.96E-06
272	ALL	313950	3924650	2.96E-06	30YrCancerDerived_Inh	2.96E-06
298	ALL	314650	3924750	2.95E-06	30YrCancerDerived_Inh	2.95E-06
293	ALL	314150	3924750	2.94E-06	30YrCancerDerived_Inh	2.94E-06
34	ALL	314150	3923350	2.92E-06	30YrCancerDerived_Inh	2.92E-06
17	ALL	314250	3923250	2.92E-06	30YrCancerDerived_Inh	2.92E-06
85	ALL	315250	3923550	2.92E-06	30YrCancerDerived_Inh	2.92E-06
507	ALL	315225	3923735	2.91E-06	30YrCancerDerived_Inh	2.91E-06
378	ALL	314850	3925150	2.91E-06	30YrCancerDerived_Inh	2.91E-06
248	ALL	313550	3924550	2.90E-06	30YrCancerDerived_Inh	2.90E-06
505	ALL	315223	3923752	2.89E-06	30YrCancerDerived_Inh	2.89E-06
185	ALL	315150	3924150	2.89E-06	30YrCancerDerived_Inh	2.89E-06
52	ALL	314050	3923450	2.88E-06	30YrCancerDerived_Inh	2.88E-06
271	ALL	313850	3924650	2.88E-06	30YrCancerDerived_Inh	2.88E-06
27	ALL	315250	3923250	2.87E-06	30YrCancerDerived_Inh	2.87E-06
503	ALL	315224.4	3923771	2.85E-06	30YrCancerDerived_Inh	2.85E-06

4	ALL	314350	3923150	2.85E-06	30YrCancerDerived_Inh	2.85E-06
71	ALL	313850	3923550	2.84E-06	30YrCancerDerived_Inh	2.84E-06
270	ALL	313750	3924650	2.83E-06	30YrCancerDerived_Inh	2.83E-06
501	ALL	315225	3923787	2.82E-06	30YrCancerDerived_Inh	2.82E-06
499	ALL	315223	3923806	2.82E-06	30YrCancerDerived_Inh	2.82E-06
104	ALL	315250	3923650	2.82E-06	30YrCancerDerived_Inh	2.82E-06
510	ALL	315243.1	3923714	2.81E-06	30YrCancerDerived_Inh	2.81E-06
361	ALL	314850	3925050	2.81E-06	30YrCancerDerived_Inh	2.81E-06
247	ALL	313450	3924550	2.80E-06	30YrCancerDerived_Inh	2.80E-06
437	ALL	315222.1	3923826	2.79E-06	30YrCancerDerived_Inh	2.79E-06
508	ALL	315244.4	3923735	2.76E-06	30YrCancerDerived_Inh	2.76E-06
431	ALL	315222	3923845	2.75E-06	30YrCancerDerived_Inh	2.75E-06
426	ALL	315215.1	3923917	2.75E-06	30YrCancerDerived_Inh	2.75E-06
269	ALL	313650	3924650	2.73E-06	30YrCancerDerived_Inh	2.73E-06
506	ALL	315245.8	3923752	2.72E-06	30YrCancerDerived_Inh	2.72E-06
90	ALL	313550	3923650	2.70E-06	30YrCancerDerived_Inh	2.70E-06
200	ALL	315150	3924250	2.70E-06	30YrCancerDerived_Inh	2.70E-06
504	ALL	315246.4	3923770	2.69E-06	30YrCancerDerived_Inh	2.69E-06
292	ALL	314050	3924750	2.67E-06	30YrCancerDerived_Inh	2.67E-06
70	ALL	313750	3923550	2.67E-06	30YrCancerDerived_Inh	2.67E-06
502	ALL	315247.1	3923787	2.67E-06	30YrCancerDerived_Inh	2.67E-06
392	ALL	314750	3925250	2.66E-06	30YrCancerDerived_Inh	2.66E-06
500	ALL	315246.4	3923805	2.65E-06	30YrCancerDerived_Inh	2.65E-06
439	ALL	315242.5	3923824	2.65E-06	30YrCancerDerived_Inh	2.65E-06
268	ALL	313550	3924650	2.64E-06	30YrCancerDerived_Inh	2.64E-06
51	ALL	313950	3923450	2.62E-06	30YrCancerDerived_Inh	2.62E-06
321	ALL	314750	3924850	2.60E-06	30YrCancerDerived_Inh	2.60E-06
33	ALL	314050	3923350	2.60E-06	30YrCancerDerived_Inh	2.60E-06
16	ALL	314150	3923250	2.59E-06	30YrCancerDerived_Inh	2.59E-06
434	ALL	315245.3	3923844	2.59E-06	30YrCancerDerived_Inh	2.59E-06
291	ALL	313950	3924750	2.57E-06	30YrCancerDerived_Inh	2.57E-06
267	ALL	313450	3924650	2.55E-06	30YrCancerDerived_Inh	2.55E-06
3	ALL	314250	3923150	2.55E-06	30YrCancerDerived_Inh	2.55E-06
290	ALL	313850	3924750	2.55E-06	30YrCancerDerived_Inh	2.55E-06
220	ALL	315150	3924350	2.52E-06	30YrCancerDerived_Inh	2.52E-06
89	ALL	313450	3923650	2.51E-06	30YrCancerDerived_Inh	2.51E-06
46	ALL	315350	3923350	2.49E-06	30YrCancerDerived_Inh	2.49E-06
156	ALL	315250	3923950	2.49E-06	30YrCancerDerived_Inh	2.49E-06
404	ALL	314650	3925350	2.48E-06	30YrCancerDerived_Inh	2.48E-06
69	ALL	313650	3923550	2.47E-06	30YrCancerDerived_Inh	2.47E-06
50	ALL	313850	3923450	2.47E-06	30YrCancerDerived_Inh	2.47E-06
289	ALL	313750	3924750	2.47E-06	30YrCancerDerived_Inh	2.47E-06
427	ALL	315257.9	3923917	2.46E-06	30YrCancerDerived_Inh	2.46E-06
288	ALL	313650	3924750	2.44E-06	30YrCancerDerived_Inh	2.44E-06
65	ALL	315350	3923450	2.43E-06	30YrCancerDerived_Inh	2.43E-06
320	ALL	314650	3924850	2.41E-06	30YrCancerDerived_Inh	2.41E-06
240	ALL	315150	3924450	2.39E-06	30YrCancerDerived_Inh	2.39E-06
342	ALL	314750	3924950	2.38E-06	30YrCancerDerived_Inh	2.38E-06
287	ALL	313550	3924750	2.38E-06	30YrCancerDerived_Inh	2.38E-06
68	ALL	313550	3923550	2.38E-06	30YrCancerDerived_Inh	2.38E-06

171	ALL	315250	3924050	2.36E-06	30YrCancerDerived_Inh	2.36E-06
15	ALL	314050	3923250	2.36E-06	30YrCancerDerived_Inh	2.36E-06
319	ALL	314550	3924850	2.35E-06	30YrCancerDerived_Inh	2.35E-06
86	ALL	315350	3923550	2.34E-06	30YrCancerDerived_Inh	2.34E-06
32	ALL	313950	3923350	2.34E-06	30YrCancerDerived_Inh	2.34E-06
317	ALL	314350	3924850	2.32E-06	30YrCancerDerived_Inh	2.32E-06
377	ALL	314750	3925150	2.32E-06	30YrCancerDerived_Inh	2.32E-06
2	ALL	314150	3923150	2.31E-06	30YrCancerDerived_Inh	2.31E-06
318	ALL	314450	3924850	2.29E-06	30YrCancerDerived_Inh	2.29E-06
395	ALL	315050	3925250	2.27E-06	30YrCancerDerived_Inh	2.27E-06
260	ALL	315150	3924550	2.27E-06	30YrCancerDerived_Inh	2.27E-06
105	ALL	315350	3923650	2.27E-06	30YrCancerDerived_Inh	2.27E-06
314	ALL	314050	3924850	2.26E-06	30YrCancerDerived_Inh	2.26E-06
49	ALL	313750	3923450	2.26E-06	30YrCancerDerived_Inh	2.26E-06
316	ALL	314250	3924850	2.26E-06	30YrCancerDerived_Inh	2.26E-06
312	ALL	313850	3924850	2.26E-06	30YrCancerDerived_Inh	2.26E-06
315	ALL	314150	3924850	2.25E-06	30YrCancerDerived_Inh	2.25E-06
360	ALL	314750	3925050	2.24E-06	30YrCancerDerived_Inh	2.24E-06
313	ALL	313950	3924850	2.23E-06	30YrCancerDerived_Inh	2.23E-06
428	ALL	315295.4	3923916	2.21E-06	30YrCancerDerived_Inh	2.21E-06
311	ALL	313750	3924850	2.21E-06	30YrCancerDerived_Inh	2.21E-06
341	ALL	314650	3924950	2.19E-06	30YrCancerDerived_Inh	2.19E-06
31	ALL	313850	3923350	2.18E-06	30YrCancerDerived_Inh	2.18E-06
310	ALL	313650	3924850	2.17E-06	30YrCancerDerived_Inh	2.17E-06
67	ALL	313450	3923550	2.15E-06	30YrCancerDerived_Inh	2.15E-06
14	ALL	313950	3923250	2.14E-06	30YrCancerDerived_Inh	2.14E-06
48	ALL	313650	3923450	2.14E-06	30YrCancerDerived_Inh	2.14E-06
280	ALL	315150	3924650	2.14E-06	30YrCancerDerived_Inh	2.14E-06
1	ALL	314050	3923150	2.13E-06	30YrCancerDerived_Inh	2.13E-06
407	ALL	314950	3925350	2.13E-06	30YrCancerDerived_Inh	2.13E-06
124	ALL	315350	3923750	2.12E-06	30YrCancerDerived_Inh	2.12E-06
413	ALL	314550	3925450	2.11E-06	30YrCancerDerived_Inh	2.11E-06
513	ALL	315320.5	3923947	2.10E-06	30YrCancerDerived_Inh	2.10E-06
364	ALL	315150	3925050	2.09E-06	30YrCancerDerived_Inh	2.09E-06
186	ALL	315250	3924150	2.07E-06	30YrCancerDerived_Inh	2.07E-06
512	ALL	315327	3923924	2.06E-06	30YrCancerDerived_Inh	2.06E-06
340	ALL	314550	3924950	2.05E-06	30YrCancerDerived_Inh	2.05E-06
359	ALL	314650	3925050	2.05E-06	30YrCancerDerived_Inh	2.05E-06
346	ALL	315150	3924950	2.05E-06	30YrCancerDerived_Inh	2.05E-06
515	ALL	315323.7	3923988	2.05E-06	30YrCancerDerived_Inh	2.05E-06
391	ALL	314650	3925250	2.04E-06	30YrCancerDerived_Inh	2.04E-06
514	ALL	315329.2	3923971	2.04E-06	30YrCancerDerived_Inh	2.04E-06
30	ALL	313750	3923350	2.04E-06	30YrCancerDerived_Inh	2.04E-06
303	ALL	315150	3924750	2.03E-06	30YrCancerDerived_Inh	2.03E-06
143	ALL	315350	3923850	2.03E-06	30YrCancerDerived_Inh	2.03E-06
325	ALL	315150	3924850	2.02E-06	30YrCancerDerived_Inh	2.02E-06
338	ALL	314350	3924950	2.01E-06	30YrCancerDerived_Inh	2.01E-06
47	ALL	313550	3923450	2.01E-06	30YrCancerDerived_Inh	2.01E-06
332	ALL	313750	3924950	1.99E-06	30YrCancerDerived_Inh	1.99E-06
516	ALL	315328.1	3924010	1.99E-06	30YrCancerDerived_Inh	1.99E-06

517	ALL	315327	3924030	1.99E-06	30YrCancerDerived_Inh	1.99E-06
66	ALL	315450	3923450	1.98E-06	30YrCancerDerived_Inh	1.98E-06
339	ALL	314450	3924950	1.98E-06	30YrCancerDerived_Inh	1.98E-06
376	ALL	314650	3925150	1.98E-06	30YrCancerDerived_Inh	1.98E-06
157	ALL	315350	3923950	1.98E-06	30YrCancerDerived_Inh	1.98E-06
334	ALL	313950	3924950	1.97E-06	30YrCancerDerived_Inh	1.97E-06
335	ALL	314050	3924950	1.96E-06	30YrCancerDerived_Inh	1.96E-06
333	ALL	313850	3924950	1.95E-06	30YrCancerDerived_Inh	1.95E-06
201	ALL	315250	3924250	1.95E-06	30YrCancerDerived_Inh	1.95E-06
337	ALL	314250	3924950	1.95E-06	30YrCancerDerived_Inh	1.95E-06
518	ALL	315333.5	3924045	1.95E-06	30YrCancerDerived_Inh	1.95E-06
519	ALL	315332.4	3924059	1.93E-06	30YrCancerDerived_Inh	1.93E-06
336	ALL	314150	3924950	1.93E-06	30YrCancerDerived_Inh	1.93E-06
13	ALL	313850	3923250	1.93E-06	30YrCancerDerived_Inh	1.93E-06
403	ALL	314550	3925350	1.91E-06	30YrCancerDerived_Inh	1.91E-06
358	ALL	314550	3925050	1.90E-06	30YrCancerDerived_Inh	1.90E-06
87	ALL	315450	3923550	1.89E-06	30YrCancerDerived_Inh	1.89E-06
520	ALL	315332.4	3924082	1.88E-06	30YrCancerDerived_Inh	1.88E-06
172	ALL	315350	3924050	1.88E-06	30YrCancerDerived_Inh	1.88E-06
106	ALL	315450	3923650	1.87E-06	30YrCancerDerived_Inh	1.87E-06
521	ALL	315332.4	3924098	1.85E-06	30YrCancerDerived_Inh	1.85E-06
29	ALL	313650	3923350	1.85E-06	30YrCancerDerived_Inh	1.85E-06
221	ALL	315250	3924350	1.84E-06	30YrCancerDerived_Inh	1.84E-06
12	ALL	313750	3923250	1.82E-06	30YrCancerDerived_Inh	1.82E-06
375	ALL	314550	3925150	1.81E-06	30YrCancerDerived_Inh	1.81E-06
356	ALL	314350	3925050	1.81E-06	30YrCancerDerived_Inh	1.81E-06
357	ALL	314450	3925050	1.80E-06	30YrCancerDerived_Inh	1.80E-06
390	ALL	314550	3925250	1.79E-06	30YrCancerDerived_Inh	1.79E-06
522	ALL	315333.5	3924124	1.78E-06	30YrCancerDerived_Inh	1.78E-06
416	ALL	314850	3925450	1.77E-06	30YrCancerDerived_Inh	1.77E-06
125	ALL	315450	3923750	1.76E-06	30YrCancerDerived_Inh	1.76E-06
28	ALL	313550	3923350	1.75E-06	30YrCancerDerived_Inh	1.75E-06
352	ALL	313950	3925050	1.75E-06	30YrCancerDerived_Inh	1.75E-06
241	ALL	315250	3924450	1.75E-06	30YrCancerDerived_Inh	1.75E-06
381	ALL	315150	3925150	1.74E-06	30YrCancerDerived_Inh	1.74E-06
523	ALL	315334.6	3924135	1.74E-06	30YrCancerDerived_Inh	1.74E-06
355	ALL	314250	3925050	1.74E-06	30YrCancerDerived_Inh	1.74E-06
354	ALL	314150	3925050	1.72E-06	30YrCancerDerived_Inh	1.72E-06
353	ALL	314050	3925050	1.72E-06	30YrCancerDerived_Inh	1.72E-06
374	ALL	314450	3925150	1.68E-06	30YrCancerDerived_Inh	1.68E-06
144	ALL	315450	3923850	1.68E-06	30YrCancerDerived_Inh	1.68E-06
527	ALL	315332.4	3924216	1.67E-06	30YrCancerDerived_Inh	1.67E-06
526	ALL	315334.6	3924193	1.67E-06	30YrCancerDerived_Inh	1.67E-06
373	ALL	314350	3925150	1.67E-06	30YrCancerDerived_Inh	1.67E-06
524	ALL	315336.8	3924160	1.66E-06	30YrCancerDerived_Inh	1.66E-06
525	ALL	315335.7	3924169	1.65E-06	30YrCancerDerived_Inh	1.65E-06
158	ALL	315450	3923950	1.65E-06	30YrCancerDerived_Inh	1.65E-06
187	ALL	315350	3924150	1.64E-06	30YrCancerDerived_Inh	1.64E-06
528	ALL	315336.8	3924229	1.64E-06	30YrCancerDerived_Inh	1.64E-06
530	ALL	315337.9	3924237	1.63E-06	30YrCancerDerived_Inh	1.63E-06

261	ALL	315250	3924550	1.63E-06	30YrCancerDerived_Inh	1.63E-06
88	ALL	315550	3923550	1.63E-06	30YrCancerDerived_Inh	1.63E-06
402	ALL	314450	3925350	1.62E-06	30YrCancerDerived_Inh	1.62E-06
529	ALL	315339	3924245	1.62E-06	30YrCancerDerived_Inh	1.62E-06
389	ALL	314450	3925250	1.62E-06	30YrCancerDerived_Inh	1.62E-06
531	ALL	315335.7	3924251	1.62E-06	30YrCancerDerived_Inh	1.62E-06
412	ALL	314450	3925450	1.61E-06	30YrCancerDerived_Inh	1.61E-06
372	ALL	314250	3925150	1.59E-06	30YrCancerDerived_Inh	1.59E-06
202	ALL	315350	3924250	1.58E-06	30YrCancerDerived_Inh	1.58E-06
173	ALL	315450	3924050	1.57E-06	30YrCancerDerived_Inh	1.57E-06
371	ALL	314150	3925150	1.57E-06	30YrCancerDerived_Inh	1.57E-06
532	ALL	315337.9	3924270	1.57E-06	30YrCancerDerived_Inh	1.57E-06
370	ALL	314050	3925150	1.57E-06	30YrCancerDerived_Inh	1.57E-06
388	ALL	314350	3925250	1.57E-06	30YrCancerDerived_Inh	1.57E-06
107	ALL	315550	3923650	1.55E-06	30YrCancerDerived_Inh	1.55E-06
533	ALL	315337.9	3924291	1.55E-06	30YrCancerDerived_Inh	1.55E-06
281	ALL	315250	3924650	1.54E-06	30YrCancerDerived_Inh	1.54E-06
126	ALL	315550	3923750	1.51E-06	30YrCancerDerived_Inh	1.51E-06
534	ALL	315345.5	3924327	1.50E-06	30YrCancerDerived_Inh	1.50E-06
401	ALL	314350	3925350	1.49E-06	30YrCancerDerived_Inh	1.49E-06
304	ALL	315250	3924750	1.49E-06	30YrCancerDerived_Inh	1.49E-06
535	ALL	315340.1	3924344	1.48E-06	30YrCancerDerived_Inh	1.48E-06
387	ALL	314250	3925250	1.47E-06	30YrCancerDerived_Inh	1.47E-06
536	ALL	315340.1	3924369	1.45E-06	30YrCancerDerived_Inh	1.45E-06
537	ALL	315343.3	3924385	1.45E-06	30YrCancerDerived_Inh	1.45E-06
222	ALL	315350	3924350	1.44E-06	30YrCancerDerived_Inh	1.44E-06
386	ALL	314150	3925250	1.44E-06	30YrCancerDerived_Inh	1.44E-06
538	ALL	315344.4	3924408	1.44E-06	30YrCancerDerived_Inh	1.44E-06
145	ALL	315550	3923850	1.43E-06	30YrCancerDerived_Inh	1.43E-06
326	ALL	315250	3924850	1.42E-06	30YrCancerDerived_Inh	1.42E-06
539	ALL	315345.5	3924424	1.42E-06	30YrCancerDerived_Inh	1.42E-06
159	ALL	315550	3923950	1.41E-06	30YrCancerDerived_Inh	1.41E-06
188	ALL	315450	3924150	1.39E-06	30YrCancerDerived_Inh	1.39E-06
400	ALL	314250	3925350	1.38E-06	30YrCancerDerived_Inh	1.38E-06
540	ALL	315345.5	3924466	1.37E-06	30YrCancerDerived_Inh	1.37E-06
242	ALL	315350	3924450	1.36E-06	30YrCancerDerived_Inh	1.36E-06
347	ALL	315250	3924950	1.36E-06	30YrCancerDerived_Inh	1.36E-06
541	ALL	315348.8	3924479	1.36E-06	30YrCancerDerived_Inh	1.36E-06
174	ALL	315550	3924050	1.35E-06	30YrCancerDerived_Inh	1.35E-06
108	ALL	315650	3923650	1.35E-06	30YrCancerDerived_Inh	1.35E-06
542	ALL	315352.1	3924503	1.34E-06	30YrCancerDerived_Inh	1.34E-06
543	ALL	315349.9	3924518	1.34E-06	30YrCancerDerived_Inh	1.34E-06
203	ALL	315450	3924250	1.32E-06	30YrCancerDerived_Inh	1.32E-06
262	ALL	315350	3924550	1.31E-06	30YrCancerDerived_Inh	1.31E-06
544	ALL	315355.3	3924540	1.31E-06	30YrCancerDerived_Inh	1.31E-06
127	ALL	315650	3923750	1.31E-06	30YrCancerDerived_Inh	1.31E-06
545	ALL	315356.4	3924578	1.26E-06	30YrCancerDerived_Inh	1.26E-06
365	ALL	315250	3925050	1.24E-06	30YrCancerDerived_Inh	1.24E-06
146	ALL	315650	3923850	1.24E-06	30YrCancerDerived_Inh	1.24E-06
160	ALL	315650	3923950	1.23E-06	30YrCancerDerived_Inh	1.23E-06

223	ALL	315450	3924350	1.23E-06	30YrCancerDerived_Inh	1.23E-06
282	ALL	315350	3924650	1.22E-06	30YrCancerDerived_Inh	1.22E-06
189	ALL	315550	3924150	1.21E-06	30YrCancerDerived_Inh	1.21E-06
408	ALL	315050	3925350	1.21E-06	30YrCancerDerived_Inh	1.21E-06
396	ALL	315150	3925250	1.19E-06	30YrCancerDerived_Inh	1.19E-06
175	ALL	315650	3924050	1.17E-06	30YrCancerDerived_Inh	1.17E-06
305	ALL	315350	3924750	1.16E-06	30YrCancerDerived_Inh	1.16E-06
243	ALL	315450	3924450	1.15E-06	30YrCancerDerived_Inh	1.15E-06
417	ALL	314950	3925450	1.13E-06	30YrCancerDerived_Inh	1.13E-06
204	ALL	315550	3924250	1.12E-06	30YrCancerDerived_Inh	1.12E-06
263	ALL	315450	3924550	1.10E-06	30YrCancerDerived_Inh	1.10E-06
161	ALL	315750	3923950	1.09E-06	30YrCancerDerived_Inh	1.09E-06
327	ALL	315350	3924850	1.07E-06	30YrCancerDerived_Inh	1.07E-06
190	ALL	315650	3924150	1.07E-06	30YrCancerDerived_Inh	1.07E-06
176	ALL	315750	3924050	1.05E-06	30YrCancerDerived_Inh	1.05E-06
224	ALL	315550	3924350	1.03E-06	30YrCancerDerived_Inh	1.03E-06
283	ALL	315450	3924650	1.01E-06	30YrCancerDerived_Inh	1.01E-06
382	ALL	315250	3925150	9.98E-07	30YrCancerDerived_Inh	9.98E-07
348	ALL	315350	3924950	9.95E-07	30YrCancerDerived_Inh	9.95E-07
191	ALL	315750	3924150	9.62E-07	30YrCancerDerived_Inh	9.62E-07
306	ALL	315450	3924750	9.60E-07	30YrCancerDerived_Inh	9.60E-07
244	ALL	315550	3924450	9.57E-07	30YrCancerDerived_Inh	9.57E-07
205	ALL	315650	3924250	9.44E-07	30YrCancerDerived_Inh	9.44E-07
264	ALL	315550	3924550	9.14E-07	30YrCancerDerived_Inh	9.14E-07
225	ALL	315650	3924350	9.05E-07	30YrCancerDerived_Inh	9.05E-07
328	ALL	315450	3924850	8.96E-07	30YrCancerDerived_Inh	8.96E-07
366	ALL	315350	3925050	8.95E-07	30YrCancerDerived_Inh	8.95E-07
284	ALL	315550	3924650	8.87E-07	30YrCancerDerived_Inh	8.87E-07
418	ALL	315050	3925450	8.74E-07	30YrCancerDerived_Inh	8.74E-07
397	ALL	315250	3925250	8.56E-07	30YrCancerDerived_Inh	8.56E-07
245	ALL	315650	3924450	8.51E-07	30YrCancerDerived_Inh	8.51E-07
265	ALL	315650	3924550	8.26E-07	30YrCancerDerived_Inh	8.26E-07
226	ALL	315750	3924350	8.25E-07	30YrCancerDerived_Inh	8.25E-07
206	ALL	315750	3924250	8.24E-07	30YrCancerDerived_Inh	8.24E-07
307	ALL	315550	3924750	8.08E-07	30YrCancerDerived_Inh	8.08E-07
409	ALL	315150	3925350	8.05E-07	30YrCancerDerived_Inh	8.05E-07
349	ALL	315450	3924950	7.95E-07	30YrCancerDerived_Inh	7.95E-07
285	ALL	315650	3924650	7.83E-07	30YrCancerDerived_Inh	7.83E-07
246	ALL	315750	3924450	7.73E-07	30YrCancerDerived_Inh	7.73E-07
329	ALL	315550	3924850	7.56E-07	30YrCancerDerived_Inh	7.56E-07
383	ALL	315350	3925150	7.55E-07	30YrCancerDerived_Inh	7.55E-07
410	ALL	315250	3925350	7.31E-07	30YrCancerDerived_Inh	7.31E-07
308	ALL	315650	3924750	7.20E-07	30YrCancerDerived_Inh	7.20E-07
419	ALL	315150	3925450	7.20E-07	30YrCancerDerived_Inh	7.20E-07
266	ALL	315750	3924550	7.13E-07	30YrCancerDerived_Inh	7.13E-07
367	ALL	315450	3925050	7.12E-07	30YrCancerDerived_Inh	7.12E-07
398	ALL	315350	3925250	7.10E-07	30YrCancerDerived_Inh	7.10E-07
350	ALL	315550	3924950	6.97E-07	30YrCancerDerived_Inh	6.97E-07
286	ALL	315750	3924650	6.70E-07	30YrCancerDerived_Inh	6.70E-07
330	ALL	315650	3924850	6.49E-07	30YrCancerDerived_Inh	6.49E-07

384	ALL	315450	3925150	6.36E-07	30YrCancerDerived_Inh	6.36E-07
309	ALL	315750	3924750	6.35E-07	30YrCancerDerived_Inh	6.35E-07
411	ALL	315350	3925350	6.08E-07	30YrCancerDerived_Inh	6.08E-07
368	ALL	315550	3925050	6.05E-07	30YrCancerDerived_Inh	6.05E-07
351	ALL	315650	3924950	5.90E-07	30YrCancerDerived_Inh	5.90E-07
331	ALL	315750	3924850	5.74E-07	30YrCancerDerived_Inh	5.74E-07
369	ALL	315650	3925050	5.68E-07	30YrCancerDerived_Inh	5.68E-07
420	ALL	315250	3925450	5.50E-07	30YrCancerDerived_Inh	5.50E-07
385	ALL	315550	3925150	5.45E-07	30YrCancerDerived_Inh	5.45E-07
399	ALL	315450	3925250	5.20E-07	30YrCancerDerived_Inh	5.20E-07

```
HARP2 - HRACalc (dated 22118) 8/4/2026 5:49:28 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
*********************************
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: Cancer
Calculation Method: Derived

*********************************
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 16
Total Exposure Duration: 25

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 25

*********************************
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments.  The remaining pathways are only used for
cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

*********************************
INHALATION

Daily breathing rate: Moderate8HR

**Worker Adjustment Factors**
Worker adjustment factors enabled: NO

**Fraction at time at home**
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

*********************************
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05
Soil mixing depth (m): 0.01
Dermal climate: Mixed

*********************************
TIER 2 SETTINGS
Tier2 not used.

*********************************

Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: F:\Jobs\59010001\OpHRA
2\OpHRA\HARPOpsMIT3\HARPOpsMIT3\hra\OpHRASupplementalWorkerCancerRisk.csv
```

```
Cancer risk total by receptor saved to: F:\Jobs\59010001\OpHRA
2\OpHRA\HARPOpsMIT3\HARPOpsMIT3\hra\OpHRASupplementalWorkerCancerRiskSumByRec.csv
HRA ran successfully
```

Worker HARP2 Output

Notes:

REC 140 is the worker receptor with the highest health risks; all other worker receptors would experience lower health risks.

All receptors (including residential receptors) are run under a worker scenario. For residential health risks at residences (identified by UTMs), refer to the Residential HARP2 Output.

REC	GRP	NETID	X	Y	CONC	POLID	POLABBREV	RISK_SUM	SCENARIO	DETAILS	INH_RISK
140	ALL		314650	3923850	0.02527	9901	DieselExhPM	1.56E-06	25YrCancerDerived_InhSoilDerm	*	1.56E-06
139	ALL		314550	3923850	0.021347	9901	DieselExhPM	1.32E-06	25YrCancerDerived_InhSoilDerm	*	1.32E-06
138	ALL		314450	3923850	0.019543	9901	DieselExhPM	1.21E-06	25YrCancerDerived_InhSoilDerm	*	1.21E-06
137	ALL		314350	3923850	0.016818	9901	DieselExhPM	1.04E-06	25YrCancerDerived_InhSoilDerm	*	1.04E-06
141	ALL		314750	3923850	0.016279	9901	DieselExhPM	1.01E-06	25YrCancerDerived_InhSoilDerm	*	1.01E-06
136	ALL		314250	3923850	0.014041	9901	DieselExhPM	8.69E-07	25YrCancerDerived_InhSoilDerm	*	8.69E-07
142	ALL		314850	3923850	0.013514	9901	DieselExhPM	8.36E-07	25YrCancerDerived_InhSoilDerm	*	8.36E-07
120	ALL		314550	3923750	0.013328	9901	DieselExhPM	8.25E-07	25YrCancerDerived_InhSoilDerm	*	8.25E-07
121	ALL		314650	3923750	0.01303	9901	DieselExhPM	8.06E-07	25YrCancerDerived_InhSoilDerm	*	8.06E-07
119	ALL		314450	3923750	0.01234	9901	DieselExhPM	7.64E-07	25YrCancerDerived_InhSoilDerm	*	7.64E-07
122	ALL		314750	3923750	0.01197	9901	DieselExhPM	7.41E-07	25YrCancerDerived_InhSoilDerm	*	7.41E-07
135	ALL		314150	3923850	0.011168	9901	DieselExhPM	6.91E-07	25YrCancerDerived_InhSoilDerm	*	6.91E-07
123	ALL		314850	3923750	0.011102	9901	DieselExhPM	6.87E-07	25YrCancerDerived_InhSoilDerm	*	6.87E-07
441	ALL		314958.8	3923771	0.01095	9901	DieselExhPM	6.78E-07	25YrCancerDerived_InhSoilDerm	*	6.78E-07
153	ALL		314050	3923950	0.010541	9901	DieselExhPM	6.52E-07	25YrCancerDerived_InhSoilDerm	*	6.52E-07
118	ALL		314350	3923750	0.010327	9901	DieselExhPM	6.39E-07	25YrCancerDerived_InhSoilDerm	*	6.39E-07
443	ALL		314962.2	3923753	0.01032	9901	DieselExhPM	6.39E-07	25YrCancerDerived_InhSoilDerm	*	6.39E-07
445	ALL		314959.5	3923730	0.010249	9901	DieselExhPM	6.34E-07	25YrCancerDerived_InhSoilDerm	*	6.34E-07
103	ALL		314850	3923650	0.01019	9901	DieselExhPM	6.31E-07	25YrCancerDerived_InhSoilDerm	*	6.31E-07
447	ALL		314958.1	3923714	0.010137	9901	DieselExhPM	6.27E-07	25YrCancerDerived_InhSoilDerm	*	6.27E-07
449	ALL		314958.1	3923690	0.009858	9901	DieselExhPM	6.10E-07	25YrCancerDerived_InhSoilDerm	*	6.10E-07
102	ALL		314750	3923650	0.009668	9901	DieselExhPM	5.98E-07	25YrCancerDerived_InhSoilDerm	*	5.98E-07
451	ALL		314958.8	3923672	0.009602	9901	DieselExhPM	5.94E-07	25YrCancerDerived_InhSoilDerm	*	5.94E-07
101	ALL		314650	3923650	0.009544	9901	DieselExhPM	5.91E-07	25YrCancerDerived_InhSoilDerm	*	5.91E-07
81	ALL		314850	3923550	0.009495	9901	DieselExhPM	5.88E-07	25YrCancerDerived_InhSoilDerm	*	5.88E-07
168	ALL		314050	3924050	0.009443	9901	DieselExhPM	5.84E-07	25YrCancerDerived_InhSoilDerm	*	5.84E-07
134	ALL		314050	3923850	0.009378	9901	DieselExhPM	5.80E-07	25YrCancerDerived_InhSoilDerm	*	5.80E-07
453	ALL		314959.5	3923652	0.009359	9901	DieselExhPM	5.79E-07	25YrCancerDerived_InhSoilDerm	*	5.79E-07
61	ALL		314950	3923450	0.009222	9901	DieselExhPM	5.71E-07	25YrCancerDerived_InhSoilDerm	*	5.71E-07
455	ALL		314959.5	3923633	0.009198	9901	DieselExhPM	5.69E-07	25YrCancerDerived_InhSoilDerm	*	5.69E-07
100	ALL		314550	3923650	0.009168	9901	DieselExhPM	5.67E-07	25YrCancerDerived_InhSoilDerm	*	5.67E-07
82	ALL		314950	3923550	0.009118	9901	DieselExhPM	5.64E-07	25YrCancerDerived_InhSoilDerm	*	5.64E-07
152	ALL		313950	3923950	0.009075	9901	DieselExhPM	5.62E-07	25YrCancerDerived_InhSoilDerm	*	5.62E-07
457	ALL		314960.9	3923610	0.008926	9901	DieselExhPM	5.52E-07	25YrCancerDerived_InhSoilDerm	*	5.52E-07
42	ALL		314950	3923350	0.008896	9901	DieselExhPM	5.51E-07	25YrCancerDerived_InhSoilDerm	*	5.51E-07
442	ALL		314987.6	3923770	0.008795	9901	DieselExhPM	5.44E-07	25YrCancerDerived_InhSoilDerm	*	5.44E-07
183	ALL		314050	3924150	0.008607	9901	DieselExhPM	5.33E-07	25YrCancerDerived_InhSoilDerm	*	5.33E-07
151	ALL		313850	3923950	0.008567	9901	DieselExhPM	5.30E-07	25YrCancerDerived_InhSoilDerm	*	5.30E-07
444	ALL		314988.2	3923749	0.008527	9901	DieselExhPM	5.28E-07	25YrCancerDerived_InhSoilDerm	*	5.28E-07
60	ALL		314850	3923450	0.008388	9901	DieselExhPM	5.19E-07	25YrCancerDerived_InhSoilDerm	*	5.19E-07
99	ALL		314450	3923650	0.008372	9901	DieselExhPM	5.18E-07	25YrCancerDerived_InhSoilDerm	*	5.18E-07
446	ALL		314988.2	3923730	0.008369	9901	DieselExhPM	5.18E-07	25YrCancerDerived_InhSoilDerm	*	5.18E-07

448	ALL	314986.2	3923712	0.008345	9901	DieselExhPM	5.16E-07	25YrCancerDerived_InhSoilDerm	*	5.16E-07
150	ALL	313750	3923950	0.008319	9901	DieselExhPM	5.15E-07	25YrCancerDerived_InhSoilDerm	*	5.15E-07
450	ALL	314984.9	3923689	0.008259	9901	DieselExhPM	5.11E-07	25YrCancerDerived_InhSoilDerm	*	5.11E-07
24	ALL	314950	3923250	0.008255	9901	DieselExhPM	5.11E-07	25YrCancerDerived_InhSoilDerm	*	5.11E-07
117	ALL	314250	3923750	0.008237	9901	DieselExhPM	5.10E-07	25YrCancerDerived_InhSoilDerm	*	5.10E-07
80	ALL	314750	3923550	0.008158	9901	DieselExhPM	5.05E-07	25YrCancerDerived_InhSoilDerm	*	5.05E-07
454	ALL	314983.6	3923651	0.008069	9901	DieselExhPM	4.99E-07	25YrCancerDerived_InhSoilDerm	*	4.99E-07
549	ALL	314624.3	3923582	0.008067	9901	DieselExhPM	4.99E-07	25YrCancerDerived_InhSoilDerm	*	4.99E-07
133	ALL	313950	3923850	0.008049	9901	DieselExhPM	4.98E-07	25YrCancerDerived_InhSoilDerm	*	4.98E-07
452	ALL	314986.9	3923674	0.008039	9901	DieselExhPM	4.98E-07	25YrCancerDerived_InhSoilDerm	*	4.98E-07
149	ALL	313650	3923950	0.007944	9901	DieselExhPM	4.92E-07	25YrCancerDerived_InhSoilDerm	*	4.92E-07
456	ALL	314984.2	3923632	0.007911	9901	DieselExhPM	4.90E-07	25YrCancerDerived_InhSoilDerm	*	4.90E-07
458	ALL	314983.6	3923610	0.007845	9901	DieselExhPM	4.85E-07	25YrCancerDerived_InhSoilDerm	*	4.85E-07
41	ALL	314850	3923350	0.007745	9901	DieselExhPM	4.79E-07	25YrCancerDerived_InhSoilDerm	*	4.79E-07
10	ALL	314950	3923150	0.007699	9901	DieselExhPM	4.76E-07	25YrCancerDerived_InhSoilDerm	*	4.76E-07
548	ALL	314280.2	3923708	0.007648	9901	DieselExhPM	4.73E-07	25YrCancerDerived_InhSoilDerm	*	4.73E-07
79	ALL	314650	3923550	0.007627	9901	DieselExhPM	4.72E-07	25YrCancerDerived_InhSoilDerm	*	4.72E-07
167	ALL	313950	3924050	0.007431	9901	DieselExhPM	4.60E-07	25YrCancerDerived_InhSoilDerm	*	4.60E-07
98	ALL	314350	3923650	0.007355	9901	DieselExhPM	4.55E-07	25YrCancerDerived_InhSoilDerm	*	4.55E-07
23	ALL	314850	3923250	0.007272	9901	DieselExhPM	4.50E-07	25YrCancerDerived_InhSoilDerm	*	4.50E-07
198	ALL	314050	3924250	0.007153	9901	DieselExhPM	4.43E-07	25YrCancerDerived_InhSoilDerm	*	4.43E-07
132	ALL	313850	3923850	0.007113	9901	DieselExhPM	4.40E-07	25YrCancerDerived_InhSoilDerm	*	4.40E-07
147	ALL	313450	3923950	0.00699	9901	DieselExhPM	4.33E-07	25YrCancerDerived_InhSoilDerm	*	4.33E-07
59	ALL	314750	3923450	0.006973	9901	DieselExhPM	4.32E-07	25YrCancerDerived_InhSoilDerm	*	4.32E-07
148	ALL	313550	3923950	0.006961	9901	DieselExhPM	4.31E-07	25YrCancerDerived_InhSoilDerm	*	4.31E-07
182	ALL	313950	3924150	0.006922	9901	DieselExhPM	4.28E-07	25YrCancerDerived_InhSoilDerm	*	4.28E-07
78	ALL	314550	3923550	0.006786	9901	DieselExhPM	4.20E-07	25YrCancerDerived_InhSoilDerm	*	4.20E-07
116	ALL	314150	3923750	0.0067	9901	DieselExhPM	4.15E-07	25YrCancerDerived_InhSoilDerm	*	4.15E-07
550	ALL	314388.4	3923589	0.006637	9901	DieselExhPM	4.11E-07	25YrCancerDerived_InhSoilDerm	*	4.11E-07
131	ALL	313750	3923850	0.006462	9901	DieselExhPM	4.00E-07	25YrCancerDerived_InhSoilDerm	*	4.00E-07
58	ALL	314650	3923450	0.006435	9901	DieselExhPM	3.98E-07	25YrCancerDerived_InhSoilDerm	*	3.98E-07
77	ALL	314450	3923550	0.00642	9901	DieselExhPM	3.97E-07	25YrCancerDerived_InhSoilDerm	*	3.97E-07
214	ALL	314150	3924350	0.006349	9901	DieselExhPM	3.93E-07	25YrCancerDerived_InhSoilDerm	*	3.93E-07
166	ALL	313850	3924050	0.006298	9901	DieselExhPM	3.90E-07	25YrCancerDerived_InhSoilDerm	*	3.90E-07
465	ALL	315044.4	3923727	0.006282	9901	DieselExhPM	3.89E-07	25YrCancerDerived_InhSoilDerm	*	3.89E-07
459	ALL	315048.5	3923768	0.006237	9901	DieselExhPM	3.86E-07	25YrCancerDerived_InhSoilDerm	*	3.86E-07
40	ALL	314750	3923350	0.006237	9901	DieselExhPM	3.86E-07	25YrCancerDerived_InhSoilDerm	*	3.86E-07
462	ALL	315049.1	3923749	0.006194	9901	DieselExhPM	3.83E-07	25YrCancerDerived_InhSoilDerm	*	3.83E-07
468	ALL	315045.8	3923710	0.006186	9901	DieselExhPM	3.83E-07	25YrCancerDerived_InhSoilDerm	*	3.83E-07
471	ALL	315045.1	3923686	0.006183	9901	DieselExhPM	3.83E-07	25YrCancerDerived_InhSoilDerm	*	3.83E-07
197	ALL	313950	3924250	0.006163	9901	DieselExhPM	3.81E-07	25YrCancerDerived_InhSoilDerm	*	3.81E-07
474	ALL	315044.4	3923669	0.006157	9901	DieselExhPM	3.81E-07	25YrCancerDerived_InhSoilDerm	*	3.81E-07
9	ALL	314850	3923150	0.006154	9901	DieselExhPM	3.81E-07	25YrCancerDerived_InhSoilDerm	*	3.81E-07
394	ALL	314950	3925250	0.006141	9901	DieselExhPM	3.80E-07	25YrCancerDerived_InhSoilDerm	*	3.80E-07
97	ALL	314250	3923650	0.00614	9901	DieselExhPM	3.80E-07	25YrCancerDerived_InhSoilDerm	*	3.80E-07
477	ALL	315043.8	3923646	0.006101	9901	DieselExhPM	3.78E-07	25YrCancerDerived_InhSoilDerm	*	3.78E-07
480	ALL	315043.1	3923628	0.006086	9901	DieselExhPM	3.77E-07	25YrCancerDerived_InhSoilDerm	*	3.77E-07
483	ALL	315041.9	3923608	0.006068	9901	DieselExhPM	3.76E-07	25YrCancerDerived_InhSoilDerm	*	3.76E-07
547	ALL	314152.5	3923719	0.00606	9901	DieselExhPM	3.75E-07	25YrCancerDerived_InhSoilDerm	*	3.75E-07
154	ALL	315050	3923950	0.006019	9901	DieselExhPM	3.72E-07	25YrCancerDerived_InhSoilDerm	*	3.72E-07

130	ALL	313650	3923850	0.006015	9901	DieselExhPM	3.72E-07	25YrCancerDerived_InhSoilDerm	*	3.72E-07
215	ALL	314250	3924350	0.006003	9901	DieselExhPM	3.72E-07	25YrCancerDerived_InhSoilDerm	*	3.72E-07
216	ALL	314350	3924350	0.005924	9901	DieselExhPM	3.67E-07	25YrCancerDerived_InhSoilDerm	*	3.67E-07
57	ALL	314550	3923450	0.005895	9901	DieselExhPM	3.65E-07	25YrCancerDerived_InhSoilDerm	*	3.65E-07
115	ALL	314050	3923750	0.005885	9901	DieselExhPM	3.64E-07	25YrCancerDerived_InhSoilDerm	*	3.64E-07
76	ALL	314350	3923550	0.005859	9901	DieselExhPM	3.63E-07	25YrCancerDerived_InhSoilDerm	*	3.63E-07
301	ALL	314950	3924750	0.005854	9901	DieselExhPM	3.62E-07	25YrCancerDerived_InhSoilDerm	*	3.62E-07
546	ALL	314074.4	3923738	0.005824	9901	DieselExhPM	3.60E-07	25YrCancerDerived_InhSoilDerm	*	3.60E-07
169	ALL	315050	3924050	0.005823	9901	DieselExhPM	3.60E-07	25YrCancerDerived_InhSoilDerm	*	3.60E-07
181	ALL	313850	3924150	0.005809	9901	DieselExhPM	3.60E-07	25YrCancerDerived_InhSoilDerm	*	3.60E-07
83	ALL	315050	3923550	0.005797	9901	DieselExhPM	3.59E-07	25YrCancerDerived_InhSoilDerm	*	3.59E-07
217	ALL	314450	3924350	0.005765	9901	DieselExhPM	3.57E-07	25YrCancerDerived_InhSoilDerm	*	3.57E-07
213	ALL	314050	3924350	0.005715	9901	DieselExhPM	3.54E-07	25YrCancerDerived_InhSoilDerm	*	3.54E-07
551	ALL	314278.4	3923589	0.005693	9901	DieselExhPM	3.52E-07	25YrCancerDerived_InhSoilDerm	*	3.52E-07
466	ALL	315070.4	3923726	0.005624	9901	DieselExhPM	3.48E-07	25YrCancerDerived_InhSoilDerm	*	3.48E-07
22	ALL	314750	3923250	0.005608	9901	DieselExhPM	3.47E-07	25YrCancerDerived_InhSoilDerm	*	3.47E-07
165	ALL	313750	3924050	0.0056	9901	DieselExhPM	3.47E-07	25YrCancerDerived_InhSoilDerm	*	3.47E-07
406	ALL	314850	3925350	0.005597	9901	DieselExhPM	3.46E-07	25YrCancerDerived_InhSoilDerm	*	3.46E-07
39	ALL	314650	3923350	0.00559	9901	DieselExhPM	3.46E-07	25YrCancerDerived_InhSoilDerm	*	3.46E-07
463	ALL	315073.2	3923747	0.005567	9901	DieselExhPM	3.45E-07	25YrCancerDerived_InhSoilDerm	*	3.45E-07
472	ALL	315071.2	3923687	0.005565	9901	DieselExhPM	3.44E-07	25YrCancerDerived_InhSoilDerm	*	3.44E-07
129	ALL	313550	3923850	0.005559	9901	DieselExhPM	3.44E-07	25YrCancerDerived_InhSoilDerm	*	3.44E-07
475	ALL	315071.2	3923669	0.005557	9901	DieselExhPM	3.44E-07	25YrCancerDerived_InhSoilDerm	*	3.44E-07
469	ALL	315072.5	3923710	0.00555	9901	DieselExhPM	3.43E-07	25YrCancerDerived_InhSoilDerm	*	3.43E-07
484	ALL	315067.8	3923608	0.005538	9901	DieselExhPM	3.43E-07	25YrCancerDerived_InhSoilDerm	*	3.43E-07
481	ALL	315069.2	3923628	0.005527	9901	DieselExhPM	3.42E-07	25YrCancerDerived_InhSoilDerm	*	3.42E-07
478	ALL	315071.2	3923647	0.005525	9901	DieselExhPM	3.42E-07	25YrCancerDerived_InhSoilDerm	*	3.42E-07
460	ALL	315074.5	3923767	0.005521	9901	DieselExhPM	3.42E-07	25YrCancerDerived_InhSoilDerm	*	3.42E-07
62	ALL	315050	3923450	0.005506	9901	DieselExhPM	3.41E-07	25YrCancerDerived_InhSoilDerm	*	3.41E-07
184	ALL	315050	3924150	0.005491	9901	DieselExhPM	3.40E-07	25YrCancerDerived_InhSoilDerm	*	3.40E-07
323	ALL	314950	3924850	0.005438	9901	DieselExhPM	3.37E-07	25YrCancerDerived_InhSoilDerm	*	3.37E-07
196	ALL	313850	3924250	0.005416	9901	DieselExhPM	3.35E-07	25YrCancerDerived_InhSoilDerm	*	3.35E-07
56	ALL	314450	3923450	0.005409	9901	DieselExhPM	3.35E-07	25YrCancerDerived_InhSoilDerm	*	3.35E-07
114	ALL	313950	3923750	0.00535	9901	DieselExhPM	3.31E-07	25YrCancerDerived_InhSoilDerm	*	3.31E-07
43	ALL	315050	3923350	0.005259	9901	DieselExhPM	3.26E-07	25YrCancerDerived_InhSoilDerm	*	3.26E-07
212	ALL	313950	3924350	0.005249	9901	DieselExhPM	3.25E-07	25YrCancerDerived_InhSoilDerm	*	3.25E-07
344	ALL	314950	3924950	0.005233	9901	DieselExhPM	3.24E-07	25YrCancerDerived_InhSoilDerm	*	3.24E-07
164	ALL	313650	3924050	0.005146	9901	DieselExhPM	3.18E-07	25YrCancerDerived_InhSoilDerm	*	3.18E-07
422	ALL	315086.7	3923817	0.005145	9901	DieselExhPM	3.18E-07	25YrCancerDerived_InhSoilDerm	*	3.18E-07
96	ALL	314150	3923650	0.005123	9901	DieselExhPM	3.17E-07	25YrCancerDerived_InhSoilDerm	*	3.17E-07
421	ALL	315086.7	3923842	0.005117	9901	DieselExhPM	3.17E-07	25YrCancerDerived_InhSoilDerm	*	3.17E-07
180	ALL	313750	3924150	0.005108	9901	DieselExhPM	3.16E-07	25YrCancerDerived_InhSoilDerm	*	3.16E-07
75	ALL	314250	3923550	0.005066	9901	DieselExhPM	3.14E-07	25YrCancerDerived_InhSoilDerm	*	3.14E-07
405	ALL	314750	3925350	0.005064	9901	DieselExhPM	3.13E-07	25YrCancerDerived_InhSoilDerm	*	3.13E-07
473	ALL	315095.9	3923686	0.005058	9901	DieselExhPM	3.13E-07	25YrCancerDerived_InhSoilDerm	*	3.13E-07
464	ALL	315096.6	3923746	0.005055	9901	DieselExhPM	3.13E-07	25YrCancerDerived_InhSoilDerm	*	3.13E-07
38	ALL	314550	3923350	0.005055	9901	DieselExhPM	3.13E-07	25YrCancerDerived_InhSoilDerm	*	3.13E-07
380	ALL	315050	3925150	0.005054	9901	DieselExhPM	3.13E-07	25YrCancerDerived_InhSoilDerm	*	3.13E-07
467	ALL	315097.3	3923725	0.005053	9901	DieselExhPM	3.13E-07	25YrCancerDerived_InhSoilDerm	*	3.13E-07
470	ALL	315097.9	3923710	0.005038	9901	DieselExhPM	3.12E-07	25YrCancerDerived_InhSoilDerm	*	3.12E-07

479	ALL	315098.6	3923647	0.005025	9901	DieselExhPM	3.11E-07	25YrCancerDerived_InhSoilDerm	*	3.11E-07
363	ALL	315050	3925050	0.004999	9901	DieselExhPM	3.09E-07	25YrCancerDerived_InhSoilDerm	*	3.09E-07
199	ALL	315050	3924250	0.004997	9901	DieselExhPM	3.09E-07	25YrCancerDerived_InhSoilDerm	*	3.09E-07
461	ALL	315099.3	3923765	0.004964	9901	DieselExhPM	3.07E-07	25YrCancerDerived_InhSoilDerm	*	3.07E-07
485	ALL	315100.6	3923607	0.004962	9901	DieselExhPM	3.07E-07	25YrCancerDerived_InhSoilDerm	*	3.07E-07
476	ALL	315102.6	3923668	0.004956	9901	DieselExhPM	3.07E-07	25YrCancerDerived_InhSoilDerm	*	3.07E-07
218	ALL	314550	3924350	0.004954	9901	DieselExhPM	3.07E-07	25YrCancerDerived_InhSoilDerm	*	3.07E-07
25	ALL	315050	3923250	0.004952	9901	DieselExhPM	3.07E-07	25YrCancerDerived_InhSoilDerm	*	3.07E-07
55	ALL	314350	3923450	0.004946	9901	DieselExhPM	3.06E-07	25YrCancerDerived_InhSoilDerm	*	3.06E-07
552	ALL	314193.3	3923588	0.004945	9901	DieselExhPM	3.06E-07	25YrCancerDerived_InhSoilDerm	*	3.06E-07
482	ALL	315102.6	3923627	0.004941	9901	DieselExhPM	3.06E-07	25YrCancerDerived_InhSoilDerm	*	3.06E-07
113	ALL	313850	3923750	0.004919	9901	DieselExhPM	3.04E-07	25YrCancerDerived_InhSoilDerm	*	3.04E-07
234	ALL	314150	3924450	0.004906	9901	DieselExhPM	3.04E-07	25YrCancerDerived_InhSoilDerm	*	3.04E-07
211	ALL	313850	3924350	0.00486	9901	DieselExhPM	3.01E-07	25YrCancerDerived_InhSoilDerm	*	3.01E-07
21	ALL	314650	3923250	0.004841	9901	DieselExhPM	3.00E-07	25YrCancerDerived_InhSoilDerm	*	3.00E-07
195	ALL	313750	3924250	0.004801	9901	DieselExhPM	2.97E-07	25YrCancerDerived_InhSoilDerm	*	2.97E-07
219	ALL	315050	3924350	0.00479	9901	DieselExhPM	2.96E-07	25YrCancerDerived_InhSoilDerm	*	2.96E-07
415	ALL	314750	3925450	0.004752	9901	DieselExhPM	2.94E-07	25YrCancerDerived_InhSoilDerm	*	2.94E-07
424	ALL	315105.7	3923815	0.004746	9901	DieselExhPM	2.94E-07	25YrCancerDerived_InhSoilDerm	*	2.94E-07
163	ALL	313550	3924050	0.004711	9901	DieselExhPM	2.92E-07	25YrCancerDerived_InhSoilDerm	*	2.92E-07
379	ALL	314950	3925150	0.004696	9901	DieselExhPM	2.91E-07	25YrCancerDerived_InhSoilDerm	*	2.91E-07
128	ALL	313450	3923850	0.004679	9901	DieselExhPM	2.90E-07	25YrCancerDerived_InhSoilDerm	*	2.90E-07
423	ALL	315108.1	3923839	0.00467	9901	DieselExhPM	2.89E-07	25YrCancerDerived_InhSoilDerm	*	2.89E-07
233	ALL	314050	3924450	0.004651	9901	DieselExhPM	2.88E-07	25YrCancerDerived_InhSoilDerm	*	2.88E-07
235	ALL	314250	3924450	0.004641	9901	DieselExhPM	2.87E-07	25YrCancerDerived_InhSoilDerm	*	2.87E-07
37	ALL	314450	3923350	0.004624	9901	DieselExhPM	2.86E-07	25YrCancerDerived_InhSoilDerm	*	2.86E-07
8	ALL	314750	3923150	0.004623	9901	DieselExhPM	2.86E-07	25YrCancerDerived_InhSoilDerm	*	2.86E-07
179	ALL	313650	3924150	0.004605	9901	DieselExhPM	2.85E-07	25YrCancerDerived_InhSoilDerm	*	2.85E-07
11	ALL	315050	3923150	0.004595	9901	DieselExhPM	2.84E-07	25YrCancerDerived_InhSoilDerm	*	2.84E-07
112	ALL	313750	3923750	0.004594	9901	DieselExhPM	2.84E-07	25YrCancerDerived_InhSoilDerm	*	2.84E-07
393	ALL	314850	3925250	0.004589	9901	DieselExhPM	2.84E-07	25YrCancerDerived_InhSoilDerm	*	2.84E-07
239	ALL	315050	3924450	0.004582	9901	DieselExhPM	2.84E-07	25YrCancerDerived_InhSoilDerm	*	2.84E-07
362	ALL	314950	3925050	0.004574	9901	DieselExhPM	2.83E-07	25YrCancerDerived_InhSoilDerm	*	2.83E-07
95	ALL	314050	3923650	0.004555	9901	DieselExhPM	2.82E-07	25YrCancerDerived_InhSoilDerm	*	2.82E-07
210	ALL	313750	3924350	0.004461	9901	DieselExhPM	2.76E-07	25YrCancerDerived_InhSoilDerm	*	2.76E-07
232	ALL	313950	3924450	0.004457	9901	DieselExhPM	2.76E-07	25YrCancerDerived_InhSoilDerm	*	2.76E-07
259	ALL	315050	3924550	0.004454	9901	DieselExhPM	2.76E-07	25YrCancerDerived_InhSoilDerm	*	2.76E-07
236	ALL	314350	3924450	0.004446	9901	DieselExhPM	2.75E-07	25YrCancerDerived_InhSoilDerm	*	2.75E-07
162	ALL	313450	3924050	0.004434	9901	DieselExhPM	2.74E-07	25YrCancerDerived_InhSoilDerm	*	2.74E-07
74	ALL	314150	3923550	0.004374	9901	DieselExhPM	2.71E-07	25YrCancerDerived_InhSoilDerm	*	2.71E-07
20	ALL	314550	3923250	0.004333	9901	DieselExhPM	2.68E-07	25YrCancerDerived_InhSoilDerm	*	2.68E-07
194	ALL	313650	3924250	0.004321	9901	DieselExhPM	2.67E-07	25YrCancerDerived_InhSoilDerm	*	2.67E-07
54	ALL	314250	3923450	0.004309	9901	DieselExhPM	2.67E-07	25YrCancerDerived_InhSoilDerm	*	2.67E-07
84	ALL	315150	3923550	0.004286	9901	DieselExhPM	2.65E-07	25YrCancerDerived_InhSoilDerm	*	2.65E-07
231	ALL	313850	3924450	0.004267	9901	DieselExhPM	2.64E-07	25YrCancerDerived_InhSoilDerm	*	2.64E-07
36	ALL	314350	3923350	0.004261	9901	DieselExhPM	2.64E-07	25YrCancerDerived_InhSoilDerm	*	2.64E-07
111	ALL	313650	3923750	0.004249	9901	DieselExhPM	2.63E-07	25YrCancerDerived_InhSoilDerm	*	2.63E-07
63	ALL	315150	3923450	0.004246	9901	DieselExhPM	2.63E-07	25YrCancerDerived_InhSoilDerm	*	2.63E-07
237	ALL	314450	3924450	0.004217	9901	DieselExhPM	2.61E-07	25YrCancerDerived_InhSoilDerm	*	2.61E-07
279	ALL	315050	3924650	0.004216	9901	DieselExhPM	2.61E-07	25YrCancerDerived_InhSoilDerm	*	2.61E-07

414	ALL	314650	3925450	0.004187	9901	DieselExhPM	2.59E-07	25YrCancerDerived_InhSoilDerm	*	2.59E-07
94	ALL	313950	3923650	0.004147	9901	DieselExhPM	2.57E-07	25YrCancerDerived_InhSoilDerm	*	2.57E-07
498	ALL	315157.5	3923650	0.004146	9901	DieselExhPM	2.57E-07	25YrCancerDerived_InhSoilDerm	*	2.57E-07
254	ALL	314150	3924550	0.004121	9901	DieselExhPM	2.55E-07	25YrCancerDerived_InhSoilDerm	*	2.55E-07
209	ALL	313650	3924350	0.00412	9901	DieselExhPM	2.55E-07	25YrCancerDerived_InhSoilDerm	*	2.55E-07
230	ALL	313750	3924450	0.004116	9901	DieselExhPM	2.55E-07	25YrCancerDerived_InhSoilDerm	*	2.55E-07
496	ALL	315158.8	3923668	0.004085	9901	DieselExhPM	2.53E-07	25YrCancerDerived_InhSoilDerm	*	2.53E-07
494	ALL	315160.2	3923690	0.00408	9901	DieselExhPM	2.52E-07	25YrCancerDerived_InhSoilDerm	*	2.52E-07
44	ALL	315150	3923350	0.004075	9901	DieselExhPM	2.52E-07	25YrCancerDerived_InhSoilDerm	*	2.52E-07
492	ALL	315160.2	3923707	0.004066	9901	DieselExhPM	2.52E-07	25YrCancerDerived_InhSoilDerm	*	2.52E-07
490	ALL	315159	3923725	0.004062	9901	DieselExhPM	2.51E-07	25YrCancerDerived_InhSoilDerm	*	2.51E-07
7	ALL	314650	3923150	0.00406	9901	DieselExhPM	2.51E-07	25YrCancerDerived_InhSoilDerm	*	2.51E-07
178	ALL	313550	3924150	0.004051	9901	DieselExhPM	2.51E-07	25YrCancerDerived_InhSoilDerm	*	2.51E-07
238	ALL	314550	3924450	0.004013	9901	DieselExhPM	2.48E-07	25YrCancerDerived_InhSoilDerm	*	2.48E-07
488	ALL	315159.9	3923744	0.004009	9901	DieselExhPM	2.48E-07	25YrCancerDerived_InhSoilDerm	*	2.48E-07
19	ALL	314450	3923250	0.004004	9901	DieselExhPM	2.48E-07	25YrCancerDerived_InhSoilDerm	*	2.48E-07
345	ALL	315050	3924950	0.004002	9901	DieselExhPM	2.48E-07	25YrCancerDerived_InhSoilDerm	*	2.48E-07
193	ALL	313550	3924250	0.003969	9901	DieselExhPM	2.46E-07	25YrCancerDerived_InhSoilDerm	*	2.46E-07
300	ALL	314850	3924750	0.003956	9901	DieselExhPM	2.45E-07	25YrCancerDerived_InhSoilDerm	*	2.45E-07
302	ALL	315050	3924750	0.003954	9901	DieselExhPM	2.45E-07	25YrCancerDerived_InhSoilDerm	*	2.45E-07
253	ALL	314050	3924550	0.003927	9901	DieselExhPM	2.43E-07	25YrCancerDerived_InhSoilDerm	*	2.43E-07
486	ALL	315161.5	3923766	0.003926	9901	DieselExhPM	2.43E-07	25YrCancerDerived_InhSoilDerm	*	2.43E-07
324	ALL	315050	3924850	0.003922	9901	DieselExhPM	2.43E-07	25YrCancerDerived_InhSoilDerm	*	2.43E-07
255	ALL	314250	3924550	0.003913	9901	DieselExhPM	2.42E-07	25YrCancerDerived_InhSoilDerm	*	2.42E-07
93	ALL	313850	3923650	0.003892	9901	DieselExhPM	2.41E-07	25YrCancerDerived_InhSoilDerm	*	2.41E-07
440	ALL	315162.5	3923784	0.00388	9901	DieselExhPM	2.40E-07	25YrCancerDerived_InhSoilDerm	*	2.40E-07
110	ALL	313550	3923750	0.003874	9901	DieselExhPM	2.40E-07	25YrCancerDerived_InhSoilDerm	*	2.40E-07
177	ALL	313450	3924150	0.003866	9901	DieselExhPM	2.39E-07	25YrCancerDerived_InhSoilDerm	*	2.39E-07
26	ALL	315150	3923250	0.003855	9901	DieselExhPM	2.39E-07	25YrCancerDerived_InhSoilDerm	*	2.39E-07
435	ALL	315163.7	3923806	0.003838	9901	DieselExhPM	2.38E-07	25YrCancerDerived_InhSoilDerm	*	2.38E-07
252	ALL	313950	3924550	0.003826	9901	DieselExhPM	2.37E-07	25YrCancerDerived_InhSoilDerm	*	2.37E-07
493	ALL	315180.9	3923707	0.003814	9901	DieselExhPM	2.36E-07	25YrCancerDerived_InhSoilDerm	*	2.36E-07
229	ALL	313650	3924450	0.003813	9901	DieselExhPM	2.36E-07	25YrCancerDerived_InhSoilDerm	*	2.36E-07
155	ALL	315150	3923950	0.003803	9901	DieselExhPM	2.35E-07	25YrCancerDerived_InhSoilDerm	*	2.35E-07
432	ALL	315164	3923825	0.003803	9901	DieselExhPM	2.35E-07	25YrCancerDerived_InhSoilDerm	*	2.35E-07
278	ALL	314550	3924650	0.003802	9901	DieselExhPM	2.35E-07	25YrCancerDerived_InhSoilDerm	*	2.35E-07
256	ALL	314350	3924550	0.003786	9901	DieselExhPM	2.34E-07	25YrCancerDerived_InhSoilDerm	*	2.34E-07
35	ALL	314250	3923350	0.003763	9901	DieselExhPM	2.33E-07	25YrCancerDerived_InhSoilDerm	*	2.33E-07
495	ALL	315187.6	3923685	0.003761	9901	DieselExhPM	2.33E-07	25YrCancerDerived_InhSoilDerm	*	2.33E-07
274	ALL	314150	3924650	0.00376	9901	DieselExhPM	2.33E-07	25YrCancerDerived_InhSoilDerm	*	2.33E-07
208	ALL	313550	3924350	0.003759	9901	DieselExhPM	2.33E-07	25YrCancerDerived_InhSoilDerm	*	2.33E-07
53	ALL	314150	3923450	0.003756	9901	DieselExhPM	2.32E-07	25YrCancerDerived_InhSoilDerm	*	2.32E-07
497	ALL	315188.3	3923667	0.003749	9901	DieselExhPM	2.32E-07	25YrCancerDerived_InhSoilDerm	*	2.32E-07
277	ALL	314450	3924650	0.003742	9901	DieselExhPM	2.32E-07	25YrCancerDerived_InhSoilDerm	*	2.32E-07
276	ALL	314350	3924650	0.003742	9901	DieselExhPM	2.32E-07	25YrCancerDerived_InhSoilDerm	*	2.32E-07
251	ALL	313850	3924550	0.003739	9901	DieselExhPM	2.31E-07	25YrCancerDerived_InhSoilDerm	*	2.31E-07
491	ALL	315184.9	3923728	0.003738	9901	DieselExhPM	2.31E-07	25YrCancerDerived_InhSoilDerm	*	2.31E-07
6	ALL	314550	3923150	0.003737	9901	DieselExhPM	2.31E-07	25YrCancerDerived_InhSoilDerm	*	2.31E-07
73	ALL	314050	3923550	0.003721	9901	DieselExhPM	2.30E-07	25YrCancerDerived_InhSoilDerm	*	2.30E-07
429	ALL	315167.5	3923847	0.003709	9901	DieselExhPM	2.30E-07	25YrCancerDerived_InhSoilDerm	*	2.30E-07

18	ALL	314350	3923250	0.003708	9901	DieselExhPM	2.30E-07	25YrCancerDerived_InhSoilDerm	*	2.30E-07
257	ALL	314450	3924550	0.003708	9901	DieselExhPM	2.30E-07	25YrCancerDerived_InhSoilDerm	*	2.30E-07
275	ALL	314250	3924650	0.003705	9901	DieselExhPM	2.29E-07	25YrCancerDerived_InhSoilDerm	*	2.29E-07
92	ALL	313750	3923650	0.003683	9901	DieselExhPM	2.28E-07	25YrCancerDerived_InhSoilDerm	*	2.28E-07
192	ALL	313450	3924250	0.003682	9901	DieselExhPM	2.28E-07	25YrCancerDerived_InhSoilDerm	*	2.28E-07
489	ALL	315186.2	3923745	0.003675	9901	DieselExhPM	2.27E-07	25YrCancerDerived_InhSoilDerm	*	2.27E-07
258	ALL	314550	3924550	0.003668	9901	DieselExhPM	2.27E-07	25YrCancerDerived_InhSoilDerm	*	2.27E-07
487	ALL	315183.6	3923767	0.003656	9901	DieselExhPM	2.26E-07	25YrCancerDerived_InhSoilDerm	*	2.26E-07
250	ALL	313750	3924550	0.003622	9901	DieselExhPM	2.24E-07	25YrCancerDerived_InhSoilDerm	*	2.24E-07
170	ALL	315150	3924050	0.003601	9901	DieselExhPM	2.23E-07	25YrCancerDerived_InhSoilDerm	*	2.23E-07
228	ALL	313550	3924450	0.003596	9901	DieselExhPM	2.23E-07	25YrCancerDerived_InhSoilDerm	*	2.23E-07
299	ALL	314750	3924750	0.003593	9901	DieselExhPM	2.22E-07	25YrCancerDerived_InhSoilDerm	*	2.22E-07
438	ALL	315188.9	3923787	0.003555	9901	DieselExhPM	2.20E-07	25YrCancerDerived_InhSoilDerm	*	2.20E-07
436	ALL	315190.1	3923808	0.003528	9901	DieselExhPM	2.18E-07	25YrCancerDerived_InhSoilDerm	*	2.18E-07
207	ALL	313450	3924350	0.003508	9901	DieselExhPM	2.17E-07	25YrCancerDerived_InhSoilDerm	*	2.17E-07
425	ALL	315174.7	3923920	0.003508	9901	DieselExhPM	2.17E-07	25YrCancerDerived_InhSoilDerm	*	2.17E-07
72	ALL	313950	3923550	0.003498	9901	DieselExhPM	2.16E-07	25YrCancerDerived_InhSoilDerm	*	2.16E-07
5	ALL	314450	3923150	0.003486	9901	DieselExhPM	2.16E-07	25YrCancerDerived_InhSoilDerm	*	2.16E-07
249	ALL	313650	3924550	0.00347	9901	DieselExhPM	2.15E-07	25YrCancerDerived_InhSoilDerm	*	2.15E-07
433	ALL	315192.5	3923827	0.003463	9901	DieselExhPM	2.14E-07	25YrCancerDerived_InhSoilDerm	*	2.14E-07
322	ALL	314850	3924850	0.003461	9901	DieselExhPM	2.14E-07	25YrCancerDerived_InhSoilDerm	*	2.14E-07
430	ALL	315190.1	3923847	0.00344	9901	DieselExhPM	2.13E-07	25YrCancerDerived_InhSoilDerm	*	2.13E-07
295	ALL	314350	3924750	0.003427	9901	DieselExhPM	2.12E-07	25YrCancerDerived_InhSoilDerm	*	2.12E-07
511	ALL	315220.4	3923697	0.003407	9901	DieselExhPM	2.11E-07	25YrCancerDerived_InhSoilDerm	*	2.11E-07
273	ALL	314050	3924650	0.003402	9901	DieselExhPM	2.11E-07	25YrCancerDerived_InhSoilDerm	*	2.11E-07
297	ALL	314550	3924750	0.003397	9901	DieselExhPM	2.10E-07	25YrCancerDerived_InhSoilDerm	*	2.10E-07
294	ALL	314250	3924750	0.003392	9901	DieselExhPM	2.10E-07	25YrCancerDerived_InhSoilDerm	*	2.10E-07
109	ALL	313450	3923750	0.003391	9901	DieselExhPM	2.10E-07	25YrCancerDerived_InhSoilDerm	*	2.10E-07
64	ALL	315250	3923450	0.003383	9901	DieselExhPM	2.09E-07	25YrCancerDerived_InhSoilDerm	*	2.09E-07
91	ALL	313650	3923650	0.003383	9901	DieselExhPM	2.09E-07	25YrCancerDerived_InhSoilDerm	*	2.09E-07
296	ALL	314450	3924750	0.003382	9901	DieselExhPM	2.09E-07	25YrCancerDerived_InhSoilDerm	*	2.09E-07
227	ALL	313450	3924450	0.003372	9901	DieselExhPM	2.09E-07	25YrCancerDerived_InhSoilDerm	*	2.09E-07
509	ALL	315223	3923713	0.003359	9901	DieselExhPM	2.08E-07	25YrCancerDerived_InhSoilDerm	*	2.08E-07
343	ALL	314850	3924950	0.00335	9901	DieselExhPM	2.07E-07	25YrCancerDerived_InhSoilDerm	*	2.07E-07
45	ALL	315250	3923350	0.003345	9901	DieselExhPM	2.07E-07	25YrCancerDerived_InhSoilDerm	*	2.07E-07
272	ALL	313950	3924650	0.003343	9901	DieselExhPM	2.07E-07	25YrCancerDerived_InhSoilDerm	*	2.07E-07
298	ALL	314650	3924750	0.003341	9901	DieselExhPM	2.07E-07	25YrCancerDerived_InhSoilDerm	*	2.07E-07
293	ALL	314150	3924750	0.003322	9901	DieselExhPM	2.06E-07	25YrCancerDerived_InhSoilDerm	*	2.06E-07
34	ALL	314150	3923350	0.003303	9901	DieselExhPM	2.04E-07	25YrCancerDerived_InhSoilDerm	*	2.04E-07
17	ALL	314250	3923250	0.003297	9901	DieselExhPM	2.04E-07	25YrCancerDerived_InhSoilDerm	*	2.04E-07
85	ALL	315250	3923550	0.003297	9901	DieselExhPM	2.04E-07	25YrCancerDerived_InhSoilDerm	*	2.04E-07
507	ALL	315225	3923735	0.003293	9901	DieselExhPM	2.04E-07	25YrCancerDerived_InhSoilDerm	*	2.04E-07
378	ALL	314850	3925150	0.003292	9901	DieselExhPM	2.04E-07	25YrCancerDerived_InhSoilDerm	*	2.04E-07
248	ALL	313550	3924550	0.003274	9901	DieselExhPM	2.03E-07	25YrCancerDerived_InhSoilDerm	*	2.03E-07
505	ALL	315223	3923752	0.003265	9901	DieselExhPM	2.02E-07	25YrCancerDerived_InhSoilDerm	*	2.02E-07
185	ALL	315150	3924150	0.003264	9901	DieselExhPM	2.02E-07	25YrCancerDerived_InhSoilDerm	*	2.02E-07
52	ALL	314050	3923450	0.003262	9901	DieselExhPM	2.02E-07	25YrCancerDerived_InhSoilDerm	*	2.02E-07
271	ALL	313850	3924650	0.003253	9901	DieselExhPM	2.01E-07	25YrCancerDerived_InhSoilDerm	*	2.01E-07
27	ALL	315250	3923250	0.003246	9901	DieselExhPM	2.01E-07	25YrCancerDerived_InhSoilDerm	*	2.01E-07
503	ALL	315224.4	3923771	0.003225	9901	DieselExhPM	2.00E-07	25YrCancerDerived_InhSoilDerm	*	2.00E-07

4	ALL	314350	3923150	0.003225	9901	DieselExhPM	2.00E-07	25YrCancerDerived_InhSoilDerm	*	2.00E-07
71	ALL	313850	3923550	0.003208	9901	DieselExhPM	1.99E-07	25YrCancerDerived_InhSoilDerm	*	1.99E-07
270	ALL	313750	3924650	0.003201	9901	DieselExhPM	1.98E-07	25YrCancerDerived_InhSoilDerm	*	1.98E-07
501	ALL	315225	3923787	0.00319	9901	DieselExhPM	1.97E-07	25YrCancerDerived_InhSoilDerm	*	1.97E-07
499	ALL	315223	3923806	0.00319	9901	DieselExhPM	1.97E-07	25YrCancerDerived_InhSoilDerm	*	1.97E-07
104	ALL	315250	3923650	0.003187	9901	DieselExhPM	1.97E-07	25YrCancerDerived_InhSoilDerm	*	1.97E-07
510	ALL	315243.1	3923714	0.00318	9901	DieselExhPM	1.97E-07	25YrCancerDerived_InhSoilDerm	*	1.97E-07
361	ALL	314850	3925050	0.00318	9901	DieselExhPM	1.97E-07	25YrCancerDerived_InhSoilDerm	*	1.97E-07
247	ALL	313450	3924550	0.003166	9901	DieselExhPM	1.96E-07	25YrCancerDerived_InhSoilDerm	*	1.96E-07
437	ALL	315222.1	3923826	0.00316	9901	DieselExhPM	1.96E-07	25YrCancerDerived_InhSoilDerm	*	1.96E-07
508	ALL	315244.4	3923735	0.003122	9901	DieselExhPM	1.93E-07	25YrCancerDerived_InhSoilDerm	*	1.93E-07
431	ALL	315222	3923845	0.003111	9901	DieselExhPM	1.93E-07	25YrCancerDerived_InhSoilDerm	*	1.93E-07
426	ALL	315215.1	3923917	0.003108	9901	DieselExhPM	1.92E-07	25YrCancerDerived_InhSoilDerm	*	1.92E-07
269	ALL	313650	3924650	0.003087	9901	DieselExhPM	1.91E-07	25YrCancerDerived_InhSoilDerm	*	1.91E-07
506	ALL	315245.8	3923752	0.003079	9901	DieselExhPM	1.91E-07	25YrCancerDerived_InhSoilDerm	*	1.91E-07
90	ALL	313550	3923650	0.003058	9901	DieselExhPM	1.89E-07	25YrCancerDerived_InhSoilDerm	*	1.89E-07
200	ALL	315150	3924250	0.003053	9901	DieselExhPM	1.89E-07	25YrCancerDerived_InhSoilDerm	*	1.89E-07
504	ALL	315246.4	3923770	0.003043	9901	DieselExhPM	1.88E-07	25YrCancerDerived_InhSoilDerm	*	1.88E-07
292	ALL	314050	3924750	0.003023	9901	DieselExhPM	1.87E-07	25YrCancerDerived_InhSoilDerm	*	1.87E-07
70	ALL	313750	3923550	0.003016	9901	DieselExhPM	1.87E-07	25YrCancerDerived_InhSoilDerm	*	1.87E-07
502	ALL	315247.1	3923787	0.003015	9901	DieselExhPM	1.87E-07	25YrCancerDerived_InhSoilDerm	*	1.87E-07
392	ALL	314750	3925250	0.003003	9901	DieselExhPM	1.86E-07	25YrCancerDerived_InhSoilDerm	*	1.86E-07
500	ALL	315246.4	3923805	0.003001	9901	DieselExhPM	1.86E-07	25YrCancerDerived_InhSoilDerm	*	1.86E-07
439	ALL	315242.5	3923824	0.002993	9901	DieselExhPM	1.85E-07	25YrCancerDerived_InhSoilDerm	*	1.85E-07
268	ALL	313550	3924650	0.002988	9901	DieselExhPM	1.85E-07	25YrCancerDerived_InhSoilDerm	*	1.85E-07
51	ALL	313950	3923450	0.002966	9901	DieselExhPM	1.84E-07	25YrCancerDerived_InhSoilDerm	*	1.84E-07
321	ALL	314750	3924850	0.002943	9901	DieselExhPM	1.82E-07	25YrCancerDerived_InhSoilDerm	*	1.82E-07
33	ALL	314050	3923350	0.002941	9901	DieselExhPM	1.82E-07	25YrCancerDerived_InhSoilDerm	*	1.82E-07
16	ALL	314150	3923250	0.002932	9901	DieselExhPM	1.81E-07	25YrCancerDerived_InhSoilDerm	*	1.81E-07
434	ALL	315245.3	3923844	0.002925	9901	DieselExhPM	1.81E-07	25YrCancerDerived_InhSoilDerm	*	1.81E-07
291	ALL	313950	3924750	0.002904	9901	DieselExhPM	1.80E-07	25YrCancerDerived_InhSoilDerm	*	1.80E-07
267	ALL	313450	3924650	0.002889	9901	DieselExhPM	1.79E-07	25YrCancerDerived_InhSoilDerm	*	1.79E-07
3	ALL	314250	3923150	0.002879	9901	DieselExhPM	1.78E-07	25YrCancerDerived_InhSoilDerm	*	1.78E-07
290	ALL	313850	3924750	0.002878	9901	DieselExhPM	1.78E-07	25YrCancerDerived_InhSoilDerm	*	1.78E-07
220	ALL	315150	3924350	0.002854	9901	DieselExhPM	1.77E-07	25YrCancerDerived_InhSoilDerm	*	1.77E-07
89	ALL	313450	3923650	0.002834	9901	DieselExhPM	1.75E-07	25YrCancerDerived_InhSoilDerm	*	1.75E-07
46	ALL	315350	3923350	0.002816	9901	DieselExhPM	1.74E-07	25YrCancerDerived_InhSoilDerm	*	1.74E-07
156	ALL	315250	3923950	0.002811	9901	DieselExhPM	1.74E-07	25YrCancerDerived_InhSoilDerm	*	1.74E-07
404	ALL	314650	3925350	0.002806	9901	DieselExhPM	1.74E-07	25YrCancerDerived_InhSoilDerm	*	1.74E-07
69	ALL	313650	3923550	0.002799	9901	DieselExhPM	1.73E-07	25YrCancerDerived_InhSoilDerm	*	1.73E-07
50	ALL	313850	3923450	0.002793	9901	DieselExhPM	1.73E-07	25YrCancerDerived_InhSoilDerm	*	1.73E-07
289	ALL	313750	3924750	0.00279	9901	DieselExhPM	1.73E-07	25YrCancerDerived_InhSoilDerm	*	1.73E-07
427	ALL	315257.9	3923917	0.002777	9901	DieselExhPM	1.72E-07	25YrCancerDerived_InhSoilDerm	*	1.72E-07
288	ALL	313650	3924750	0.00276	9901	DieselExhPM	1.71E-07	25YrCancerDerived_InhSoilDerm	*	1.71E-07
65	ALL	315350	3923450	0.002749	9901	DieselExhPM	1.70E-07	25YrCancerDerived_InhSoilDerm	*	1.70E-07
320	ALL	314650	3924850	0.002723	9901	DieselExhPM	1.69E-07	25YrCancerDerived_InhSoilDerm	*	1.69E-07
240	ALL	315150	3924450	0.002708	9901	DieselExhPM	1.68E-07	25YrCancerDerived_InhSoilDerm	*	1.68E-07
342	ALL	314750	3924950	0.002697	9901	DieselExhPM	1.67E-07	25YrCancerDerived_InhSoilDerm	*	1.67E-07
287	ALL	313550	3924750	0.002694	9901	DieselExhPM	1.67E-07	25YrCancerDerived_InhSoilDerm	*	1.67E-07
68	ALL	313550	3923550	0.002693	9901	DieselExhPM	1.67E-07	25YrCancerDerived_InhSoilDerm	*	1.67E-07

171	ALL	315250	3924050	0.002667	9901	DieselExhPM	1.65E-07	25YrCancerDerived_InhSoilDerm	*	1.65E-07
15	ALL	314050	3923250	0.002665	9901	DieselExhPM	1.65E-07	25YrCancerDerived_InhSoilDerm	*	1.65E-07
319	ALL	314550	3924850	0.002654	9901	DieselExhPM	1.64E-07	25YrCancerDerived_InhSoilDerm	*	1.64E-07
86	ALL	315350	3923550	0.00265	9901	DieselExhPM	1.64E-07	25YrCancerDerived_InhSoilDerm	*	1.64E-07
32	ALL	313950	3923350	0.002648	9901	DieselExhPM	1.64E-07	25YrCancerDerived_InhSoilDerm	*	1.64E-07
317	ALL	314350	3924850	0.002624	9901	DieselExhPM	1.62E-07	25YrCancerDerived_InhSoilDerm	*	1.62E-07
377	ALL	314750	3925150	0.002622	9901	DieselExhPM	1.62E-07	25YrCancerDerived_InhSoilDerm	*	1.62E-07
2	ALL	314150	3923150	0.002614	9901	DieselExhPM	1.62E-07	25YrCancerDerived_InhSoilDerm	*	1.62E-07
318	ALL	314450	3924850	0.002591	9901	DieselExhPM	1.60E-07	25YrCancerDerived_InhSoilDerm	*	1.60E-07
395	ALL	315050	3925250	0.002568	9901	DieselExhPM	1.59E-07	25YrCancerDerived_InhSoilDerm	*	1.59E-07
260	ALL	315150	3924550	0.002567	9901	DieselExhPM	1.59E-07	25YrCancerDerived_InhSoilDerm	*	1.59E-07
105	ALL	315350	3923650	0.002563	9901	DieselExhPM	1.59E-07	25YrCancerDerived_InhSoilDerm	*	1.59E-07
314	ALL	314050	3924850	0.002561	9901	DieselExhPM	1.58E-07	25YrCancerDerived_InhSoilDerm	*	1.58E-07
49	ALL	313750	3923450	0.00256	9901	DieselExhPM	1.58E-07	25YrCancerDerived_InhSoilDerm	*	1.58E-07
316	ALL	314250	3924850	0.002558	9901	DieselExhPM	1.58E-07	25YrCancerDerived_InhSoilDerm	*	1.58E-07
312	ALL	313850	3924850	0.002554	9901	DieselExhPM	1.58E-07	25YrCancerDerived_InhSoilDerm	*	1.58E-07
315	ALL	314150	3924850	0.002543	9901	DieselExhPM	1.57E-07	25YrCancerDerived_InhSoilDerm	*	1.57E-07
360	ALL	314750	3925050	0.002536	9901	DieselExhPM	1.57E-07	25YrCancerDerived_InhSoilDerm	*	1.57E-07
313	ALL	313950	3924850	0.002517	9901	DieselExhPM	1.56E-07	25YrCancerDerived_InhSoilDerm	*	1.56E-07
428	ALL	315295.4	3923916	0.002502	9901	DieselExhPM	1.55E-07	25YrCancerDerived_InhSoilDerm	*	1.55E-07
311	ALL	313750	3924850	0.002502	9901	DieselExhPM	1.55E-07	25YrCancerDerived_InhSoilDerm	*	1.55E-07
341	ALL	314650	3924950	0.002475	9901	DieselExhPM	1.53E-07	25YrCancerDerived_InhSoilDerm	*	1.53E-07
31	ALL	313850	3923350	0.002465	9901	DieselExhPM	1.53E-07	25YrCancerDerived_InhSoilDerm	*	1.53E-07
310	ALL	313650	3924850	0.002456	9901	DieselExhPM	1.52E-07	25YrCancerDerived_InhSoilDerm	*	1.52E-07
67	ALL	313450	3923550	0.002429	9901	DieselExhPM	1.50E-07	25YrCancerDerived_InhSoilDerm	*	1.50E-07
14	ALL	313950	3923250	0.002425	9901	DieselExhPM	1.50E-07	25YrCancerDerived_InhSoilDerm	*	1.50E-07
48	ALL	313650	3923450	0.00242	9901	DieselExhPM	1.50E-07	25YrCancerDerived_InhSoilDerm	*	1.50E-07
280	ALL	315150	3924650	0.002419	9901	DieselExhPM	1.50E-07	25YrCancerDerived_InhSoilDerm	*	1.50E-07
1	ALL	314050	3923150	0.002414	9901	DieselExhPM	1.49E-07	25YrCancerDerived_InhSoilDerm	*	1.49E-07
407	ALL	314950	3925350	0.002412	9901	DieselExhPM	1.49E-07	25YrCancerDerived_InhSoilDerm	*	1.49E-07
124	ALL	315350	3923750	0.0024	9901	DieselExhPM	1.49E-07	25YrCancerDerived_InhSoilDerm	*	1.49E-07
413	ALL	314550	3925450	0.002387	9901	DieselExhPM	1.48E-07	25YrCancerDerived_InhSoilDerm	*	1.48E-07
513	ALL	315320.5	3923947	0.002374	9901	DieselExhPM	1.47E-07	25YrCancerDerived_InhSoilDerm	*	1.47E-07
364	ALL	315150	3925050	0.002368	9901	DieselExhPM	1.47E-07	25YrCancerDerived_InhSoilDerm	*	1.47E-07
186	ALL	315250	3924150	0.00234	9901	DieselExhPM	1.45E-07	25YrCancerDerived_InhSoilDerm	*	1.45E-07
512	ALL	315327	3923924	0.00233	9901	DieselExhPM	1.44E-07	25YrCancerDerived_InhSoilDerm	*	1.44E-07
340	ALL	314550	3924950	0.002324	9901	DieselExhPM	1.44E-07	25YrCancerDerived_InhSoilDerm	*	1.44E-07
359	ALL	314650	3925050	0.002321	9901	DieselExhPM	1.44E-07	25YrCancerDerived_InhSoilDerm	*	1.44E-07
346	ALL	315150	3924950	0.002318	9901	DieselExhPM	1.43E-07	25YrCancerDerived_InhSoilDerm	*	1.43E-07
515	ALL	315323.7	3923988	0.002315	9901	DieselExhPM	1.43E-07	25YrCancerDerived_InhSoilDerm	*	1.43E-07
391	ALL	314650	3925250	0.002312	9901	DieselExhPM	1.43E-07	25YrCancerDerived_InhSoilDerm	*	1.43E-07
514	ALL	315329.2	3923971	0.002312	9901	DieselExhPM	1.43E-07	25YrCancerDerived_InhSoilDerm	*	1.43E-07
30	ALL	313750	3923350	0.002303	9901	DieselExhPM	1.43E-07	25YrCancerDerived_InhSoilDerm	*	1.43E-07
303	ALL	315150	3924750	0.0023	9901	DieselExhPM	1.42E-07	25YrCancerDerived_InhSoilDerm	*	1.42E-07
143	ALL	315350	3923850	0.002293	9901	DieselExhPM	1.42E-07	25YrCancerDerived_InhSoilDerm	*	1.42E-07
325	ALL	315150	3924850	0.002279	9901	DieselExhPM	1.41E-07	25YrCancerDerived_InhSoilDerm	*	1.41E-07
338	ALL	314350	3924950	0.002278	9901	DieselExhPM	1.41E-07	25YrCancerDerived_InhSoilDerm	*	1.41E-07
47	ALL	313550	3923450	0.002269	9901	DieselExhPM	1.40E-07	25YrCancerDerived_InhSoilDerm	*	1.40E-07
332	ALL	313750	3924950	0.002256	9901	DieselExhPM	1.40E-07	25YrCancerDerived_InhSoilDerm	*	1.40E-07
516	ALL	315328.1	3924010	0.002251	9901	DieselExhPM	1.39E-07	25YrCancerDerived_InhSoilDerm	*	1.39E-07

517	ALL	315327	3924030	0.002249	9901	DieselExhPM	1.39E-07	25YrCancerDerived_InhSoilDerm	*	1.39E-07
66	ALL	315450	3923450	0.002243	9901	DieselExhPM	1.39E-07	25YrCancerDerived_InhSoilDerm	*	1.39E-07
339	ALL	314450	3924950	0.002239	9901	DieselExhPM	1.39E-07	25YrCancerDerived_InhSoilDerm	*	1.39E-07
376	ALL	314650	3925150	0.002238	9901	DieselExhPM	1.38E-07	25YrCancerDerived_InhSoilDerm	*	1.38E-07
157	ALL	315350	3923950	0.002236	9901	DieselExhPM	1.38E-07	25YrCancerDerived_InhSoilDerm	*	1.38E-07
334	ALL	313950	3924950	0.002222	9901	DieselExhPM	1.38E-07	25YrCancerDerived_InhSoilDerm	*	1.38E-07
335	ALL	314050	3924950	0.002218	9901	DieselExhPM	1.37E-07	25YrCancerDerived_InhSoilDerm	*	1.37E-07
201	ALL	315250	3924250	0.002208	9901	DieselExhPM	1.37E-07	25YrCancerDerived_InhSoilDerm	*	1.37E-07
333	ALL	313850	3924950	0.002208	9901	DieselExhPM	1.37E-07	25YrCancerDerived_InhSoilDerm	*	1.37E-07
337	ALL	314250	3924950	0.002201	9901	DieselExhPM	1.36E-07	25YrCancerDerived_InhSoilDerm	*	1.36E-07
518	ALL	315333.5	3924045	0.002201	9901	DieselExhPM	1.36E-07	25YrCancerDerived_InhSoilDerm	*	1.36E-07
519	ALL	315332.4	3924059	0.002181	9901	DieselExhPM	1.35E-07	25YrCancerDerived_InhSoilDerm	*	1.35E-07
336	ALL	314150	3924950	0.002179	9901	DieselExhPM	1.35E-07	25YrCancerDerived_InhSoilDerm	*	1.35E-07
13	ALL	313850	3923250	0.002178	9901	DieselExhPM	1.35E-07	25YrCancerDerived_InhSoilDerm	*	1.35E-07
403	ALL	314550	3925350	0.002162	9901	DieselExhPM	1.34E-07	25YrCancerDerived_InhSoilDerm	*	1.34E-07
358	ALL	314550	3925050	0.002151	9901	DieselExhPM	1.33E-07	25YrCancerDerived_InhSoilDerm	*	1.33E-07
87	ALL	315450	3923550	0.002143	9901	DieselExhPM	1.33E-07	25YrCancerDerived_InhSoilDerm	*	1.33E-07
520	ALL	315332.4	3924082	0.002128	9901	DieselExhPM	1.32E-07	25YrCancerDerived_InhSoilDerm	*	1.32E-07
172	ALL	315350	3924050	0.002126	9901	DieselExhPM	1.32E-07	25YrCancerDerived_InhSoilDerm	*	1.32E-07
106	ALL	315450	3923650	0.00212	9901	DieselExhPM	1.31E-07	25YrCancerDerived_InhSoilDerm	*	1.31E-07
521	ALL	315332.4	3924098	0.002095	9901	DieselExhPM	1.30E-07	25YrCancerDerived_InhSoilDerm	*	1.30E-07
29	ALL	313650	3923350	0.002087	9901	DieselExhPM	1.29E-07	25YrCancerDerived_InhSoilDerm	*	1.29E-07
221	ALL	315250	3924350	0.00208	9901	DieselExhPM	1.29E-07	25YrCancerDerived_InhSoilDerm	*	1.29E-07
12	ALL	313750	3923250	0.002056	9901	DieselExhPM	1.27E-07	25YrCancerDerived_InhSoilDerm	*	1.27E-07
375	ALL	314550	3925150	0.002048	9901	DieselExhPM	1.27E-07	25YrCancerDerived_InhSoilDerm	*	1.27E-07
356	ALL	314350	3925050	0.002047	9901	DieselExhPM	1.27E-07	25YrCancerDerived_InhSoilDerm	*	1.27E-07
357	ALL	314450	3925050	0.002032	9901	DieselExhPM	1.26E-07	25YrCancerDerived_InhSoilDerm	*	1.26E-07
390	ALL	314550	3925250	0.002021	9901	DieselExhPM	1.25E-07	25YrCancerDerived_InhSoilDerm	*	1.25E-07
522	ALL	315333.5	3924124	0.002012	9901	DieselExhPM	1.25E-07	25YrCancerDerived_InhSoilDerm	*	1.25E-07
416	ALL	314850	3925450	0.001997	9901	DieselExhPM	1.24E-07	25YrCancerDerived_InhSoilDerm	*	1.24E-07
125	ALL	315450	3923750	0.001986	9901	DieselExhPM	1.23E-07	25YrCancerDerived_InhSoilDerm	*	1.23E-07
28	ALL	313550	3923350	0.001984	9901	DieselExhPM	1.23E-07	25YrCancerDerived_InhSoilDerm	*	1.23E-07
352	ALL	313950	3925050	0.001979	9901	DieselExhPM	1.22E-07	25YrCancerDerived_InhSoilDerm	*	1.22E-07
241	ALL	315250	3924450	0.001977	9901	DieselExhPM	1.22E-07	25YrCancerDerived_InhSoilDerm	*	1.22E-07
381	ALL	315150	3925150	0.001973	9901	DieselExhPM	1.22E-07	25YrCancerDerived_InhSoilDerm	*	1.22E-07
523	ALL	315334.6	3924135	0.001967	9901	DieselExhPM	1.22E-07	25YrCancerDerived_InhSoilDerm	*	1.22E-07
355	ALL	314250	3925050	0.001965	9901	DieselExhPM	1.22E-07	25YrCancerDerived_InhSoilDerm	*	1.22E-07
354	ALL	314150	3925050	0.001951	9901	DieselExhPM	1.21E-07	25YrCancerDerived_InhSoilDerm	*	1.21E-07
353	ALL	314050	3925050	0.001948	9901	DieselExhPM	1.21E-07	25YrCancerDerived_InhSoilDerm	*	1.21E-07
374	ALL	314450	3925150	0.001903	9901	DieselExhPM	1.18E-07	25YrCancerDerived_InhSoilDerm	*	1.18E-07
144	ALL	315450	3923850	0.001897	9901	DieselExhPM	1.17E-07	25YrCancerDerived_InhSoilDerm	*	1.17E-07
527	ALL	315332.4	3924216	0.001888	9901	DieselExhPM	1.17E-07	25YrCancerDerived_InhSoilDerm	*	1.17E-07
526	ALL	315334.6	3924193	0.001887	9901	DieselExhPM	1.17E-07	25YrCancerDerived_InhSoilDerm	*	1.17E-07
373	ALL	314350	3925150	0.001887	9901	DieselExhPM	1.17E-07	25YrCancerDerived_InhSoilDerm	*	1.17E-07
524	ALL	315336.8	3924160	0.001875	9901	DieselExhPM	1.16E-07	25YrCancerDerived_InhSoilDerm	*	1.16E-07
525	ALL	315335.7	3924169	0.001871	9901	DieselExhPM	1.16E-07	25YrCancerDerived_InhSoilDerm	*	1.16E-07
158	ALL	315450	3923950	0.001862	9901	DieselExhPM	1.15E-07	25YrCancerDerived_InhSoilDerm	*	1.15E-07
187	ALL	315350	3924150	0.00186	9901	DieselExhPM	1.15E-07	25YrCancerDerived_InhSoilDerm	*	1.15E-07
528	ALL	315336.8	3924229	0.001859	9901	DieselExhPM	1.15E-07	25YrCancerDerived_InhSoilDerm	*	1.15E-07
530	ALL	315337.9	3924237	0.001845	9901	DieselExhPM	1.14E-07	25YrCancerDerived_InhSoilDerm	*	1.14E-07

261	ALL	315250	3924550	0.001839	9901	DieselExhPM	1.14E-07	25YrCancerDerived_InhSoilDerm	*	1.14E-07
88	ALL	315550	3923550	0.001838	9901	DieselExhPM	1.14E-07	25YrCancerDerived_InhSoilDerm	*	1.14E-07
402	ALL	314450	3925350	0.001835	9901	DieselExhPM	1.14E-07	25YrCancerDerived_InhSoilDerm	*	1.14E-07
529	ALL	315339	3924245	0.001828	9901	DieselExhPM	1.13E-07	25YrCancerDerived_InhSoilDerm	*	1.13E-07
389	ALL	314450	3925250	0.001827	9901	DieselExhPM	1.13E-07	25YrCancerDerived_InhSoilDerm	*	1.13E-07
531	ALL	315335.7	3924251	0.001826	9901	DieselExhPM	1.13E-07	25YrCancerDerived_InhSoilDerm	*	1.13E-07
412	ALL	314450	3925450	0.001815	9901	DieselExhPM	1.12E-07	25YrCancerDerived_InhSoilDerm	*	1.12E-07
372	ALL	314250	3925150	0.001797	9901	DieselExhPM	1.11E-07	25YrCancerDerived_InhSoilDerm	*	1.11E-07
202	ALL	315350	3924250	0.001781	9901	DieselExhPM	1.10E-07	25YrCancerDerived_InhSoilDerm	*	1.10E-07
173	ALL	315450	3924050	0.001779	9901	DieselExhPM	1.10E-07	25YrCancerDerived_InhSoilDerm	*	1.10E-07
371	ALL	314150	3925150	0.001778	9901	DieselExhPM	1.10E-07	25YrCancerDerived_InhSoilDerm	*	1.10E-07
532	ALL	315337.9	3924270	0.001775	9901	DieselExhPM	1.10E-07	25YrCancerDerived_InhSoilDerm	*	1.10E-07
370	ALL	314050	3925150	0.001772	9901	DieselExhPM	1.10E-07	25YrCancerDerived_InhSoilDerm	*	1.10E-07
388	ALL	314350	3925250	0.001771	9901	DieselExhPM	1.10E-07	25YrCancerDerived_InhSoilDerm	*	1.10E-07
107	ALL	315550	3923650	0.001758	9901	DieselExhPM	1.09E-07	25YrCancerDerived_InhSoilDerm	*	1.09E-07
533	ALL	315337.9	3924291	0.001755	9901	DieselExhPM	1.09E-07	25YrCancerDerived_InhSoilDerm	*	1.09E-07
281	ALL	315250	3924650	0.001746	9901	DieselExhPM	1.08E-07	25YrCancerDerived_InhSoilDerm	*	1.08E-07
126	ALL	315550	3923750	0.001702	9901	DieselExhPM	1.05E-07	25YrCancerDerived_InhSoilDerm	*	1.05E-07
534	ALL	315345.5	3924327	0.001695	9901	DieselExhPM	1.05E-07	25YrCancerDerived_InhSoilDerm	*	1.05E-07
401	ALL	314350	3925350	0.001683	9901	DieselExhPM	1.04E-07	25YrCancerDerived_InhSoilDerm	*	1.04E-07
304	ALL	315250	3924750	0.001682	9901	DieselExhPM	1.04E-07	25YrCancerDerived_InhSoilDerm	*	1.04E-07
535	ALL	315340.1	3924344	0.001675	9901	DieselExhPM	1.04E-07	25YrCancerDerived_InhSoilDerm	*	1.04E-07
387	ALL	314250	3925250	0.001663	9901	DieselExhPM	1.03E-07	25YrCancerDerived_InhSoilDerm	*	1.03E-07
536	ALL	315340.1	3924369	0.001642	9901	DieselExhPM	1.02E-07	25YrCancerDerived_InhSoilDerm	*	1.02E-07
537	ALL	315343.3	3924385	0.001636	9901	DieselExhPM	1.01E-07	25YrCancerDerived_InhSoilDerm	*	1.01E-07
222	ALL	315350	3924350	0.001634	9901	DieselExhPM	1.01E-07	25YrCancerDerived_InhSoilDerm	*	1.01E-07
386	ALL	314150	3925250	0.001629	9901	DieselExhPM	1.01E-07	25YrCancerDerived_InhSoilDerm	*	1.01E-07
538	ALL	315344.4	3924408	0.001623	9901	DieselExhPM	1.00E-07	25YrCancerDerived_InhSoilDerm	*	1.00E-07
145	ALL	315550	3923850	0.001613	9901	DieselExhPM	9.98E-08	25YrCancerDerived_InhSoilDerm	*	9.98E-08
326	ALL	315250	3924850	0.001609	9901	DieselExhPM	9.96E-08	25YrCancerDerived_InhSoilDerm	*	9.96E-08
539	ALL	315345.5	3924424	0.001602	9901	DieselExhPM	9.91E-08	25YrCancerDerived_InhSoilDerm	*	9.91E-08
159	ALL	315550	3923950	0.001593	9901	DieselExhPM	9.86E-08	25YrCancerDerived_InhSoilDerm	*	9.86E-08
188	ALL	315450	3924150	0.00157	9901	DieselExhPM	9.72E-08	25YrCancerDerived_InhSoilDerm	*	9.72E-08
400	ALL	314250	3925350	0.001566	9901	DieselExhPM	9.69E-08	25YrCancerDerived_InhSoilDerm	*	9.69E-08
540	ALL	315345.5	3924466	0.001552	9901	DieselExhPM	9.60E-08	25YrCancerDerived_InhSoilDerm	*	9.60E-08
242	ALL	315350	3924450	0.001542	9901	DieselExhPM	9.54E-08	25YrCancerDerived_InhSoilDerm	*	9.54E-08
347	ALL	315250	3924950	0.001541	9901	DieselExhPM	9.54E-08	25YrCancerDerived_InhSoilDerm	*	9.54E-08
541	ALL	315348.8	3924479	0.001539	9901	DieselExhPM	9.53E-08	25YrCancerDerived_InhSoilDerm	*	9.53E-08
174	ALL	315550	3924050	0.00153	9901	DieselExhPM	9.47E-08	25YrCancerDerived_InhSoilDerm	*	9.47E-08
108	ALL	315650	3923650	0.001529	9901	DieselExhPM	9.46E-08	25YrCancerDerived_InhSoilDerm	*	9.46E-08
542	ALL	315352.1	3924503	0.001513	9901	DieselExhPM	9.37E-08	25YrCancerDerived_InhSoilDerm	*	9.37E-08
543	ALL	315349.9	3924518	0.00151	9901	DieselExhPM	9.35E-08	25YrCancerDerived_InhSoilDerm	*	9.35E-08
203	ALL	315450	3924250	0.001489	9901	DieselExhPM	9.21E-08	25YrCancerDerived_InhSoilDerm	*	9.21E-08
262	ALL	315350	3924550	0.001486	9901	DieselExhPM	9.20E-08	25YrCancerDerived_InhSoilDerm	*	9.20E-08
544	ALL	315355.3	3924540	0.001484	9901	DieselExhPM	9.18E-08	25YrCancerDerived_InhSoilDerm	*	9.18E-08
127	ALL	315650	3923750	0.001477	9901	DieselExhPM	9.14E-08	25YrCancerDerived_InhSoilDerm	*	9.14E-08
545	ALL	315356.4	3924578	0.001428	9901	DieselExhPM	8.84E-08	25YrCancerDerived_InhSoilDerm	*	8.84E-08
365	ALL	315250	3925050	0.001398	9901	DieselExhPM	8.65E-08	25YrCancerDerived_InhSoilDerm	*	8.65E-08
146	ALL	315650	3923850	0.001397	9901	DieselExhPM	8.64E-08	25YrCancerDerived_InhSoilDerm	*	8.64E-08
160	ALL	315650	3923950	0.001394	9901	DieselExhPM	8.62E-08	25YrCancerDerived_InhSoilDerm	*	8.62E-08

223	ALL	315450	3924350	0.001387	9901	DieselExhPM	8.59E-08	25YrCancerDerived_InhSoilDerm	*	8.59E-08
282	ALL	315350	3924650	0.001378	9901	DieselExhPM	8.53E-08	25YrCancerDerived_InhSoilDerm	*	8.53E-08
189	ALL	315550	3924150	0.001366	9901	DieselExhPM	8.46E-08	25YrCancerDerived_InhSoilDerm	*	8.46E-08
408	ALL	315050	3925350	0.001365	9901	DieselExhPM	8.45E-08	25YrCancerDerived_InhSoilDerm	*	8.45E-08
396	ALL	315150	3925250	0.00135	9901	DieselExhPM	8.35E-08	25YrCancerDerived_InhSoilDerm	*	8.35E-08
175	ALL	315650	3924050	0.001328	9901	DieselExhPM	8.22E-08	25YrCancerDerived_InhSoilDerm	*	8.22E-08
305	ALL	315350	3924750	0.001308	9901	DieselExhPM	8.09E-08	25YrCancerDerived_InhSoilDerm	*	8.09E-08
243	ALL	315450	3924450	0.001304	9901	DieselExhPM	8.07E-08	25YrCancerDerived_InhSoilDerm	*	8.07E-08
417	ALL	314950	3925450	0.001282	9901	DieselExhPM	7.94E-08	25YrCancerDerived_InhSoilDerm	*	7.94E-08
204	ALL	315550	3924250	0.001264	9901	DieselExhPM	7.82E-08	25YrCancerDerived_InhSoilDerm	*	7.82E-08
263	ALL	315450	3924550	0.001247	9901	DieselExhPM	7.72E-08	25YrCancerDerived_InhSoilDerm	*	7.72E-08
161	ALL	315750	3923950	0.001236	9901	DieselExhPM	7.65E-08	25YrCancerDerived_InhSoilDerm	*	7.65E-08
327	ALL	315350	3924850	0.001214	9901	DieselExhPM	7.52E-08	25YrCancerDerived_InhSoilDerm	*	7.52E-08
190	ALL	315650	3924150	0.00121	9901	DieselExhPM	7.49E-08	25YrCancerDerived_InhSoilDerm	*	7.49E-08
176	ALL	315750	3924050	0.001189	9901	DieselExhPM	7.36E-08	25YrCancerDerived_InhSoilDerm	*	7.36E-08
224	ALL	315550	3924350	0.001168	9901	DieselExhPM	7.23E-08	25YrCancerDerived_InhSoilDerm	*	7.23E-08
283	ALL	315450	3924650	0.001142	9901	DieselExhPM	7.07E-08	25YrCancerDerived_InhSoilDerm	*	7.07E-08
382	ALL	315250	3925150	0.001128	9901	DieselExhPM	6.98E-08	25YrCancerDerived_InhSoilDerm	*	6.98E-08
348	ALL	315350	3924950	0.001125	9901	DieselExhPM	6.96E-08	25YrCancerDerived_InhSoilDerm	*	6.96E-08
191	ALL	315750	3924150	0.001088	9901	DieselExhPM	6.73E-08	25YrCancerDerived_InhSoilDerm	*	6.73E-08
306	ALL	315450	3924750	0.001086	9901	DieselExhPM	6.72E-08	25YrCancerDerived_InhSoilDerm	*	6.72E-08
244	ALL	315550	3924450	0.001083	9901	DieselExhPM	6.70E-08	25YrCancerDerived_InhSoilDerm	*	6.70E-08
205	ALL	315650	3924250	0.001067	9901	DieselExhPM	6.61E-08	25YrCancerDerived_InhSoilDerm	*	6.61E-08
264	ALL	315550	3924550	0.001033	9901	DieselExhPM	6.39E-08	25YrCancerDerived_InhSoilDerm	*	6.39E-08
225	ALL	315650	3924350	0.001023	9901	DieselExhPM	6.33E-08	25YrCancerDerived_InhSoilDerm	*	6.33E-08
328	ALL	315450	3924850	0.001014	9901	DieselExhPM	6.27E-08	25YrCancerDerived_InhSoilDerm	*	6.27E-08
366	ALL	315350	3925050	0.001012	9901	DieselExhPM	6.26E-08	25YrCancerDerived_InhSoilDerm	*	6.26E-08
284	ALL	315550	3924650	0.001003	9901	DieselExhPM	6.21E-08	25YrCancerDerived_InhSoilDerm	*	6.21E-08
418	ALL	315050	3925450	0.000988	9901	DieselExhPM	6.11E-08	25YrCancerDerived_InhSoilDerm	*	6.11E-08
397	ALL	315250	3925250	0.000968	9901	DieselExhPM	5.99E-08	25YrCancerDerived_InhSoilDerm	*	5.99E-08
245	ALL	315650	3924450	0.000962	9901	DieselExhPM	5.95E-08	25YrCancerDerived_InhSoilDerm	*	5.95E-08
265	ALL	315650	3924550	0.000934	9901	DieselExhPM	5.78E-08	25YrCancerDerived_InhSoilDerm	*	5.78E-08
226	ALL	315750	3924350	0.000933	9901	DieselExhPM	5.77E-08	25YrCancerDerived_InhSoilDerm	*	5.77E-08
206	ALL	315750	3924250	0.000932	9901	DieselExhPM	5.77E-08	25YrCancerDerived_InhSoilDerm	*	5.77E-08
307	ALL	315550	3924750	0.000914	9901	DieselExhPM	5.66E-08	25YrCancerDerived_InhSoilDerm	*	5.66E-08
409	ALL	315150	3925350	0.00091	9901	DieselExhPM	5.63E-08	25YrCancerDerived_InhSoilDerm	*	5.63E-08
349	ALL	315450	3924950	0.000899	9901	DieselExhPM	5.56E-08	25YrCancerDerived_InhSoilDerm	*	5.56E-08
285	ALL	315650	3924650	0.000886	9901	DieselExhPM	5.48E-08	25YrCancerDerived_InhSoilDerm	*	5.48E-08
246	ALL	315750	3924450	0.000874	9901	DieselExhPM	5.41E-08	25YrCancerDerived_InhSoilDerm	*	5.41E-08
329	ALL	315550	3924850	0.000855	9901	DieselExhPM	5.29E-08	25YrCancerDerived_InhSoilDerm	*	5.29E-08
383	ALL	315350	3925150	0.000854	9901	DieselExhPM	5.28E-08	25YrCancerDerived_InhSoilDerm	*	5.28E-08
410	ALL	315250	3925350	0.000827	9901	DieselExhPM	5.12E-08	25YrCancerDerived_InhSoilDerm	*	5.12E-08
308	ALL	315650	3924750	0.000814	9901	DieselExhPM	5.04E-08	25YrCancerDerived_InhSoilDerm	*	5.04E-08
419	ALL	315150	3925450	0.000814	9901	DieselExhPM	5.04E-08	25YrCancerDerived_InhSoilDerm	*	5.04E-08
266	ALL	315750	3924550	0.000806	9901	DieselExhPM	4.99E-08	25YrCancerDerived_InhSoilDerm	*	4.99E-08
367	ALL	315450	3925050	0.000805	9901	DieselExhPM	4.98E-08	25YrCancerDerived_InhSoilDerm	*	4.98E-08
398	ALL	315350	3925250	0.000803	9901	DieselExhPM	4.97E-08	25YrCancerDerived_InhSoilDerm	*	4.97E-08
350	ALL	315550	3924950	0.000788	9901	DieselExhPM	4.88E-08	25YrCancerDerived_InhSoilDerm	*	4.88E-08
286	ALL	315750	3924650	0.000758	9901	DieselExhPM	4.69E-08	25YrCancerDerived_InhSoilDerm	*	4.69E-08
330	ALL	315650	3924850	0.000734	9901	DieselExhPM	4.54E-08	25YrCancerDerived_InhSoilDerm	*	4.54E-08

384	ALL		315450	3925150	0.000719	9901	DieselExhPM	4.45E-08	25YrCancerDerived_InhSoilDerm	*	4.45E-08
309	ALL		315750	3924750	0.000719	9901	DieselExhPM	4.45E-08	25YrCancerDerived_InhSoilDerm	*	4.45E-08
411	ALL		315350	3925350	0.000688	9901	DieselExhPM	4.26E-08	25YrCancerDerived_InhSoilDerm	*	4.26E-08
368	ALL		315550	3925050	0.000685	9901	DieselExhPM	4.24E-08	25YrCancerDerived_InhSoilDerm	*	4.24E-08
351	ALL		315650	3924950	0.000667	9901	DieselExhPM	4.13E-08	25YrCancerDerived_InhSoilDerm	*	4.13E-08
331	ALL		315750	3924850	0.000649	9901	DieselExhPM	4.02E-08	25YrCancerDerived_InhSoilDerm	*	4.02E-08
369	ALL		315650	3925050	0.000642	9901	DieselExhPM	3.97E-08	25YrCancerDerived_InhSoilDerm	*	3.97E-08
420	ALL		315250	3925450	0.000622	9901	DieselExhPM	3.85E-08	25YrCancerDerived_InhSoilDerm	*	3.85E-08
385	ALL		315550	3925150	0.000617	9901	DieselExhPM	3.82E-08	25YrCancerDerived_InhSoilDerm	*	3.82E-08
399	ALL		315450	3925250	0.000589	9901	DieselExhPM	3.64E-08	25YrCancerDerived_InhSoilDerm	*	3.64E-08

Control Pathway

AERMOD

Dispersion Options

Titles

Airport Commerce Center Industrial Project
Operational HRA for HARP ADMRT supplemental

Dispersion Options

☑ Regulatory Default ☐ Non-Default Options

Dispersion Coefficient

Rural

Output Type

☑ Concentration
☐ Total Deposition (Dry & Wet)
☐ Dry Deposition
☐ Wet Deposition

Plume Depletion

☐ Dry Removal
☐ Wet Removal

Output Warnings

☐ No Output Warnings
☐ Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type

PM10

Averaging Time Options

Hours ☑ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 6 ☐ 8 ☐ 12 ☐ 24

☐ Month ☑ Period ☐ Annual

Exponential Decay

Option not available

Terrain Height Options

☐ Flat ☑ Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors

☐ Yes ☑ No

Default Height = 0.00 m

Control Pathway

Optional Files

Re-Start File	Init File	Multi-Year Analyses	Event Input File	Error Listing File
☐	☐	☐	☐	■

Detailed Error Listing File

Filename: OpHRA.err

Source Pathway - Source Inputs

AERMOD

Point Sources

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	IDLEX_01	314706.44 Bldg 1 Docks - (7)	3924469.43	183.51	3.84	0.15556	366.00	51.71	0.10
POINT	IDLEX_02	314734.59 Building 1 Docks - (8)	3924469.03	183.92	3.84	0.17778	366.00	51.71	0.10
POINT	IDLEX_03	314771.53 Building 1 Docks - (8)	3924468.13	184.52	3.84	0.17778	366.00	51.71	0.10
POINT	IDLEX_04	314808.37 Building 1 Docks - (8)	3924467.29	185.34	3.84	0.17778	366.00	51.71	0.10
POINT	IDLEX_05	314845.75 Building 1 Docks - (8)	3924466.70	185.00	3.84	0.17778	366.00	51.71	0.10
POINT	IDLEX_06	314882.58 Building 1 Docks - (6)	3924465.77	185.61	3.84	0.13333	366.00	51.71	0.10
POINT	IDLEX_07	314705.23 Bldg 2 Docks - (7)	3924338.22	181.95	3.84	0.15556	366.00	51.71	0.10
POINT	IDLEX_08	314733.74 Bldg 2 Docks - (8)	3924337.81	181.76	3.84	0.17778	366.00	51.71	0.10
POINT	IDLEX_09	314770.35 Bldg 2 Docks - (8)	3924337.56	183.05	3.84	0.17778	366.00	51.71	0.10
POINT	IDLEX_10	314807.91 Bldg 2 Docks - (8)	3924336.03	183.63	3.84	0.17778	366.00	51.71	0.10
POINT	IDLEX_11	314844.39 Bldg 2 Docks - (8)	3924335.83	183.61	3.84	0.17778	366.00	51.71	0.10
POINT	IDLEX_12	314881.58 Bldg 2 Docks - (6)	3924335.07	184.14	3.84	0.13333	366.00	51.71	0.10

Source Pathway - Source Inputs

AERMOD

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	IDLEX_13	314801.51	3924226.74	181.67	3.84	0.30000	366.00	51.71	0.10
		Bldg 3 Docks - (6)							
POINT	IDLEX_14	314800.54	3924202.80	181.25	3.84	0.40000	366.00	51.71	0.10
		Bldg 3 Docks - (8)							
POINT	IDLEX_15	314799.87	3924165.84	180.69	3.84	0.30000	366.00	51.71	0.10
		Bldg 3 Docks - (6)							
POINT	IDLEX_16	314302.71	3924181.19	173.17	3.84	0.16667	366.00	51.71	0.10
		Bldg 4 Docks - North East (7)							
POINT	IDLEX_17	314331.61	3924179.97	173.79	3.84	0.16667	366.00	51.71	0.10
		Bldg 4 Docks - North (7)							
POINT	IDLEX_18	314366.57	3924179.84	174.36	3.84	0.16667	366.00	51.71	0.10
		Bldg 4 Docks - North (7)							
POINT	IDLEX_19	314400.14	3924178.45	174.55	3.84	0.16667	366.00	51.71	0.10
		Bldg 4 Docks - North (7)							
POINT	IDLEX_20	314440.07	3924177.94	175.62	3.84	0.16667	366.00	51.71	0.10
		Bldg 4 Docks - North (7)							
POINT	IDLEX_21	314467.84	3924177.59	176.10	3.84	0.16667	366.00	51.71	0.10
		Bldg 4 Docks - North (7)							
POINT	IDLEX_22	314502.00	3924176.61	176.84	3.84	0.20588	366.00	51.71	0.10
		Bldg 4 Docks - North (7)							
POINT	IDLEX_23	314536.13	3924175.79	177.40	3.84	0.20588	366.00	51.71	0.10
		Bldg 4 Docks - North (7)							
POINT	IDLEX_24	314571.09	3924175.98	177.88	3.84	0.20588	366.00	51.71	0.10
		Bldg 4 Docks - North (7)							
POINT	IDLEX_25	314604.73	3924174.62	178.32	3.84	0.20588	366.00	51.71	0.10
		Bldg 4 Docks - North (7)							

Source Pathway - Source Inputs

AERMOD

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	IDLEX_26	314636.89	3924174.84	178.83	3.84	0.17647	366.00	51.71	0.10
		Bldg 4 Docks - North West (6)							
POINT	IDLEX_27	314292.00	3923978.00	170.40	3.84	0.10256	366.00	51.71	0.10
		Bldg 4 Docks - South West (4)							
POINT	IDLEX_28	314318.25	3923977.19	170.95	3.84	0.17949	366.00	51.71	0.10
		Bldg 4 Docks - South (7)							
POINT	IDLEX_29	314351.55	3923976.50	171.85	3.84	0.17949	366.00	51.71	0.10
		Bldg 4 Docks - South (7)							
POINT	IDLEX_30	314385.96	3923975.48	172.59	3.84	0.17949	366.00	51.71	0.10
		Bldg 4 Docks - South (7)							
POINT	IDLEX_31	314420.46	3923975.31	173.24	3.84	0.17949	366.00	51.71	0.10
		Bldg 4 Docks - South (7)							
POINT	IDLEX_32	314453.71	3923974.01	173.62	3.84	0.17949	366.00	51.71	0.10
		Bldg 4 Docks - South (7)							
POINT	IDLEX_33	314487.55	3923973.29	174.11	3.84	0.17500	366.00	51.71	0.10
		Bldg 4 Docks - South (7)							
POINT	IDLEX_34	314521.00	3923972.00	174.55	3.84	0.17500	366.00	51.71	0.10
		Bldg 4 Docks - South (7)							
POINT	IDLEX_35	314557.66	3923972.11	174.99	3.84	0.17500	366.00	51.71	0.10
		Bldg 4 Docks - South (7)							
POINT	IDLEX_36	314589.50	3923970.88	175.34	3.84	0.17500	366.00	51.71	0.10
		Bldg 4 Docks - South (7)							
POINT	IDLEX_37	314624.36	3923970.15	175.71	3.84	0.17500	366.00	51.71	0.10
		Bldg 4 Docks - South (7)							
POINT	IDLEX_38	314653.83	3923970.66	176.06	3.84	0.12500	366.00	51.71	0.10
		Bldg 4 Docks - South East (5)							

Source Pathway - Source Inputs

AERMOD

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	TRU_16	314302.71	3924181.19	173.17	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - North East (7)							
POINT	TRU_17	314331.61	3924179.97	173.79	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - North (7)							
POINT	TRU_18	314366.57	3924179.84	174.36	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - North (7)							
POINT	TRU_19	314400.14	3924178.45	174.55	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - North (7)							
POINT	TRU_20	314440.07	3924177.94	175.62	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - North (7)							
POINT	TRU_21	314467.84	3924177.59	176.10	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - North (7)							
POINT	TRU_22	314502.00	3924176.61	176.84	3.96	0.20000	501.00	49.00	0.04
		Bldg 4 Docks - North (7)							
POINT	TRU_23	314536.13	3924175.79	177.40	3.96	0.20000	501.00	49.00	0.04
		Bldg 4 Docks - North (7)							
POINT	TRU_24	314571.09	3924175.98	177.88	3.96	0.20000	501.00	49.00	0.04
		Bldg 4 Docks - North (7)							
POINT	TRU_25	314604.73	3924174.62	178.32	3.96	0.20000	501.00	49.00	0.04
		Bldg 4 Docks - North (7)							
POINT	TRU_26	314636.89	3924174.84	178.83	3.96	0.20000	501.00	49.00	0.04
		Bldg 4 Docks - North West (6)							
POINT	TRU_27	314292.00	3923978.00	170.40	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - South West (4)							
POINT	TRU_28	314318.25	3923977.19	170.95	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - South (7)							

Source Pathway - Source Inputs

AERMOD

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	TRU_29	314351.55	3923976.50	171.85	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - South (7)							
POINT	TRU_30	314385.96	3923975.48	172.59	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - South (7)							
POINT	TRU_31	314420.46	3923975.31	173.24	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - South (7)							
POINT	TRU_32	314453.71	3923974.01	173.62	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - South (7)							
POINT	TRU_33	314487.55	3923973.29	174.11	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - South (7)							
POINT	TRU_34	314521.00	3923972.00	174.55	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - South (7)							
POINT	TRU_35	314557.66	3923972.11	174.99	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - South (7)							
POINT	TRU_36	314589.50	3923970.88	175.34	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - South (7)							
POINT	TRU_37	314624.36	3923970.15	175.71	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - South (7)							
POINT	TRU_38	314653.83	3923970.66	176.06	3.96	0.16670	501.00	49.00	0.04
		Bldg 4 Docks - South East (5)							
POINT	EGEN1	314919.78	3924463.97	186.74	3.00	1.00000	789.00	57.40	0.13
		Emergency Generator - Building 1 (300 hp)							
POINT	EGEN2	314915.97	3924335.52	184.72	3.00	1.00000	789.00	57.40	0.13
		Emergency Generator - Building 2 (300 hp)							
POINT	EGEN3	314782.68	3924129.72	179.94	3.00	1.00000	789.00	57.40	0.13
		Emergency Generator - Building 3 (300 Hp)							

Source Pathway - Source Inputs

AERMOD

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Gas Exit Temp. [K]	Gas Exit Velocity [m/s]	Stack Inside Diameter [m]
POINT	EGEN4_1	314692.20	3923955.41	176.22	3.00	1.00000	789.00	57.40	0.13
		Emergency Generator - Building 4 N (300 hp)							
POINT	EGEN4_2	314687.53	3924185.67	179.71	3.00	1.00000	789.00	57.40	0.13
		Emergency Generator - Building 4 S (300 hp)							
POINT	EGEN4_3	314699.93	3923955.68	176.30	3.00	1.00000	750.00	52.20	0.25
		Emergency Generator - Building 4S - Cold Storage (1475 hp)							

Polygon Area Sources

Source Type: AREA POLY

Source: ONSITE (Site Running Exhaust)

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m^2)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
179.78	3.89	2.25E-6	3.62	12	314620.83	3924301.65
		2.25E-6			314219.08	3924312.09
		2.25E-6			314223.46	3924514.06
		2.25E-6			314226.60	3924704.67
		2.25E-6			314193.97	3924704.18
		2.25E-6			314157.90	3923915.20
		2.25E-6			314825.07	3923900.81
		2.25E-6			314832.15	3923970.99
		2.25E-6			314938.97	3923967.52
		2.25E-6			314955.77	3924320.27
		2.25E-6			314964.19	3924680.52
		2.25E-6			314634.17	3924690.97

Source Pathway - Source Inputs

Line Volume Sources

Source Type: LINE VOLUME

Source: OFFISTE4 (Airport Drive North to James Road)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
26.00	1.00000		314973.88	3924318.21	185.44	3.88
			314990.37	3925002.39	195.09	3.88
			315060.44	3925179.62	198.77	3.88
			314668.89	3925492.86	194.94	3.88

Source Type: LINE VOLUME

Source: OFFSITE1 (Airport Drive to Merle Haggard Blvd - OffSite Running)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
26.00	1.00000	Surface-Based	313348.42	3923982.85	157.37	0.00
			313458.41	3923942.04	157.82	0.00
			313532.92	3923926.08	158.69	0.00
			313655.33	3923922.53	160.91	0.00
			313807.90	3923920.75	163.17	0.00
			314049.17	3923903.01	166.59	0.00
			314130.78	3923897.69	167.57	0.00
			314267.13	3923892.20	169.58	0.00
			314395.11	3923887.05	171.51	0.00
			314907.22	3923871.32	178.01	0.00
			314944.99	3923868.67	178.48	0.00
			314967.71	3924310.30	185.14	0.00

Source Pathway - Source Inputs

Source Type: LINE VOLUME
Source: OFFSITE2 (Airport to Petrol to Landing Alternate Route - Offsite Running)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
26.00	1.00000	Surface-Based	314966.80	3924319.63	185.25	3.89
			314980.78	3924690.63	191.27	3.89
			314221.54	3924715.89	178.03	3.89
			314173.41	3924717.10	176.69	3.89
			314169.21	3924317.76	173.14	3.89
			314157.51	3923897.43	167.91	3.89

Source Type: LINE VOLUME
Source: OFFSITE3 (South on Airport Drive)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
26.00	1.00000		314966.75	3924297.53	184.93	3.88
			314931.72	3923796.61	177.31	3.88
			314907.20	3923582.93	173.11	3.88
			314921.22	3923414.78	171.42	3.88
			314917.71	3923267.66	168.44	3.88
			314910.71	3923134.54	165.91	3.88
			314914.21	3923155.56	166.31	3.88

Source Pathway - Source Inputs

AERMOD

Volume Sources Generated from Line Sources

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE1	L0000236	313360.60	3923978.32	157.40	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000237	313384.98	3923969.28	157.50	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000238	313409.36	3923960.24	157.60	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000239	313433.73	3923951.19	157.71	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000240	313458.11	3923942.15	157.84	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000241	313483.52	3923936.66	158.05	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000242	313508.94	3923931.21	158.30	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000243	313534.40	3923926.03	158.72	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000244	313560.39	3923925.28	159.14	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000245	313586.38	3923924.53	159.62	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000246	313612.37	3923923.77	160.13	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000247	313638.36	3923923.02	160.55	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000248	313664.35	3923922.42	161.02	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000249	313690.35	3923922.12	161.48	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000250	313716.34	3923921.82	161.88	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000251	313742.34	3923921.52	162.27	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000252	313768.34	3923921.21	162.64	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000253	313794.34	3923920.91	163.01	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000254	313820.31	3923919.84	163.40	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000255	313846.24	3923917.93	163.85	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000256	313872.17	3923916.03	164.19	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000257	313898.10	3923914.12	164.55	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000258	313924.03	3923912.21	164.91	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000259	313949.96	3923910.31	165.29	0.00	0.01266	26.00	Surface-Based	12.09	3.62

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE1	L0000260	313975.89	3923908.40	165.64	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000261	314001.82	3923906.49	166.00	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000262	314027.75	3923904.59	166.31	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000263	314053.68	3923902.72	166.64	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000264	314079.62	3923901.03	166.94	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000265	314105.57	3923899.33	167.28	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000266	314131.51	3923897.66	167.61	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000267	314157.49	3923896.61	167.97	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000268	314183.47	3923895.57	168.34	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000269	314209.45	3923894.52	168.73	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000270	314235.43	3923893.48	169.14	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000271	314261.41	3923892.43	169.55	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000272	314287.39	3923891.38	169.94	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000273	314313.37	3923890.34	170.32	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000274	314339.34	3923889.29	170.70	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000275	314365.32	3923888.25	171.08	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000276	314391.30	3923887.20	171.44	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000277	314417.29	3923886.36	171.74	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000278	314443.28	3923885.57	172.02	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000279	314469.26	3923884.77	172.34	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000280	314495.25	3923883.97	172.65	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000281	314521.24	3923883.17	172.97	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000282	314547.23	3923882.37	173.29	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000283	314573.22	3923881.58	173.61	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000284	314599.20	3923880.78	173.92	0.00	0.01266	26.00	Surface-Based	12.09	3.62

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE1	L0000285	314625.19	3923879.98	174.22	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000286	314651.18	3923879.18	174.54	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000287	314677.17	3923878.38	174.87	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000288	314703.15	3923877.58	175.19	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000289	314729.14	3923876.79	175.49	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000290	314755.13	3923875.99	175.81	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000291	314781.12	3923875.19	176.15	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000292	314807.11	3923874.39	176.53	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000293	314833.09	3923873.59	176.91	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000294	314859.08	3923872.79	177.31	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000295	314885.07	3923872.00	177.73	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000296	314911.05	3923871.05	178.10	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000297	314936.99	3923869.23	178.48	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000298	314945.92	3923886.62	178.80	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000299	314947.25	3923912.59	179.19	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000300	314948.59	3923938.55	179.57	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000301	314949.92	3923964.52	179.94	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000302	314951.26	3923990.49	180.25	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000303	314952.60	3924016.45	180.58	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000304	314953.93	3924042.42	180.99	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000305	314955.27	3924068.38	181.38	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000306	314956.60	3924094.35	181.84	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000307	314957.94	3924120.31	182.18	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000308	314959.28	3924146.28	182.50	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000309	314960.61	3924172.25	182.92	0.00	0.01266	26.00	Surface-Based	12.09	3.62

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE1	L0000310	314961.95	3924198.21	183.34	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000311	314963.28	3924224.18	183.75	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000312	314964.62	3924250.14	184.16	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000313	314965.96	3924276.11	184.55	0.00	0.01266	26.00	Surface-Based	12.09	3.62
	L0000314	314967.29	3924302.07	185.05	0.00	0.01266	26.00	Surface-Based	12.09	3.62

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE2	L0000315	314967.29	3924332.62	185.53	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000316	314968.27	3924358.61	185.93	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000317	314969.25	3924384.59	186.31	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000318	314970.23	3924410.57	186.67	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000319	314971.21	3924436.55	187.06	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000320	314972.18	3924462.53	187.42	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000321	314973.16	3924488.51	187.74	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000322	314974.14	3924514.50	188.10	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000323	314975.12	3924540.48	188.48	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000324	314976.10	3924566.46	188.85	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000325	314977.08	3924592.44	189.29	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000326	314978.06	3924618.42	189.69	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000327	314979.04	3924644.40	190.14	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000328	314980.01	3924670.38	190.67	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000329	314975.04	3924690.82	191.03	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000330	314949.05	3924691.68	190.35	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000331	314923.06	3924692.55	189.72	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000332	314897.08	3924693.41	189.26	3.89	0.01299	26.00	Surface-Based	12.09	3.62

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE2	L0000333	314871.09	3924694.28	188.96	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000334	314845.11	3924695.14	188.53	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000335	314819.12	3924696.01	188.04	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000336	314793.14	3924696.87	187.56	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000337	314767.15	3924697.74	187.06	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000338	314741.17	3924698.60	186.48	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000339	314715.18	3924699.47	186.00	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000340	314689.19	3924700.33	185.59	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000341	314663.21	3924701.20	185.16	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000342	314637.22	3924702.06	184.81	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000343	314611.24	3924702.92	184.54	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000344	314585.25	3924703.79	184.47	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000345	314559.27	3924704.65	184.31	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000346	314533.28	3924705.52	184.02	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000347	314507.29	3924706.38	183.59	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000348	314481.31	3924707.25	183.07	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000349	314455.32	3924708.11	182.48	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000350	314429.34	3924708.98	182.05	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000351	314403.35	3924709.84	181.60	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000352	314377.37	3924710.71	181.01	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000353	314351.38	3924711.57	180.39	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000354	314325.40	3924712.44	179.78	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000355	314299.41	3924713.30	179.39	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000356	314273.42	3924714.17	179.05	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000357	314247.44	3924715.03	178.61	3.89	0.01299	26.00	Surface-Based	12.09	3.62

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE2	L0000358	314221.45	3924715.90	177.97	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000359	314195.46	3924716.55	177.24	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000360	314173.36	3924713.16	176.64	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000361	314173.09	3924687.16	176.33	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000362	314172.82	3924661.16	175.95	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000363	314172.55	3924635.16	175.58	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000364	314172.27	3924609.17	175.34	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000365	314172.00	3924583.17	175.22	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000366	314171.73	3924557.17	175.10	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000367	314171.45	3924531.17	174.98	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000368	314171.18	3924505.17	174.81	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000369	314170.91	3924479.17	174.55	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000370	314170.63	3924453.17	174.33	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000371	314170.36	3924427.18	174.15	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000372	314170.09	3924401.18	174.05	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000373	314169.81	3924375.18	173.89	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000374	314169.54	3924349.18	173.59	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000375	314169.27	3924323.18	173.31	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000376	314168.64	3924297.19	172.90	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000377	314167.91	3924271.20	172.50	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000378	314167.19	3924245.21	172.29	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000379	314166.47	3924219.22	172.03	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000380	314165.74	3924193.23	171.66	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000381	314165.02	3924167.24	171.41	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000382	314164.30	3924141.25	171.06	3.89	0.01299	26.00	Surface-Based	12.09	3.62

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE2	L0000383	314163.57	3924115.26	170.74	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000384	314162.85	3924089.27	170.44	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000385	314162.13	3924063.28	170.13	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000386	314161.40	3924037.29	169.74	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000387	314160.68	3924011.30	169.35	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000388	314159.95	3923985.31	168.80	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000389	314159.23	3923959.32	168.34	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000390	314158.51	3923933.33	168.09	3.89	0.01299	26.00	Surface-Based	12.09	3.62
	L0000391	314157.78	3923907.34	168.02	3.89	0.01299	26.00	Surface-Based	12.09	3.62

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE3	L0000392	314965.85	3924284.56	184.67	3.88	0.02174	26.00		12.09	3.61
	L0000393	314964.03	3924258.63	184.28	3.88	0.02174	26.00		12.09	3.61
	L0000394	314962.22	3924232.69	183.85	3.88	0.02174	26.00		12.09	3.61
	L0000395	314960.41	3924206.75	183.44	3.88	0.02174	26.00		12.09	3.61
	L0000396	314958.59	3924180.82	183.00	3.88	0.02174	26.00		12.09	3.61
	L0000397	314956.78	3924154.88	182.57	3.88	0.02174	26.00		12.09	3.61
	L0000398	314954.97	3924128.94	182.19	3.88	0.02174	26.00		12.09	3.61
	L0000399	314953.15	3924103.01	181.83	3.88	0.02174	26.00		12.09	3.61
	L0000400	314951.34	3924077.07	181.40	3.88	0.02174	26.00		12.09	3.61
	L0000401	314949.52	3924051.13	180.93	3.88	0.02174	26.00		12.09	3.61
	L0000402	314947.71	3924025.20	180.49	3.88	0.02174	26.00		12.09	3.61
	L0000403	314945.90	3923999.26	180.10	3.88	0.02174	26.00		12.09	3.61
	L0000404	314944.08	3923973.32	179.81	3.88	0.02174	26.00		12.09	3.61
	L0000405	314942.27	3923947.39	179.49	3.88	0.02174	26.00		12.09	3.61

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE3	L0000406	314940.46	3923921.45	179.19	3.88	0.02174	26.00		12.09	3.61
	L0000407	314938.64	3923895.51	178.79	3.88	0.02174	26.00		12.09	3.61
	L0000408	314936.83	3923869.58	178.48	3.88	0.02174	26.00		12.09	3.61
	L0000409	314935.01	3923843.64	178.06	3.88	0.02174	26.00		12.09	3.61
	L0000410	314933.20	3923817.70	177.70	3.88	0.02174	26.00		12.09	3.61
	L0000411	314931.17	3923791.79	177.25	3.88	0.02174	26.00		12.09	3.61
	L0000412	314928.21	3923765.96	176.85	3.88	0.02174	26.00		12.09	3.61
	L0000413	314925.24	3923740.13	176.42	3.88	0.02174	26.00		12.09	3.61
	L0000414	314922.28	3923714.30	175.98	3.88	0.02174	26.00		12.09	3.61
	L0000415	314919.32	3923688.46	175.50	3.88	0.02174	26.00		12.09	3.61
	L0000416	314916.35	3923662.63	174.97	3.88	0.02174	26.00		12.09	3.61
	L0000417	314913.39	3923636.80	174.38	3.88	0.02174	26.00		12.09	3.61
	L0000418	314910.42	3923610.97	173.88	3.88	0.02174	26.00		12.09	3.61
	L0000419	314907.46	3923585.14	173.21	3.88	0.02174	26.00		12.09	3.61
	L0000420	314909.18	3923559.24	173.05	3.88	0.02174	26.00		12.09	3.61
	L0000421	314911.34	3923533.33	172.86	3.88	0.02174	26.00		12.09	3.61
	L0000422	314913.50	3923507.42	172.67	3.88	0.02174	26.00		12.09	3.61
	L0000423	314915.66	3923481.51	172.34	3.88	0.02174	26.00		12.09	3.61
	L0000424	314917.81	3923455.60	172.04	3.88	0.02174	26.00		12.09	3.61
	L0000425	314919.97	3923429.69	171.65	3.88	0.02174	26.00		12.09	3.61
	L0000426	314920.95	3923403.74	171.22	3.88	0.02174	26.00		12.09	3.61
	L0000427	314920.33	3923377.75	170.76	3.88	0.02174	26.00		12.09	3.61
	L0000428	314919.72	3923351.76	170.26	3.88	0.02174	26.00		12.09	3.61
	L0000429	314919.10	3923325.77	169.76	3.88	0.02174	26.00		12.09	3.61
	L0000430	314918.48	3923299.77	169.23	3.88	0.02174	26.00		12.09	3.61

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFSITE3	L0000431	314917.86	3923273.78	168.71	3.88	0.02174	26.00		12.09	3.61
	L0000432	314916.67	3923247.81	168.19	3.88	0.02174	26.00		12.09	3.61
	L0000433	314915.30	3923221.85	167.66	3.88	0.02174	26.00		12.09	3.61
	L0000434	314913.94	3923195.88	167.11	3.88	0.02174	26.00		12.09	3.61
	L0000435	314912.57	3923169.92	166.58	3.88	0.02174	26.00		12.09	3.61
	L0000436	314911.20	3923143.95	166.08	3.88	0.02174	26.00		12.09	3.61
	L0000437	314913.43	3923150.90	166.23	3.88	0.02174	26.00		12.09	3.61

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFISTE4	L0000438	314974.20	3924331.21	185.62	3.88	0.01887	26.00		12.09	3.61
	L0000439	314974.82	3924357.20	186.02	3.88	0.01887	26.00		12.09	3.61
	L0000440	314975.45	3924383.19	186.42	3.88	0.01887	26.00		12.09	3.61
	L0000441	314976.08	3924409.19	186.79	3.88	0.01887	26.00		12.09	3.61
	L0000442	314976.70	3924435.18	187.18	3.88	0.01887	26.00		12.09	3.61
	L0000443	314977.33	3924461.17	187.54	3.88	0.01887	26.00		12.09	3.61
	L0000444	314977.96	3924487.16	187.90	3.88	0.01887	26.00		12.09	3.61
	L0000445	314978.58	3924513.16	188.25	3.88	0.01887	26.00		12.09	3.61
	L0000446	314979.21	3924539.15	188.64	3.88	0.01887	26.00		12.09	3.61
	L0000447	314979.83	3924565.14	189.00	3.88	0.01887	26.00		12.09	3.61
	L0000448	314980.46	3924591.13	189.42	3.88	0.01887	26.00		12.09	3.61
	L0000449	314981.09	3924617.13	189.79	3.88	0.01887	26.00		12.09	3.61
	L0000450	314981.71	3924643.12	190.24	3.88	0.01887	26.00		12.09	3.61
	L0000451	314982.34	3924669.11	190.75	3.88	0.01887	26.00		12.09	3.61
	L0000452	314982.97	3924695.10	191.28	3.88	0.01887	26.00		12.09	3.61
	L0000453	314983.59	3924721.10	191.53	3.88	0.01887	26.00		12.09	3.61

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFISTE4	L0000454	314984.22	3924747.09	191.56	3.88	0.01887	26.00		12.09	3.61
	L0000455	314984.85	3924773.08	191.84	3.88	0.01887	26.00		12.09	3.61
	L0000456	314985.47	3924799.07	192.23	3.88	0.01887	26.00		12.09	3.61
	L0000457	314986.10	3924825.07	192.55	3.88	0.01887	26.00		12.09	3.61
	L0000458	314986.72	3924851.06	192.83	3.88	0.01887	26.00		12.09	3.61
	L0000459	314987.35	3924877.05	192.93	3.88	0.01887	26.00		12.09	3.61
	L0000460	314987.98	3924903.04	193.22	3.88	0.01887	26.00		12.09	3.61
	L0000461	314988.60	3924929.04	193.89	3.88	0.01887	26.00		12.09	3.61
	L0000462	314989.23	3924955.03	194.37	3.88	0.01887	26.00		12.09	3.61
	L0000463	314989.86	3924981.02	194.76	3.88	0.01887	26.00		12.09	3.61
	L0000464	314992.07	3925006.69	195.14	3.88	0.01887	26.00		12.09	3.61
	L0000465	315001.63	3925030.87	195.73	3.88	0.01887	26.00		12.09	3.61
	L0000466	315011.19	3925055.05	196.27	3.88	0.01887	26.00		12.09	3.61
	L0000467	315020.75	3925079.23	196.79	3.88	0.01887	26.00		12.09	3.61
	L0000468	315030.31	3925103.41	197.48	3.88	0.01887	26.00		12.09	3.61
	L0000469	315039.86	3925127.59	198.34	3.88	0.01887	26.00		12.09	3.61
	L0000470	315049.42	3925151.76	198.86	3.88	0.01887	26.00		12.09	3.61
	L0000471	315058.98	3925175.94	198.79	3.88	0.01887	26.00		12.09	3.61
	L0000472	315043.22	3925193.39	198.72	3.88	0.01887	26.00		12.09	3.61
	L0000473	315022.92	3925209.64	198.40	3.88	0.01887	26.00		12.09	3.61
	L0000474	315002.62	3925225.88	198.25	3.88	0.01887	26.00		12.09	3.61
	L0000475	314982.32	3925242.12	198.03	3.88	0.01887	26.00		12.09	3.61
	L0000476	314962.01	3925258.36	197.89	3.88	0.01887	26.00		12.09	3.61
	L0000477	314941.71	3925274.60	197.69	3.88	0.01887	26.00		12.09	3.61
	L0000478	314921.41	3925290.85	197.52	3.88	0.01887	26.00		12.09	3.61

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
OFFISTE4	L0000479	314901.11	3925307.09	197.31	3.88	0.01887	26.00		12.09	3.61
	L0000480	314880.80	3925323.33	197.16	3.88	0.01887	26.00		12.09	3.61
	L0000481	314860.50	3925339.57	197.06	3.88	0.01887	26.00		12.09	3.61
	L0000482	314840.20	3925355.81	196.85	3.88	0.01887	26.00		12.09	3.61
	L0000483	314819.90	3925372.06	196.68	3.88	0.01887	26.00		12.09	3.61
	L0000484	314799.59	3925388.30	196.39	3.88	0.01887	26.00		12.09	3.61
	L0000485	314779.29	3925404.54	196.26	3.88	0.01887	26.00		12.09	3.61
	L0000486	314758.99	3925420.78	195.94	3.88	0.01887	26.00		12.09	3.61
	L0000487	314738.69	3925437.02	195.75	3.88	0.01887	26.00		12.09	3.61
	L0000488	314718.38	3925453.27	195.56	3.88	0.01887	26.00		12.09	3.61
	L0000489	314698.08	3925469.51	194.94	3.88	0.01887	26.00		12.09	3.61
	L0000490	314677.78	3925485.75	195.00	3.88	0.01887	26.00		12.09	3.61

Building Downwash Information

Source ID: IDLEX_01

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	259.80	268.48	269.00	261.36	245.77	222.71
70-120 deg	192.89	157.20	116.74	145.63	182.60	214.01
130-180 deg	238.93	256.58	266.44	268.21	261.82	247.48
190-240 deg	259.80	268.48	269.00	261.36	245.77	222.71
250-300 deg	192.89	157.20	116.74	145.63	182.60	214.01
310-360 deg	238.93	256.58	266.44	268.21	261.82	247.48

Lengths [m] (10 to 360 deg)

10-60 deg	145.63	182.60	214.01	238.93	256.58	266.44
70-120 deg	268.21	261.82	247.48	259.80	268.48	269.00
130-180 deg	261.36	245.77	222.71	192.89	157.20	116.74
190-240 deg	145.63	182.60	214.01	238.93	256.58	266.44
250-300 deg	268.21	261.82	247.48	259.80	268.48	269.00
310-360 deg	261.36	245.77	222.71	192.89	157.20	116.74

Along Flow [m] (10 to 360 deg)

10-60 deg	-15.76	-21.38	-26.34	-30.51	-33.75	-35.96
70-120 deg	-37.08	-37.07	-35.94	-50.23	-65.73	-79.24
130-180 deg	-90.33	-98.69	-104.04	-106.24	-105.20	-100.97
190-240 deg	-129.87	-161.22	-187.67	-208.42	-222.84	-230.48
250-300 deg	-231.13	-224.75	-211.54	-209.57	-202.75	-189.77
310-360 deg	-171.02	-147.08	-118.67	-86.65	-52.00	-15.77

Across Flow [m] (10 to 360 deg)

10-60 deg	-79.67	-68.51	-55.27	-40.34	-24.20	-7.31
70-120 deg	9.79	26.60	42.60	57.05	69.92	80.66
130-180 deg	88.96	94.55	97.26	97.02	93.84	87.80
190-240 deg	79.67	68.51	55.27	40.34	24.20	7.31
250-300 deg	-9.79	-26.60	-42.60	-57.05	-69.92	-80.66
310-360 deg	-88.96	-94.55	-97.26	-97.02	-93.84	-87.80

Source ID: IDLEX_02

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19

70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	259.80	268.48	269.00	261.36	245.77	222.71
70-120 deg	192.89	157.20	116.74	145.63	182.60	214.01
130-180 deg	238.93	256.58	266.44	268.21	261.82	247.48
190-240 deg	259.80	268.48	269.00	261.36	245.77	222.71
250-300 deg	192.89	157.20	116.74	145.63	182.60	214.01
310-360 deg	238.93	256.58	266.44	268.21	261.82	247.48
Lengths [m] (10 to 360 deg)						
10-60 deg	145.63	182.60	214.01	238.93	256.58	266.44
70-120 deg	268.21	261.82	247.48	259.80	268.48	269.00
130-180 deg	261.36	245.77	222.71	192.89	157.20	116.74
190-240 deg	145.63	182.60	214.01	238.93	256.58	266.44
250-300 deg	268.21	261.82	247.48	259.80	268.48	269.00
310-360 deg	261.36	245.77	222.71	192.89	157.20	116.74
Along Flow [m] (10 to 360 deg)						
10-60 deg	-20.26	-30.63	-40.07	-48.30	-55.05	-60.14
70-120 deg	-63.40	-64.73	-64.09	-78.02	-92.32	-103.82
130-180 deg	-112.16	-117.09	-118.46	-116.24	-110.48	-101.37
190-240 deg	-125.37	-151.97	-173.94	-190.63	-201.53	-206.31
250-300 deg	-204.81	-197.10	-183.39	-181.78	-176.16	-165.19
310-360 deg	-149.20	-128.68	-104.25	-76.65	-46.72	-15.37
Across Flow [m] (10 to 360 deg)						
10-60 deg	-51.88	-41.92	-30.69	-18.52	-5.79	7.11
70-120 deg	19.80	31.88	43.00	52.56	60.67	66.93
130-180 deg	71.17	73.24	73.08	70.71	66.18	59.65
190-240 deg	51.88	41.92	30.69	18.52	5.79	-7.11
250-300 deg	-19.80	-31.88	-43.00	-52.56	-60.67	-66.93
310-360 deg	-71.17	-73.24	-73.08	-70.71	-66.18	-59.65

Source ID: IDLEX_03

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Source Pathway

Widths [m] (10 to 360 deg)						
10-60 deg	259.80	268.48	269.00	261.36	245.77	222.71
70-120 deg	192.89	157.20	116.74	145.63	182.60	214.01
130-180 deg	238.93	256.58	266.44	268.21	261.82	247.48
190-240 deg	259.80	268.48	269.00	261.36	245.77	222.71
250-300 deg	192.89	157.20	116.74	145.63	182.60	214.01
310-360 deg	238.93	256.58	266.44	268.21	261.82	247.48
Lengths [m] (10 to 360 deg)						
10-60 deg	145.63	182.60	214.01	238.93	256.58	266.44
70-120 deg	268.21	261.82	247.48	259.80	268.48	269.00
130-180 deg	261.36	245.77	222.71	192.89	157.20	116.74
190-240 deg	145.63	182.60	214.01	238.93	256.58	266.44
250-300 deg	268.21	261.82	247.48	259.80	268.48	269.00
310-360 deg	261.36	245.77	222.71	192.89	157.20	116.74
Along Flow [m] (10 to 360 deg)						
10-60 deg	-25.79	-42.42	-57.76	-71.35	-82.77	-91.68
70-120 deg	-97.80	-100.95	-101.03	-114.56	-127.34	-136.26
130-180 deg	-141.03	-141.52	-137.71	-129.72	-117.78	-102.27
190-240 deg	-119.84	-140.18	-156.25	-167.58	-173.81	-174.76
250-300 deg	-170.41	-160.87	-146.45	-145.24	-141.14	-132.75
310-360 deg	-120.32	-104.24	-85.00	-63.17	-39.42	-14.47
Across Flow [m] (10 to 360 deg)						
10-60 deg	-15.34	-6.90	1.75	10.35	18.64	26.36
70-120 deg	33.28	39.18	43.90	47.03	48.88	49.24
130-180 deg	48.11	45.52	41.54	36.30	29.96	22.71
190-240 deg	15.34	6.90	-1.75	-10.35	-18.64	-26.36
250-300 deg	-33.28	-39.18	-43.90	-47.03	-48.88	-49.24
310-360 deg	-48.11	-45.52	-41.54	-36.30	-29.96	-22.71

Source ID: IDLEX_04

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	259.80	268.48	269.00	261.36	245.77	222.71
70-120 deg	192.89	157.20	116.74	145.63	182.60	214.01
130-180 deg	238.93	256.58	266.44	268.21	261.82	247.48
190-240 deg	259.80	268.48	269.00	261.36	245.77	222.71

250-300 deg	192.89	157.20	116.74	145.63	182.60	214.01
310-360 deg	238.93	256.58	266.44	268.21	261.82	247.48
Lengths [m] (10 to 360 deg)						
10-60 deg	145.63	182.60	214.01	238.93	256.58	266.44
70-120 deg	268.21	261.82	247.48	259.80	268.48	269.00
130-180 deg	261.36	245.77	222.71	192.89	157.20	116.74
190-240 deg	145.63	182.60	214.01	238.93	256.58	266.44
250-300 deg	268.21	261.82	247.48	259.80	268.48	269.00
310-360 deg	261.36	245.77	222.71	192.89	157.20	116.74
Along Flow [m] (10 to 360 deg)						
10-60 deg	-31.36	-54.23	-75.46	-94.39	-110.45	-123.16
70-120 deg	-132.13	-137.08	-137.87	-150.98	-162.25	-168.58
130-180 deg	-169.79	-165.85	-156.86	-143.11	-125.01	-103.11
190-240 deg	-114.27	-128.37	-138.56	-144.54	-146.13	-143.28
250-300 deg	-136.08	-124.74	-109.61	-108.81	-106.23	-100.42
310-360 deg	-91.56	-79.92	-65.85	-49.78	-32.19	-13.63
Across Flow [m] (10 to 360 deg)						
10-60 deg	21.08	28.01	34.08	39.12	42.96	45.51
70-120 deg	46.67	46.41	44.74	41.46	37.07	31.55
130-180 deg	25.08	17.84	10.06	1.97	-6.17	-14.13
190-240 deg	-21.08	-28.01	-34.08	-39.12	-42.96	-45.51
250-300 deg	-46.67	-46.41	-44.74	-41.46	-37.07	-31.55
310-360 deg	-25.08	-17.84	-10.06	-1.97	6.17	14.13

Source ID: IDLEX_05

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	259.80	268.48	269.00	261.36	245.77	222.71
70-120 deg	192.89	157.20	116.74	145.63	182.60	214.01
130-180 deg	238.93	256.58	266.44	268.21	261.82	247.48
190-240 deg	259.80	268.48	269.00	261.36	245.77	222.71
250-300 deg	192.89	157.20	116.74	145.63	182.60	214.01
310-360 deg	238.93	256.58	266.44	268.21	261.82	247.48
Lengths [m] (10 to 360 deg)						
10-60 deg	145.63	182.60	214.01	238.93	256.58	266.44
70-120 deg	268.21	261.82	247.48	259.80	268.48	269.00

130-180 deg	261.36	245.77	222.71	192.89	157.20	116.74
190-240 deg	145.63	182.60	214.01	238.93	256.58	266.44
250-300 deg	268.21	261.82	247.48	259.80	268.48	269.00
310-360 deg	261.36	245.77	222.71	192.89	157.20	116.74
Along Flow [m] (10 to 360 deg)						
10-60 deg	-37.27	-66.46	-93.64	-117.96	-138.71	-155.24
70-120 deg	-167.05	-173.79	-175.25	-187.90	-197.57	-201.25
130-180 deg	-198.81	-190.33	-176.06	-156.45	-132.08	-103.70
190-240 deg	-108.36	-116.14	-120.38	-120.96	-117.87	-111.20
250-300 deg	-101.15	-88.03	-72.23	-71.90	-70.91	-67.76
310-360 deg	-62.55	-55.44	-46.65	-36.44	-25.12	-13.04
Across Flow [m] (10 to 360 deg)						
10-60 deg	58.00	63.33	66.75	68.13	67.44	64.71
70-120 deg	60.01	53.48	45.33	35.55	24.84	13.37
130-180 deg	1.50	-10.42	-22.02	-32.95	-42.88	-51.51
190-240 deg	-58.00	-63.33	-66.75	-68.13	-67.44	-64.71
250-300 deg	-60.01	-53.48	-45.33	-35.55	-24.84	-13.37
310-360 deg	-1.50	10.42	22.02	32.95	42.88	51.51

Source ID: IDLEX_06

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	259.80	268.48	269.00	261.36	245.77	222.71
70-120 deg	192.89	157.20	116.74	145.63	182.60	214.01
130-180 deg	238.93	256.58	266.44	268.21	261.82	247.48
190-240 deg	259.80	268.48	269.00	261.36	245.77	222.71
250-300 deg	192.89	157.20	116.74	145.63	182.60	214.01
310-360 deg	238.93	256.58	266.44	268.21	261.82	247.48
Lengths [m] (10 to 360 deg)						
10-60 deg	145.63	182.60	214.01	238.93	256.58	266.44
70-120 deg	268.21	261.82	247.48	259.80	268.48	269.00
130-180 deg	261.36	245.77	222.71	192.89	157.20	116.74
190-240 deg	145.63	182.60	214.01	238.93	256.58	266.44
250-300 deg	268.21	261.82	247.48	259.80	268.48	269.00
310-360 deg	261.36	245.77	222.71	192.89	157.20	116.74

Along Flow [m] (10 to 360 deg)						
10-60 deg	-42.75	-78.18	-111.24	-140.93	-166.33	-186.67
70-120 deg	-201.35	-209.90	-212.08	-224.33	-232.50	-233.61
130-180 deg	-227.62	-214.71	-195.28	-169.92	-139.39	-104.63
190-240 deg	-102.88	-104.41	-102.77	-98.00	-90.26	-79.77
250-300 deg	-66.86	-51.92	-35.40	-35.47	-35.98	-35.40
310-360 deg	-33.74	-31.05	-27.43	-22.97	-17.81	-12.11
Across Flow [m] (10 to 360 deg)						
10-60 deg	94.43	98.26	99.11	96.94	91.83	83.93
70-120 deg	73.48	60.79	46.26	30.07	13.12	-4.24
130-180 deg	-21.46	-38.03	-53.45	-67.24	-78.99	-88.34
190-240 deg	-94.43	-98.26	-99.11	-96.94	-91.83	-83.93
250-300 deg	-73.48	-60.79	-46.26	-30.07	-13.12	4.24
310-360 deg	21.46	38.03	53.45	67.24	78.99	88.34

Source ID: IDLEX_07

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	256.08	260.85	257.69	246.70	228.22	202.80
70-120 deg	171.22	134.44	93.57	122.56	160.64	193.84
130-180 deg	221.14	241.73	254.97	260.47	258.05	247.79
190-240 deg	256.08	260.85	257.69	246.70	228.22	202.80
250-300 deg	171.22	134.44	93.57	122.56	160.64	193.84
310-360 deg	221.14	241.73	254.97	260.47	258.05	247.79
Lengths [m] (10 to 360 deg)						
10-60 deg	122.56	160.64	193.84	221.14	241.73	254.97
70-120 deg	260.47	258.05	247.79	256.08	260.85	257.69
130-180 deg	246.70	228.22	202.80	171.22	134.44	93.57
190-240 deg	122.56	160.64	193.84	221.14	241.73	254.97
250-300 deg	260.47	258.05	247.79	256.08	260.85	257.69
310-360 deg	246.70	228.22	202.80	171.22	134.44	93.57
Along Flow [m] (10 to 360 deg)						
10-60 deg	-14.98	-20.90	-26.19	-30.68	-34.24	-36.76
70-120 deg	-38.16	-38.40	-37.48	-47.55	-59.23	-69.10
130-180 deg	-76.88	-82.32	-85.26	-85.61	-83.36	-78.57
190-240 deg	-107.58	-139.74	-167.65	-190.46	-207.49	-218.21

250-300 deg	-222.31	-219.65	-210.31	-208.53	-201.62	-188.59
310-360 deg	-169.82	-145.90	-117.54	-85.61	-51.08	-15.00
Across Flow [m] (10 to 360 deg)						
10-60 deg	-80.49	-71.20	-59.74	-46.47	-31.79	-16.14
70-120 deg	0.00	16.14	31.79	46.30	59.42	70.73
130-180 deg	79.89	86.63	90.73	92.07	90.62	86.42
190-240 deg	80.49	71.20	59.74	46.47	31.79	16.14
250-300 deg	0.00	-16.14	-31.79	-46.30	-59.42	-70.73
310-360 deg	-79.89	-86.63	-90.73	-92.07	-90.62	-86.41

Source ID: IDLEX_08

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	256.08	260.85	257.69	246.70	228.22	202.80
70-120 deg	171.22	134.44	93.57	122.56	160.64	193.84
130-180 deg	221.14	241.73	254.97	260.47	258.05	247.79
190-240 deg	256.08	260.85	257.69	246.70	228.22	202.80
250-300 deg	171.22	134.44	93.57	122.56	160.64	193.84
310-360 deg	221.14	241.73	254.97	260.47	258.05	247.79
Lengths [m] (10 to 360 deg)						
10-60 deg	122.56	160.64	193.84	221.14	241.73	254.97
70-120 deg	260.47	258.05	247.79	256.08	260.85	257.69
130-180 deg	246.70	228.22	202.80	171.22	134.44	93.57
190-240 deg	122.56	160.64	193.84	221.14	241.73	254.97
250-300 deg	260.47	258.05	247.79	256.08	260.85	257.69
310-360 deg	246.70	228.22	202.80	171.22	134.44	93.57
Along Flow [m] (10 to 360 deg)						
10-60 deg	-19.52	-30.27	-40.09	-48.69	-55.82	-61.24
70-120 deg	-64.81	-66.41	-65.99	-75.70	-86.16	-94.00
130-180 deg	-98.98	-100.96	-99.87	-95.74	-88.71	-78.98
190-240 deg	-103.04	-130.37	-153.75	-172.45	-185.91	-193.73
250-300 deg	-195.66	-191.64	-181.80	-180.38	-174.69	-163.69
310-360 deg	-147.72	-127.26	-102.93	-75.48	-45.73	-14.59
Across Flow [m] (10 to 360 deg)						
10-60 deg	-52.34	-44.27	-34.85	-24.37	-13.15	-1.53
70-120 deg	10.13	21.49	32.19	41.76	50.05	56.83

AERMOD

130-180 deg	61.88	65.05	66.24	65.42	62.62	57.90
190-240 deg	52.34	44.27	34.85	24.37	13.15	1.53
250-300 deg	-10.13	-21.49	-32.20	-41.76	-50.05	-56.83
310-360 deg	-61.88	-65.05	-66.24	-65.42	-62.62	-57.90

Source ID: IDLEX_09

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	256.08	260.85	257.69	246.70	228.22	202.80
70-120 deg	171.22	134.44	93.57	122.56	160.64	193.84
130-180 deg	221.14	241.73	254.97	260.47	258.05	247.79
190-240 deg	256.08	260.85	257.69	246.70	228.22	202.80
250-300 deg	171.22	134.44	93.57	122.56	160.64	193.84
310-360 deg	221.14	241.73	254.97	260.47	258.05	247.79

Lengths [m] (10 to 360 deg)

10-60 deg	122.56	160.64	193.84	221.14	241.73	254.97
70-120 deg	260.47	258.05	247.79	256.08	260.85	257.69
130-180 deg	246.70	228.22	202.80	171.22	134.44	93.57
190-240 deg	122.56	160.64	193.84	221.14	241.73	254.97
250-300 deg	260.47	258.05	247.79	256.08	260.85	257.69
310-360 deg	246.70	228.22	202.80	171.22	134.44	93.57

Along Flow [m] (10 to 360 deg)

10-60 deg	-25.64	-42.55	-58.18	-72.03	-83.70	-92.82
70-120 deg	-99.13	-102.42	-102.60	-111.80	-120.64	-125.83
130-180 deg	-127.19	-124.68	-118.39	-108.50	-95.31	-79.23
190-240 deg	-96.93	-118.09	-135.66	-149.11	-158.03	-162.15
250-300 deg	-161.34	-155.63	-145.19	-144.28	-140.20	-131.86
310-360 deg	-119.51	-103.53	-84.41	-62.72	-39.12	-14.34

Across Flow [m] (10 to 360 deg)

10-60 deg	-16.24	-9.78	-3.02	3.84	10.57	16.99
70-120 deg	22.89	28.09	32.44	35.65	37.77	38.74
130-180 deg	38.54	37.16	34.66	31.11	26.60	21.29
190-240 deg	16.24	9.78	3.02	-3.84	-10.57	-16.99
250-300 deg	-22.89	-28.09	-32.45	-35.65	-37.77	-38.74
310-360 deg	-38.54	-37.16	-34.66	-31.11	-26.60	-21.29

Source Pathway

Source ID: IDLEX_10

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	256.08	260.85	257.69	246.70	228.22	202.80
70-120 deg	171.22	134.44	93.57	122.56	160.64	193.84
130-180 deg	221.14	241.73	254.97	260.47	258.05	247.79
190-240 deg	256.08	260.85	257.69	246.70	228.22	202.80
250-300 deg	171.22	134.44	93.57	122.56	160.64	193.84
310-360 deg	221.14	241.73	254.97	260.47	258.05	247.79

Lengths [m] (10 to 360 deg)

10-60 deg	122.56	160.64	193.84	221.14	241.73	254.97
70-120 deg	260.47	258.05	247.79	256.08	260.85	257.69
130-180 deg	246.70	228.22	202.80	171.22	134.44	93.57
190-240 deg	122.56	160.64	193.84	221.14	241.73	254.97
250-300 deg	260.47	258.05	247.79	256.08	260.85	257.69
310-360 deg	246.70	228.22	202.80	171.22	134.44	93.57

Along Flow [m] (10 to 360 deg)

10-60 deg	-30.65	-53.96	-75.63	-95.00	-111.49	-124.59
70-120 deg	-133.90	-139.14	-140.16	-149.05	-156.46	-159.12
130-180 deg	-156.94	-150.00	-138.50	-122.78	-103.34	-80.76
190-240 deg	-91.91	-106.68	-118.20	-126.14	-130.24	-130.39
250-300 deg	-126.57	-118.91	-107.63	-107.03	-104.38	-98.57
310-360 deg	-89.76	-78.22	-64.30	-48.44	-31.09	-12.81

Across Flow [m] (10 to 360 deg)

10-60 deg	21.01	26.04	30.28	33.59	35.89	37.10
70-120 deg	37.17	36.12	33.97	30.63	26.36	21.29
130-180 deg	15.57	9.38	2.90	-3.67	-10.12	-16.26
190-240 deg	-21.01	-26.04	-30.28	-33.59	-35.89	-37.10
250-300 deg	-37.17	-36.12	-33.97	-30.63	-26.36	-21.29
310-360 deg	-15.57	-9.38	-2.90	3.67	10.12	16.26

Source ID: IDLEX_11

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19

190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	256.08	260.85	257.69	246.70	228.22	202.80
70-120 deg	171.22	134.44	93.57	122.56	160.64	193.84
130-180 deg	221.14	241.73	254.97	260.47	258.05	247.79
190-240 deg	256.08	260.85	257.69	246.70	228.22	202.80
250-300 deg	171.22	134.44	93.57	122.56	160.64	193.84
310-360 deg	221.14	241.73	254.97	260.47	258.05	247.79
Lengths [m] (10 to 360 deg)						
10-60 deg	122.56	160.64	193.84	221.14	241.73	254.97
70-120 deg	260.47	258.05	247.79	256.08	260.85	257.69
130-180 deg	246.70	228.22	202.80	171.22	134.44	93.57
190-240 deg	122.56	160.64	193.84	221.14	241.73	254.97
250-300 deg	260.47	258.05	247.79	256.08	260.85	257.69
310-360 deg	246.70	228.22	202.80	171.22	134.44	93.57
Along Flow [m] (10 to 360 deg)						
10-60 deg	-36.79	-66.25	-93.70	-118.30	-139.31	-156.08
70-120 deg	-168.11	-175.03	-176.64	-185.01	-190.81	-190.81
130-180 deg	-185.02	-173.60	-156.91	-135.45	-109.87	-80.96
190-240 deg	-85.77	-94.39	-100.14	-102.84	-102.42	-98.89
250-300 deg	-92.36	-83.01	-71.15	-71.07	-70.03	-66.87
310-360 deg	-61.68	-54.62	-45.89	-35.77	-24.56	-12.61
Across Flow [m] (10 to 360 deg)						
10-60 deg	56.97	60.39	61.97	61.67	59.49	55.51
70-120 deg	49.84	42.66	34.17	24.49	14.07	3.22
130-180 deg	-7.73	-18.44	-28.59	-37.88	-46.01	-52.75
190-240 deg	-56.97	-60.39	-61.97	-61.67	-59.49	-55.51
250-300 deg	-49.84	-42.66	-34.17	-24.49	-14.07	-3.22
310-360 deg	7.73	18.44	28.59	37.88	46.01	52.75

Source ID: IDLEX_12

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	256.08	260.85	257.69	246.70	228.22	202.80

70-120 deg	171.22	134.44	93.57	122.56	160.64	193.84
130-180 deg	221.14	241.73	254.97	260.47	258.05	247.79
190-240 deg	256.08	260.85	257.69	246.70	228.22	202.80
250-300 deg	171.22	134.44	93.57	122.56	160.64	193.84
310-360 deg	221.14	241.73	254.97	260.47	258.05	247.79
Lengths [m] (10 to 360 deg)						
10-60 deg	122.56	160.64	193.84	221.14	241.73	254.97
70-120 deg	260.47	258.05	247.79	256.08	260.85	257.69
130-180 deg	246.70	228.22	202.80	171.22	134.44	93.57
190-240 deg	122.56	160.64	193.84	221.14	241.73	254.97
250-300 deg	260.47	258.05	247.79	256.08	260.85	257.69
310-360 deg	246.70	228.22	202.80	171.22	134.44	93.57
Along Flow [m] (10 to 360 deg)						
10-60 deg	-42.50	-78.26	-111.63	-141.62	-167.31	-187.91
70-120 deg	-202.80	-211.53	-213.83	-221.77	-226.02	-223.40
130-180 deg	-214.00	-198.09	-176.16	-148.88	-117.08	-81.72
190-240 deg	-80.06	-82.38	-82.20	-79.52	-74.42	-67.07
250-300 deg	-57.67	-46.52	-33.96	-34.31	-34.83	-34.29
310-360 deg	-32.71	-30.13	-26.64	-22.34	-17.36	-11.85
Across Flow [m] (10 to 360 deg)						
10-60 deg	93.73	95.60	94.56	90.65	83.98	74.76
70-120 deg	63.27	49.86	34.93	18.78	2.06	-14.72
130-180 deg	-31.05	-46.44	-60.42	-72.56	-82.50	-89.94
190-240 deg	-93.73	-95.60	-94.56	-90.65	-83.98	-74.76
250-300 deg	-63.27	-49.86	-34.93	-18.78	-2.06	14.72
310-360 deg	31.05	46.44	60.42	72.56	82.50	89.94

Source ID: IDLEX_13

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	134.64	157.60	175.78	188.61	195.71	196.86
70-120 deg	192.04	181.37	165.20	178.33	190.32	196.52
130-180 deg	196.75	191.00	179.45	162.45	140.51	114.30
190-240 deg	134.64	157.60	175.78	188.61	195.71	196.86
250-300 deg	192.04	181.37	165.20	178.33	190.32	196.52
310-360 deg	196.75	191.00	179.45	162.45	140.51	114.30

Source Pathway

Lengths [m] (10 to 360 deg)

10-60 deg	178.33	190.32	196.52	196.75	191.00	179.45
70-120 deg	162.45	140.51	114.30	134.64	157.60	175.78
130-180 deg	188.61	195.71	196.86	192.04	181.37	165.20
190-240 deg	178.33	190.32	196.52	196.75	191.00	179.45
250-300 deg	162.45	140.51	114.30	134.64	157.60	175.78
310-360 deg	188.61	195.71	196.86	192.04	181.37	165.20

Along Flow [m] (10 to 360 deg)

10-60 deg	-110.79	-108.34	-102.60	-93.74	-82.03	-67.83
70-120 deg	-51.57	-33.74	-14.89	-19.90	-28.26	-35.76
130-180 deg	-42.18	-47.31	-51.01	-53.16	-53.69	-52.59
190-240 deg	-67.55	-81.98	-93.92	-103.01	-108.97	-111.62
250-300 deg	-110.88	-106.77	-99.41	-114.75	-129.35	-140.02
310-360 deg	-146.43	-148.40	-145.85	-138.88	-127.68	-112.61

Across Flow [m] (10 to 360 deg)

10-60 deg	-47.42	-50.54	-52.13	-52.13	-50.54	-47.42
70-120 deg	-42.86	-37.00	-30.01	-21.62	-13.18	-4.34
130-180 deg	4.64	13.47	21.90	29.65	36.51	42.26
190-240 deg	47.42	50.54	52.13	52.13	50.54	47.42
250-300 deg	42.86	37.00	30.01	21.62	13.18	4.34
310-360 deg	-4.64	-13.47	-21.90	-29.65	-36.51	-42.26

Source ID: IDLEX_14

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	134.64	157.60	175.78	188.61	195.71	196.86
70-120 deg	192.04	181.37	165.20	178.33	190.32	196.52
130-180 deg	196.75	191.00	179.45	162.45	140.51	114.30
190-240 deg	134.64	157.60	175.78	188.61	195.71	196.86
250-300 deg	192.04	181.37	165.20	178.33	190.32	196.52
310-360 deg	196.75	191.00	179.45	162.45	140.51	114.30

Lengths [m] (10 to 360 deg)

10-60 deg	178.33	190.32	196.52	196.75	191.00	179.45
70-120 deg	162.45	140.51	114.30	134.64	157.60	175.78
130-180 deg	188.61	195.71	196.86	192.04	181.37	165.20
190-240 deg	178.33	190.32	196.52	196.75	191.00	179.45

250-300 deg	162.45	140.51	114.30	134.64	157.60	175.78
310-360 deg	188.61	195.71	196.86	192.04	181.37	165.20
Along Flow [m] (10 to 360 deg)						
10-60 deg	-87.04	-85.51	-81.38	-74.77	-65.90	-55.02
70-120 deg	-42.47	-28.63	-13.92	-23.10	-35.53	-46.89
130-180 deg	-56.82	-65.03	-71.26	-75.32	-77.10	-76.53
190-240 deg	-91.29	-104.81	-115.14	-121.98	-125.10	-124.43
250-300 deg	-119.98	-111.88	-100.38	-111.54	-122.07	-128.89
310-360 deg	-131.78	-130.68	-125.61	-116.71	-104.28	-88.67
Across Flow [m] (10 to 360 deg)						
10-60 deg	-44.22	-43.27	-41.00	-37.48	-32.83	-27.17
70-120 deg	-20.70	-13.59	-6.07	2.12	9.65	16.88
130-180 deg	23.60	29.60	34.71	38.75	41.62	43.23
190-240 deg	44.22	43.27	41.00	37.48	32.83	27.17
250-300 deg	20.70	13.59	6.07	-2.12	-9.65	-16.88
310-360 deg	-23.60	-29.60	-34.71	-38.75	-41.62	-43.23

Source ID: IDLEX_15

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	134.64	157.60	175.78	188.61	195.71	196.86
70-120 deg	192.04	181.37	165.20	178.33	190.32	196.52
130-180 deg	196.75	191.00	179.45	162.45	140.51	114.30
190-240 deg	134.64	157.60	175.78	188.61	195.71	196.86
250-300 deg	192.04	181.37	165.20	178.33	190.32	196.52
310-360 deg	196.75	191.00	179.45	162.45	140.51	114.30
Lengths [m] (10 to 360 deg)						
10-60 deg	178.33	190.32	196.52	196.75	191.00	179.45
70-120 deg	162.45	140.51	114.30	134.64	157.60	175.78
130-180 deg	188.61	195.71	196.86	192.04	181.37	165.20
190-240 deg	178.33	190.32	196.52	196.75	191.00	179.45
250-300 deg	162.45	140.51	114.30	134.64	157.60	175.78
310-360 deg	188.61	195.71	196.86	192.04	181.37	165.20
Along Flow [m] (10 to 360 deg)						
10-60 deg	-50.53	-50.55	-49.03	-46.03	-41.63	-35.96
70-120 deg	-29.20	-21.55	-13.25	-28.86	-47.55	-64.79

130-180 deg	-80.07	-92.91	-102.93	-109.82	-113.38	-113.49
190-240 deg	-127.81	-139.77	-147.49	-150.72	-149.38	-143.49
250-300 deg	-133.25	-118.96	-101.05	-105.79	-110.06	-110.99
310-360 deg	-108.54	-102.80	-93.93	-82.21	-67.99	-51.71

Across Flow [m] (10 to 360 deg)

10-60 deg	-38.46	-31.26	-23.10	-14.24	-4.94	4.50
70-120 deg	13.81	22.69	30.89	38.64	44.61	49.23
130-180 deg	52.34	53.87	53.77	52.02	48.70	43.90
190-240 deg	38.46	31.26	23.10	14.24	4.94	-4.50
250-300 deg	-13.81	-22.69	-30.89	-38.64	-44.61	-49.23
310-360 deg	-52.34	-53.87	-53.77	-52.02	-48.70	-43.90

Source ID: IDLEX_16

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-200.25	-198.32	-190.36	-176.63	-157.52	-133.63
70-120 deg	-105.68	-74.52	-41.09	-37.03	-36.91	-35.66
130-180 deg	-33.33	-29.99	-25.74	-20.71	-15.04	-8.92
190-240 deg	-51.02	-117.31	-180.03	-237.28	-287.32	-328.63
250-300 deg	-359.95	-380.34	-389.17	-416.60	-436.85	-443.83
310-360 deg	-437.32	-417.53	-385.05	-340.87	-286.33	-223.51

Source Pathway

Across Flow [m] (10 to 360 deg)

10-60 deg	-189.78	-199.97	-204.08	-201.99	-193.77	-179.65
70-120 deg	-160.08	-135.64	-107.29	-74.61	-40.51	-5.17
130-180 deg	30.33	64.90	97.50	127.14	152.91	174.04
190-240 deg	189.78	199.97	204.08	201.99	193.77	179.65
250-300 deg	160.08	135.64	107.29	74.61	40.51	5.17
310-360 deg	-30.33	-64.90	-97.50	-127.14	-152.91	-174.04

Source ID: IDLEX_17

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-204.06	-207.06	-203.76	-194.27	-178.88	-158.05
70-120 deg	-132.42	-102.77	-69.99	-65.70	-64.48	-61.30
130-180 deg	-56.26	-49.50	-41.25	-31.74	-21.26	-10.14
190-240 deg	-47.21	-108.57	-166.63	-219.63	-265.96	-304.21
250-300 deg	-333.21	-352.09	-360.27	-387.93	-409.28	-418.19
310-360 deg	-414.40	-398.02	-369.54	-329.83	-280.11	-222.29

Across Flow [m] (10 to 360 deg)

10-60 deg	-161.11	-172.40	-178.45	-179.07	-174.26	-164.15
70-120 deg	-149.05	-129.42	-106.07	-78.43	-49.24	-18.56
130-180 deg	12.68	43.54	73.08	100.40	124.66	145.14
190-240 deg	161.11	172.40	178.45	179.07	174.26	164.15

250-300 deg	149.05	129.42	106.07	78.43	49.24	18.56
310-360 deg	-12.68	-43.54	-73.08	-100.40	-124.66	-145.14

Source ID: IDLEX_18

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-210.01	-218.89	-221.12	-216.64	-205.57	-188.26
70-120 deg	-165.23	-137.17	-104.95	-100.16	-97.38	-91.64
130-180 deg	-83.12	-72.08	-58.84	-43.81	-27.46	-10.27
190-240 deg	-41.26	-96.73	-149.27	-197.26	-239.26	-274.00
250-300 deg	-300.40	-317.68	-325.31	-353.48	-376.38	-387.85
310-360 deg	-387.54	-375.45	-351.95	-317.76	-273.91	-222.16

Across Flow [m] (10 to 360 deg)

10-60 deg	-126.66	-139.50	-148.10	-152.21	-151.69	-146.55
70-120 deg	-136.97	-123.22	-105.94	-84.37	-61.08	-35.93
130-180 deg	-9.69	16.85	42.87	67.59	90.26	110.18
190-240 deg	126.66	139.50	148.10	152.21	151.69	146.55
250-300 deg	136.97	123.22	105.94	84.37	61.08	35.93
310-360 deg	9.69	-16.85	-42.87	-67.59	-90.26	-110.18

Source ID: IDLEX_19

Source Pathway

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-214.47	-229.07	-236.71	-237.15	-230.40	-216.64
70-120 deg	-196.30	-169.99	-138.52	-133.46	-129.40	-121.41
130-180 deg	-109.73	-94.72	-76.83	-56.60	-34.66	-11.66
190-240 deg	-36.80	-86.56	-133.69	-176.75	-214.44	-245.62
250-300 deg	-269.33	-284.86	-291.74	-320.17	-344.36	-358.08
310-360 deg	-360.93	-352.80	-333.96	-304.97	-266.71	-220.77

Across Flow [m] (10 to 360 deg)

10-60 deg	-93.36	-107.48	-118.34	-125.60	-129.04	-128.57
70-120 deg	-124.18	-116.03	-104.55	-88.83	-71.25	-51.51
130-180 deg	-30.20	-7.98	14.49	36.52	57.44	76.61
190-240 deg	93.36	107.48	118.34	125.60	129.04	128.57
250-300 deg	124.18	116.03	104.55	88.83	71.25	51.51
310-360 deg	30.20	7.98	-14.49	-36.52	-57.44	-76.61

Source ID: IDLEX_20

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19

250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-220.90	-242.24	-256.23	-262.43	-260.66	-250.96
70-120 deg	-233.64	-209.23	-178.45	-172.87	-167.10	-156.25
130-180 deg	-140.65	-120.78	-97.23	-70.74	-42.09	-12.17
190-240 deg	-30.37	-73.38	-114.16	-151.47	-184.18	-211.29
250-300 deg	-231.99	-245.63	-251.81	-280.76	-306.66	-323.25
310-360 deg	-330.01	-326.75	-313.55	-290.83	-259.27	-220.26
Across Flow [m] (10 to 360 deg)						
10-60 deg	-53.95	-69.78	-83.50	-94.68	-102.98	-108.16
70-120 deg	-110.05	-108.59	-104.04	-95.26	-84.43	-71.03
130-180 deg	-55.48	-38.24	-19.83	-0.83	18.20	36.68
190-240 deg	53.95	69.78	83.50	94.68	102.98	108.16
250-300 deg	110.05	108.59	104.04	95.26	84.43	71.03
310-360 deg	55.48	38.24	19.83	0.83	-18.20	-36.68

Source ID: IDLEX_21

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39

130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-225.38	-251.41	-269.81	-280.01	-281.70	-274.84
70-120 deg	-259.62	-236.51	-206.22	-200.28	-193.31	-180.47
130-180 deg	-162.15	-138.89	-111.42	-80.57	-47.26	-12.52
190-240 deg	-25.89	-64.21	-100.58	-133.89	-163.13	-187.42
250-300 deg	-206.01	-218.34	-224.04	-253.35	-280.45	-299.02
310-360 deg	-308.51	-308.63	-299.36	-281.00	-254.11	-219.91
Across Flow [m] (10 to 360 deg)						
10-60 deg	-26.54	-43.57	-59.28	-73.18	-84.87	-93.97
70-120 deg	-100.22	-103.42	-103.70	-99.74	-93.60	-84.62
130-180 deg	-73.06	-59.29	-43.71	-26.80	-9.09	8.91
190-240 deg	26.54	43.57	59.28	73.18	84.87	93.97
250-300 deg	100.22	103.42	103.70	99.74	93.60	84.62
310-360 deg	73.06	59.29	43.71	26.80	9.08	-8.91

Source ID: IDLEX_22

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Source Pathway

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-230.34	-262.18	-286.04	-301.22	-307.24	-303.93
70-120 deg	-291.38	-269.98	-240.38	-234.09	-225.75	-210.54
130-180 deg	-188.94	-161.60	-129.35	-93.17	-54.16	-13.50
190-240 deg	-20.93	-53.45	-84.35	-112.68	-137.60	-158.33
250-300 deg	-174.25	-184.87	-189.88	-219.54	-248.01	-268.95
310-360 deg	-281.71	-285.92	-281.44	-268.40	-247.21	-218.93

Across Flow [m] (10 to 360 deg)

10-60 deg	7.27	-11.13	-29.20	-46.39	-62.16	-76.04
70-120 deg	-87.62	-96.53	-102.72	-104.71	-104.36	-100.85
130-180 deg	-94.27	-84.82	-72.80	-58.57	-42.56	-25.25
190-240 deg	-7.27	11.13	29.20	46.39	62.16	76.04
250-300 deg	87.62	96.53	102.72	104.71	104.36	100.85
310-360 deg	94.27	84.82	72.80	58.57	42.56	25.25

Source ID: IDLEX_23

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26

250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-235.46	-273.08	-302.40	-322.53	-332.86	-333.08
70-120 deg	-323.17	-303.45	-274.51	-267.84	-258.10	-240.51
130-180 deg	-215.62	-184.17	-147.13	-105.61	-60.89	-14.32
190-240 deg	-15.81	-42.55	-67.99	-91.37	-111.98	-129.18
250-300 deg	-142.45	-151.40	-155.75	-185.79	-215.66	-238.98
310-360 deg	-255.04	-263.35	-263.66	-255.96	-240.48	-218.11
Across Flow [m] (10 to 360 deg)						
10-60 deg	41.03	21.22	0.76	-19.71	-39.59	-58.27
70-120 deg	-75.17	-89.79	-101.90	-109.83	-115.27	-117.20
130-180 deg	-115.58	-110.44	-101.95	-90.36	-76.02	-59.38
190-240 deg	-41.03	-21.22	-0.76	19.71	39.59	58.27
250-300 deg	75.17	89.79	101.90	109.83	115.27	117.20
310-360 deg	115.58	110.44	101.95	90.36	76.02	59.38

Source ID: IDLEX_24

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-241.72	-285.21	-320.04	-345.15	-359.76	-363.45
70-120 deg	-356.09	-337.91	-309.47	-302.24	-290.88	-270.69

130-180 deg	-242.27	-206.50	-164.44	-117.39	-66.78	-14.13
190-240 deg	-9.55	-30.41	-50.35	-68.76	-85.07	-98.81
250-300 deg	-109.54	-116.94	-120.79	-151.39	-182.88	-208.80
310-360 deg	-228.38	-241.03	-246.34	-244.18	-234.59	-218.30
Across Flow [m] (10 to 360 deg)						
10-60 deg	75.42	54.00	30.95	6.95	-17.27	-40.95
70-120 deg	-63.39	-83.91	-102.09	-116.08	-127.40	-134.85
130-180 deg	-138.19	-137.34	-132.32	-123.28	-110.49	-94.34
190-240 deg	-75.42	-54.00	-30.95	-6.95	17.27	40.95
250-300 deg	63.39	83.91	102.09	116.08	127.40	134.85
310-360 deg	138.19	137.34	132.32	123.28	110.49	94.34

Source ID: IDLEX_25

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-246.22	-295.44	-335.68	-365.73	-384.66	-391.90
70-120 deg	-387.24	-370.81	-343.11	-335.60	-322.96	-300.50
130-180 deg	-268.92	-229.16	-182.44	-130.18	-73.96	-15.49
190-240 deg	-5.05	-20.18	-34.71	-48.17	-60.18	-70.35
250-300 deg	-78.39	-84.05	-87.15	-118.03	-150.80	-178.99
310-360 deg	-201.74	-218.36	-228.35	-231.40	-227.41	-216.94

Source Pathway

Across Flow [m] (10 to 360 deg)

10-60 deg	108.79	86.08	60.76	33.59	5.40	-22.95
70-120 deg	-50.61	-76.73	-100.73	-120.59	-137.63	-150.49
130-180 deg	-158.78	-162.24	-160.77	-154.42	-143.38	-127.98
190-240 deg	-108.79	-86.08	-60.76	-33.59	-5.40	22.95
250-300 deg	50.61	76.73	100.73	120.59	137.63	150.49
310-360 deg	158.78	162.24	160.77	154.42	143.38	127.98

Source ID: IDLEX_26

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-252.02	-306.65	-351.95	-386.57	-409.44	-419.86
70-120 deg	-417.53	-402.52	-375.27	-367.24	-353.11	-328.25
130-180 deg	-293.41	-249.66	-198.33	-140.97	-79.32	-15.27
190-240 deg	0.75	-8.98	-18.44	-27.33	-35.40	-42.39
250-300 deg	-48.10	-52.34	-54.99	-86.39	-120.65	-151.25
310-360 deg	-177.24	-197.86	-212.46	-220.60	-222.04	-217.16

Across Flow [m] (10 to 360 deg)

10-60 deg	140.42	116.23	88.50	58.08	25.90	-7.06
70-120 deg	-39.82	-71.36	-100.95	-126.39	-148.83	-166.76
130-180 deg	-179.62	-187.02	-188.74	-184.72	-175.09	-160.14
190-240 deg	-140.42	-116.23	-88.50	-58.08	-25.90	7.06

250-300 deg	39.82	71.36	100.95	126.39	148.83	166.76
310-360 deg	179.62	187.02	188.74	184.72	175.09	160.14

Source ID: IDLEX_27

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	1.72	-3.72	-9.04	-14.09	-18.71	-22.76
70-120 deg	-26.12	-28.69	-30.38	-61.77	-96.34	-127.98
130-180 deg	-155.74	-178.76	-196.35	-207.98	-213.28	-212.11
190-240 deg	-252.99	-311.91	-361.35	-399.81	-426.13	-439.50
250-300 deg	-439.51	-426.17	-399.88	-391.86	-377.42	-351.51
310-360 deg	-314.92	-268.76	-214.43	-153.59	-88.08	-20.32

Across Flow [m] (10 to 360 deg)

10-60 deg	-165.05	-140.54	-111.76	-79.59	-45.00	-9.04
70-120 deg	27.19	62.60	95.90	127.35	154.09	176.15
130-180 deg	192.86	203.71	208.37	206.70	198.74	184.75
190-240 deg	165.05	140.54	111.76	79.59	45.00	9.04
250-300 deg	-27.19	-62.60	-95.90	-127.35	-154.09	-176.15
310-360 deg	-192.86	-203.71	-208.37	-206.70	-198.74	-184.75

Source ID: IDLEX_28

Source Pathway

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-2.04	-11.94	-21.46	-30.34	-38.30	-45.09
70-120 deg	-50.51	-54.40	-56.63	-87.76	-121.28	-151.12
130-180 deg	-176.37	-196.25	-210.18	-217.72	-218.64	-212.92
190-240 deg	-249.23	-303.69	-348.93	-383.56	-406.54	-417.17
250-300 deg	-415.12	-400.46	-373.63	-365.87	-352.48	-328.37
310-360 deg	-294.29	-251.27	-200.61	-143.85	-82.73	-19.51

Across Flow [m] (10 to 360 deg)

10-60 deg	-139.06	-115.60	-88.63	-58.96	-27.51	4.79
70-120 deg	36.93	67.96	96.71	123.59	145.88	163.73
130-180 deg	176.61	184.12	186.04	182.31	173.03	158.50
190-240 deg	139.06	115.60	88.63	58.96	27.51	-4.79
250-300 deg	-36.93	-67.96	-96.71	-123.59	-145.88	-163.73
310-360 deg	-176.61	-184.12	-186.04	-182.31	-173.03	-158.50

Source ID: IDLEX_29

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19

250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-7.15	-22.68	-37.52	-51.22	-63.36	-73.58
70-120 deg	-81.57	-87.07	-89.93	-120.67	-152.81	-180.30
130-180 deg	-202.32	-218.19	-227.43	-229.75	-225.10	-213.61
190-240 deg	-244.12	-292.95	-332.87	-362.68	-381.47	-388.67
250-300 deg	-384.06	-367.78	-340.33	-332.96	-320.95	-299.19
310-360 deg	-268.34	-229.33	-183.36	-131.82	-76.27	-18.82
Across Flow [m] (10 to 360 deg)						
10-60 deg	-106.14	-84.07	-59.44	-33.01	-5.57	22.03
70-120 deg	48.97	74.42	97.40	118.49	135.14	147.68
130-180 deg	155.73	159.06	157.55	151.25	140.36	125.20
190-240 deg	106.14	84.07	59.44	33.01	5.57	-22.03
250-300 deg	-48.97	-74.42	-97.40	-118.49	-135.14	-147.68
310-360 deg	-155.73	-159.06	-157.55	-151.25	-140.36	-125.20

Source ID: IDLEX_30

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39

130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-12.12	-33.49	-53.84	-72.55	-89.07	-102.87
70-120 deg	-113.55	-120.78	-124.34	-154.74	-185.49	-210.61
130-180 deg	-229.34	-241.09	-245.52	-242.48	-232.08	-214.63
190-240 deg	-239.15	-282.14	-316.55	-341.35	-355.77	-359.38
250-300 deg	-352.08	-334.07	-305.92	-298.89	-288.27	-268.88
310-360 deg	-241.32	-206.43	-165.27	-119.09	-69.29	-17.80
Across Flow [m] (10 to 360 deg)						
10-60 deg	-72.08	-51.39	-29.13	-5.99	17.33	40.12
70-120 deg	61.70	81.40	98.42	113.52	124.33	131.36
130-180 deg	134.40	133.35	128.26	119.26	106.65	90.79
190-240 deg	72.08	51.39	29.13	5.99	-17.33	-40.12
250-300 deg	-61.70	-81.40	-98.42	-113.52	-124.33	-131.36
310-360 deg	-134.40	-133.35	-128.26	-119.26	-106.65	-90.79

Source ID: IDLEX_31

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Source Pathway

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-17.94	-45.13	-70.94	-94.60	-115.39	-132.66
70-120 deg	-145.91	-154.73	-158.84	-188.74	-217.97	-240.58
130-180 deg	-255.87	-263.39	-262.91	-254.44	-238.24	-214.80
190-240 deg	-233.33	-270.50	-299.45	-319.30	-329.45	-329.59
250-300 deg	-319.72	-300.13	-271.42	-264.89	-255.79	-238.92
310-360 deg	-214.78	-184.13	-147.87	-107.13	-63.13	-17.63

Across Flow [m] (10 to 360 deg)

10-60 deg	-38.07	-18.91	0.83	20.54	39.63	57.52
70-120 deg	73.66	87.56	98.59	107.69	112.69	114.25
130-180 deg	112.35	107.03	98.46	86.90	72.70	56.29
190-240 deg	38.07	18.91	-0.83	-20.54	-39.63	-57.52
250-300 deg	-73.66	-87.56	-98.59	-107.69	-112.69	-114.25
310-360 deg	-112.35	-107.03	-98.46	-86.90	-72.70	-56.29

Source ID: IDLEX_32

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26

250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-22.43	-55.28	-86.44	-114.98	-140.02	-160.81
70-120 deg	-176.71	-187.25	-192.09	-221.71	-249.66	-270.02
130-180 deg	-282.18	-285.76	-280.66	-267.04	-245.29	-216.10
190-240 deg	-228.84	-260.35	-283.95	-298.92	-304.82	-301.45
250-300 deg	-288.92	-267.61	-238.17	-231.92	-224.10	-209.47
310-360 deg	-188.48	-161.76	-130.12	-94.54	-56.07	-16.33
Across Flow [m] (10 to 360 deg)						
10-60 deg	-5.10	12.78	30.28	46.85	62.00	75.27
70-120 deg	86.25	94.61	99.88	103.20	102.54	98.75
130-180 deg	91.97	82.40	70.32	56.10	40.18	23.04
190-240 deg	5.10	-12.78	-30.28	-46.85	-62.00	-75.27
250-300 deg	-86.25	-94.61	-99.89	-103.20	-102.54	-98.75
310-360 deg	-91.97	-82.40	-70.32	-56.10	-40.18	-23.04

Source ID: IDLEX_33

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-27.60	-66.17	-102.74	-136.18	-165.48	-189.76
70-120 deg	-208.27	-220.45	-225.93	-255.16	-281.71	-299.69

130-180 deg	-308.57	-308.07	-298.21	-279.29	-251.88	-216.82
190-240 deg	-223.67	-249.45	-267.65	-277.72	-279.36	-272.50
250-300 deg	-257.36	-234.41	-204.33	-198.47	-192.05	-179.80
310-360 deg	-162.09	-139.45	-112.58	-82.28	-49.49	-15.61

Across Flow [m] (10 to 360 deg)

10-60 deg	28.35	44.83	59.94	73.24	84.31	92.81
70-120 deg	98.50	101.20	100.60	98.03	91.64	82.46
130-180 deg	70.77	56.94	41.37	24.55	6.98	-10.80
190-240 deg	-28.35	-44.83	-59.94	-73.24	-84.31	-92.81
250-300 deg	-98.50	-101.20	-100.60	-98.03	-91.64	-82.46
310-360 deg	-70.77	-56.94	-41.37	-24.55	-6.98	10.80

Source ID: IDLEX_34

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-32.14	-76.40	-118.35	-156.69	-190.28	-218.08
70-120 deg	-239.26	-253.16	-259.38	-288.33	-313.58	-329.30
130-180 deg	-335.02	-330.56	-316.05	-291.94	-258.96	-218.11
190-240 deg	-219.13	-239.22	-252.05	-257.21	-254.56	-244.18
250-300 deg	-226.37	-201.69	-170.88	-165.30	-160.18	-150.19
310-360 deg	-135.64	-116.97	-94.74	-69.63	-42.41	-14.32

Source Pathway

Across Flow [m] (10 to 360 deg)

10-60 deg	61.51	76.70	89.56	99.69	106.80	110.66
70-120 deg	111.15	108.27	101.89	93.50	81.41	66.85
130-180 deg	50.26	32.14	13.05	-6.44	-25.74	-44.25
190-240 deg	-61.51	-76.70	-89.56	-99.69	-106.80	-110.66
250-300 deg	-111.15	-108.27	-101.89	-93.50	-81.41	-66.85
310-360 deg	-50.26	-32.14	-13.05	6.44	25.74	44.25

Source ID: IDLEX_35

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-38.61	-89.05	-136.77	-180.34	-218.43	-249.88
70-120 deg	-273.74	-289.29	-296.04	-324.41	-347.99	-361.00
130-180 deg	-363.03	-354.04	-334.28	-304.37	-265.22	-218.00
190-240 deg	-212.66	-226.58	-233.62	-233.56	-226.41	-212.37
250-300 deg	-191.89	-165.57	-134.22	-129.22	-125.77	-118.50
310-360 deg	-107.63	-93.48	-76.50	-57.20	-36.15	-14.43

Across Flow [m] (10 to 360 deg)

10-60 deg	97.60	111.11	121.25	127.70	130.28	128.89
70-120 deg	123.59	114.53	101.78	87.02	68.77	48.43
130-180 deg	26.61	3.99	-18.76	-40.93	-61.86	-80.91
190-240 deg	-97.60	-111.11	-121.25	-127.70	-130.28	-128.89

250-300 deg	-123.59	-114.53	-101.78	-87.02	-68.77	-48.43
310-360 deg	-26.61	-3.99	18.76	40.93	61.86	80.91

Source ID: IDLEX_36

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-42.93	-98.78	-151.63	-199.86	-242.03	-276.84
70-120 deg	-303.24	-320.43	-327.88	-355.98	-378.33	-389.19
130-180 deg	-388.21	-375.44	-351.27	-316.42	-271.96	-219.23
190-240 deg	-208.34	-216.85	-218.77	-214.04	-202.81	-185.41
250-300 deg	-162.39	-134.43	-102.38	-97.65	-95.43	-90.31
310-360 deg	-82.44	-72.08	-59.52	-45.15	-29.41	-13.20

Across Flow [m] (10 to 360 deg)

10-60 deg	129.17	141.45	149.44	152.88	151.68	145.88
70-120 deg	135.63	121.27	103.01	82.70	59.03	33.57
130-180 deg	7.09	-19.61	-45.71	-70.43	-93.00	-112.75
190-240 deg	-129.17	-141.45	-149.44	-152.88	-151.68	-145.88
250-300 deg	-135.63	-121.27	-103.01	-82.70	-59.03	-33.57
310-360 deg	-7.09	19.61	45.71	70.43	93.00	112.75

Source ID: IDLEX_37

Source Pathway

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-48.27	-110.02	-168.42	-221.71	-268.27	-306.67
70-120 deg	-335.75	-354.63	-362.74	-390.44	-411.34	-419.74
130-180 deg	-415.39	-398.41	-369.33	-329.03	-278.73	-219.96
190-240 deg	-203.00	-205.61	-201.97	-192.19	-176.57	-155.59
250-300 deg	-129.88	-100.22	-67.52	-63.19	-62.42	-59.75
310-360 deg	-55.27	-49.11	-41.46	-32.54	-22.64	-12.47

Across Flow [m] (10 to 360 deg)

10-60 deg	163.63	174.46	179.99	180.06	174.65	163.94
70-120 deg	148.24	128.04	103.74	77.37	47.80	16.77
130-180 deg	-14.76	-45.85	-75.54	-102.94	-127.21	-147.61
190-240 deg	-163.63	-174.46	-179.99	-180.06	-174.65	-163.94
250-300 deg	-148.24	-128.04	-103.74	-77.37	-47.80	-16.77
310-360 deg	14.76	45.85	75.54	102.94	127.21	147.61

Source ID: IDLEX_38

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19

250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-53.89	-120.57	-183.60	-241.05	-291.17	-332.44
70-120 deg	-363.62	-383.74	-392.21	-419.38	-438.86	-445.01
130-180 deg	-437.63	-416.96	-383.62	-338.63	-283.34	-219.45
190-240 deg	-197.38	-195.05	-186.79	-172.86	-153.67	-129.81
250-300 deg	-102.01	-71.11	-38.05	-34.26	-34.90	-34.49
310-360 deg	-33.02	-30.56	-27.16	-22.94	-18.02	-12.98
Across Flow [m] (10 to 360 deg)						
10-60 deg	192.56	201.98	205.26	202.31	193.20	178.23
70-120 deg	157.84	132.66	103.23	71.75	37.24	1.60
130-180 deg	-34.09	-68.75	-101.32	-130.80	-156.32	-177.08
190-240 deg	-192.56	-201.98	-205.26	-202.31	-193.20	-178.23
250-300 deg	-157.84	-132.66	-103.23	-71.75	-37.24	-1.60
310-360 deg	34.09	68.75	101.32	130.80	156.32	177.08

Source ID: TRU_16

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39

130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-200.25	-198.32	-190.36	-176.63	-157.52	-133.63
70-120 deg	-105.68	-74.52	-41.09	-37.03	-36.91	-35.66
130-180 deg	-33.33	-29.99	-25.74	-20.71	-15.04	-8.92
190-240 deg	-51.02	-117.31	-180.03	-237.28	-287.32	-328.63
250-300 deg	-359.95	-380.34	-389.17	-416.60	-436.85	-443.83
310-360 deg	-437.32	-417.53	-385.05	-340.87	-286.33	-223.51
Across Flow [m] (10 to 360 deg)						
10-60 deg	-189.78	-199.97	-204.08	-201.99	-193.77	-179.65
70-120 deg	-160.08	-135.64	-107.29	-74.61	-40.51	-5.17
130-180 deg	30.33	64.90	97.50	127.14	152.91	174.04
190-240 deg	189.78	199.97	204.08	201.99	193.77	179.65
250-300 deg	160.08	135.64	107.29	74.61	40.51	5.17
310-360 deg	-30.33	-64.90	-97.50	-127.14	-152.91	-174.04

Source ID: TRU_17

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Source Pathway

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-204.06	-207.06	-203.76	-194.27	-178.88	-158.05
70-120 deg	-132.42	-102.77	-69.99	-65.70	-64.48	-61.30
130-180 deg	-56.26	-49.50	-41.25	-31.74	-21.26	-10.14
190-240 deg	-47.21	-108.57	-166.63	-219.63	-265.96	-304.21
250-300 deg	-333.21	-352.09	-360.27	-387.93	-409.28	-418.19
310-360 deg	-414.40	-398.02	-369.54	-329.83	-280.11	-222.29

Across Flow [m] (10 to 360 deg)

10-60 deg	-161.11	-172.40	-178.45	-179.07	-174.26	-164.15
70-120 deg	-149.05	-129.42	-106.07	-78.43	-49.24	-18.56
130-180 deg	12.68	43.54	73.08	100.40	124.66	145.14
190-240 deg	161.11	172.40	178.45	179.07	174.26	164.15
250-300 deg	149.05	129.42	106.07	78.43	49.24	18.56
310-360 deg	-12.68	-43.54	-73.08	-100.40	-124.66	-145.14

Source ID: TRU_18

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26

250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-210.01	-218.89	-221.12	-216.64	-205.57	-188.26
70-120 deg	-165.23	-137.17	-104.95	-100.16	-97.38	-91.64
130-180 deg	-83.12	-72.08	-58.84	-43.81	-27.46	-10.27
190-240 deg	-41.26	-96.73	-149.27	-197.26	-239.26	-274.00
250-300 deg	-300.40	-317.68	-325.31	-353.48	-376.38	-387.85
310-360 deg	-387.54	-375.45	-351.95	-317.76	-273.91	-222.16
Across Flow [m] (10 to 360 deg)						
10-60 deg	-126.66	-139.50	-148.10	-152.21	-151.69	-146.55
70-120 deg	-136.97	-123.22	-105.94	-84.37	-61.08	-35.93
130-180 deg	-9.69	16.85	42.87	67.59	90.26	110.18
190-240 deg	126.66	139.50	148.10	152.21	151.69	146.55
250-300 deg	136.97	123.22	105.94	84.37	61.08	35.93
310-360 deg	9.69	-16.85	-42.87	-67.59	-90.26	-110.18

Source ID: TRU_19

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-214.47	-229.07	-236.71	-237.15	-230.40	-216.64
70-120 deg	-196.30	-169.99	-138.52	-133.46	-129.40	-121.41

130-180 deg	-109.73	-94.72	-76.83	-56.60	-34.66	-11.66
190-240 deg	-36.80	-86.56	-133.69	-176.75	-214.44	-245.62
250-300 deg	-269.33	-284.86	-291.74	-320.17	-344.36	-358.08
310-360 deg	-360.93	-352.80	-333.96	-304.97	-266.71	-220.77
Across Flow [m] (10 to 360 deg)						
10-60 deg	-93.36	-107.48	-118.34	-125.60	-129.04	-128.57
70-120 deg	-124.18	-116.03	-104.55	-88.83	-71.25	-51.51
130-180 deg	-30.20	-7.98	14.49	36.52	57.44	76.61
190-240 deg	93.36	107.48	118.34	125.60	129.04	128.57
250-300 deg	124.18	116.03	104.55	88.83	71.25	51.51
310-360 deg	30.20	7.98	-14.49	-36.52	-57.44	-76.61

Source ID: TRU_20

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-220.90	-242.24	-256.23	-262.43	-260.66	-250.96
70-120 deg	-233.64	-209.23	-178.45	-172.87	-167.10	-156.25
130-180 deg	-140.65	-120.78	-97.23	-70.74	-42.09	-12.17
190-240 deg	-30.37	-73.38	-114.16	-151.47	-184.18	-211.29
250-300 deg	-231.99	-245.63	-251.81	-280.76	-306.66	-323.25
310-360 deg	-330.01	-326.75	-313.55	-290.83	-259.27	-220.26

Source Pathway

Across Flow [m] (10 to 360 deg)						
10-60 deg	-53.95	-69.78	-83.50	-94.68	-102.98	-108.16
70-120 deg	-110.05	-108.59	-104.04	-95.26	-84.43	-71.03
130-180 deg	-55.48	-38.24	-19.83	-0.83	18.20	36.68
190-240 deg	53.95	69.78	83.50	94.68	102.98	108.16
250-300 deg	110.05	108.59	104.04	95.26	84.43	71.03
310-360 deg	55.48	38.24	19.83	0.83	-18.20	-36.68

Source ID: TRU_21

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-225.38	-251.41	-269.81	-280.01	-281.70	-274.84
70-120 deg	-259.62	-236.51	-206.22	-200.28	-193.31	-180.47
130-180 deg	-162.15	-138.89	-111.42	-80.57	-47.26	-12.52
190-240 deg	-25.89	-64.21	-100.58	-133.89	-163.13	-187.42
250-300 deg	-206.01	-218.34	-224.04	-253.35	-280.45	-299.02
310-360 deg	-308.51	-308.63	-299.36	-281.00	-254.11	-219.91
Across Flow [m] (10 to 360 deg)						
10-60 deg	-26.54	-43.57	-59.28	-73.18	-84.87	-93.97
70-120 deg	-100.22	-103.42	-103.70	-99.74	-93.60	-84.62
130-180 deg	-73.06	-59.29	-43.71	-26.80	-9.09	8.91
190-240 deg	26.54	43.57	59.28	73.18	84.87	93.97

250-300 deg	100.22	103.42	103.70	99.74	93.60	84.62
310-360 deg	73.06	59.29	43.71	26.80	9.08	-8.91

Source ID: TRU_22

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-230.34	-262.18	-286.04	-301.22	-307.24	-303.93
70-120 deg	-291.38	-269.98	-240.38	-234.09	-225.75	-210.54
130-180 deg	-188.94	-161.60	-129.35	-93.17	-54.16	-13.50
190-240 deg	-20.93	-53.45	-84.35	-112.68	-137.60	-158.33
250-300 deg	-174.25	-184.87	-189.88	-219.54	-248.01	-268.95
310-360 deg	-281.71	-285.92	-281.44	-268.40	-247.21	-218.93

Across Flow [m] (10 to 360 deg)

10-60 deg	7.27	-11.13	-29.20	-46.39	-62.16	-76.04
70-120 deg	-87.62	-96.53	-102.72	-104.71	-104.36	-100.85
130-180 deg	-94.27	-84.82	-72.80	-58.57	-42.56	-25.25
190-240 deg	-7.27	11.13	29.20	46.39	62.16	76.04
250-300 deg	87.62	96.53	102.72	104.71	104.36	100.85
310-360 deg	94.27	84.82	72.80	58.57	42.56	25.25

Source ID: TRU_23

Source Pathway

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-235.46	-273.08	-302.40	-322.53	-332.86	-333.08
70-120 deg	-323.17	-303.45	-274.51	-267.84	-258.10	-240.51
130-180 deg	-215.62	-184.17	-147.13	-105.61	-60.89	-14.32
190-240 deg	-15.81	-42.55	-67.99	-91.37	-111.98	-129.18
250-300 deg	-142.45	-151.40	-155.75	-185.79	-215.66	-238.98
310-360 deg	-255.04	-263.35	-263.66	-255.96	-240.48	-218.11

Across Flow [m] (10 to 360 deg)

10-60 deg	41.03	21.22	0.76	-19.71	-39.59	-58.27
70-120 deg	-75.17	-89.79	-101.90	-109.83	-115.27	-117.20
130-180 deg	-115.58	-110.44	-101.95	-90.36	-76.02	-59.38
190-240 deg	-41.03	-21.22	-0.76	19.71	39.59	58.27
250-300 deg	75.17	89.79	101.90	109.83	115.27	117.20
310-360 deg	115.58	110.44	101.95	90.36	76.02	59.38

Source ID: TRU_24

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19

250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-241.72	-285.21	-320.04	-345.15	-359.76	-363.45
70-120 deg	-356.09	-337.91	-309.47	-302.24	-290.88	-270.69
130-180 deg	-242.27	-206.50	-164.44	-117.39	-66.78	-14.13
190-240 deg	-9.55	-30.41	-50.35	-68.76	-85.07	-98.81
250-300 deg	-109.54	-116.94	-120.79	-151.39	-182.88	-208.80
310-360 deg	-228.38	-241.03	-246.34	-244.18	-234.59	-218.30
Across Flow [m] (10 to 360 deg)						
10-60 deg	75.42	54.00	30.95	6.95	-17.27	-40.95
70-120 deg	-63.39	-83.91	-102.09	-116.08	-127.40	-134.85
130-180 deg	-138.19	-137.34	-132.32	-123.28	-110.49	-94.34
190-240 deg	-75.42	-54.00	-30.95	-6.95	17.27	40.95
250-300 deg	63.39	83.91	102.09	116.08	127.40	134.85
310-360 deg	138.19	137.34	132.32	123.28	110.49	94.34

Source ID: TRU_25

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39

130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-246.22	-295.44	-335.68	-365.73	-384.66	-391.90
70-120 deg	-387.24	-370.81	-343.11	-335.60	-322.96	-300.50
130-180 deg	-268.92	-229.16	-182.44	-130.18	-73.96	-15.49
190-240 deg	-5.05	-20.18	-34.71	-48.17	-60.18	-70.35
250-300 deg	-78.39	-84.05	-87.15	-118.03	-150.80	-178.99
310-360 deg	-201.74	-218.36	-228.35	-231.40	-227.41	-216.94
Across Flow [m] (10 to 360 deg)						
10-60 deg	108.79	86.08	60.76	33.59	5.40	-22.95
70-120 deg	-50.61	-76.73	-100.73	-120.59	-137.63	-150.49
130-180 deg	-158.78	-162.24	-160.77	-154.42	-143.38	-127.98
190-240 deg	-108.79	-86.08	-60.76	-33.59	-5.40	22.95
250-300 deg	50.61	76.73	100.73	120.59	137.63	150.49
310-360 deg	158.78	162.24	160.77	154.42	143.38	127.98

Source ID: TRU_26

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Source Pathway

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-252.02	-306.65	-351.95	-386.57	-409.44	-419.86
70-120 deg	-417.53	-402.52	-375.27	-367.24	-353.11	-328.25
130-180 deg	-293.41	-249.66	-198.33	-140.97	-79.32	-15.27
190-240 deg	0.75	-8.98	-18.44	-27.33	-35.40	-42.39
250-300 deg	-48.10	-52.34	-54.99	-86.39	-120.65	-151.25
310-360 deg	-177.24	-197.86	-212.46	-220.60	-222.04	-217.16

Across Flow [m] (10 to 360 deg)

10-60 deg	140.42	116.23	88.50	58.08	25.90	-7.06
70-120 deg	-39.82	-71.36	-100.95	-126.39	-148.83	-166.76
130-180 deg	-179.62	-187.02	-188.74	-184.72	-175.09	-160.14
190-240 deg	-140.42	-116.23	-88.50	-58.08	-25.90	7.06
250-300 deg	39.82	71.36	100.95	126.39	148.83	166.76
310-360 deg	179.62	187.02	188.74	184.72	175.09	160.14

Source ID: TRU_27

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26

250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	1.72	-3.72	-9.04	-14.09	-18.71	-22.76
70-120 deg	-26.12	-28.69	-30.38	-61.77	-96.34	-127.98
130-180 deg	-155.74	-178.76	-196.35	-207.98	-213.28	-212.11
190-240 deg	-252.99	-311.91	-361.35	-399.81	-426.13	-439.50
250-300 deg	-439.51	-426.17	-399.88	-391.86	-377.42	-351.51
310-360 deg	-314.92	-268.76	-214.43	-153.59	-88.08	-20.32
Across Flow [m] (10 to 360 deg)						
10-60 deg	-165.05	-140.54	-111.76	-79.59	-45.00	-9.04
70-120 deg	27.19	62.60	95.90	127.35	154.09	176.15
130-180 deg	192.86	203.71	208.37	206.70	198.74	184.75
190-240 deg	165.05	140.54	111.76	79.59	45.00	9.04
250-300 deg	-27.19	-62.60	-95.90	-127.35	-154.09	-176.15
310-360 deg	-192.86	-203.71	-208.37	-206.70	-198.74	-184.75

Source ID: TRU_28

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-2.04	-11.94	-21.46	-30.34	-38.30	-45.09
70-120 deg	-50.51	-54.40	-56.63	-87.76	-121.28	-151.12

130-180 deg	-176.37	-196.25	-210.18	-217.72	-218.64	-212.92
190-240 deg	-249.23	-303.69	-348.93	-383.56	-406.54	-417.17
250-300 deg	-415.12	-400.46	-373.63	-365.87	-352.48	-328.37
310-360 deg	-294.29	-251.27	-200.61	-143.85	-82.73	-19.51
Across Flow [m] (10 to 360 deg)						
10-60 deg	-139.06	-115.60	-88.63	-58.96	-27.51	4.79
70-120 deg	36.93	67.96	96.71	123.59	145.88	163.73
130-180 deg	176.61	184.12	186.04	182.31	173.03	158.50
190-240 deg	139.06	115.60	88.63	58.96	27.51	-4.79
250-300 deg	-36.93	-67.96	-96.71	-123.59	-145.88	-163.73
310-360 deg	-176.61	-184.12	-186.04	-182.31	-173.03	-158.50

Source ID: TRU_29

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-7.15	-22.68	-37.52	-51.22	-63.36	-73.58
70-120 deg	-81.57	-87.07	-89.93	-120.67	-152.81	-180.30
130-180 deg	-202.32	-218.19	-227.43	-229.75	-225.10	-213.61
190-240 deg	-244.12	-292.95	-332.87	-362.68	-381.47	-388.67
250-300 deg	-384.06	-367.78	-340.33	-332.96	-320.95	-299.19
310-360 deg	-268.34	-229.33	-183.36	-131.82	-76.27	-18.82

Source Pathway

Across Flow [m] (10 to 360 deg)

10-60 deg	-106.14	-84.07	-59.44	-33.01	-5.57	22.03
70-120 deg	48.97	74.42	97.40	118.49	135.14	147.68
130-180 deg	155.73	159.06	157.55	151.25	140.36	125.20
190-240 deg	106.14	84.07	59.44	33.01	5.57	-22.03
250-300 deg	-48.97	-74.42	-97.40	-118.49	-135.14	-147.68
310-360 deg	-155.73	-159.06	-157.55	-151.25	-140.36	-125.20

Source ID: TRU_30

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-12.12	-33.49	-53.84	-72.55	-89.07	-102.87
70-120 deg	-113.55	-120.78	-124.34	-154.74	-185.49	-210.61
130-180 deg	-229.34	-241.09	-245.52	-242.48	-232.08	-214.63
190-240 deg	-239.15	-282.14	-316.55	-341.35	-355.77	-359.38
250-300 deg	-352.08	-334.07	-305.92	-298.89	-288.27	-268.88
310-360 deg	-241.32	-206.43	-165.27	-119.09	-69.29	-17.80

Across Flow [m] (10 to 360 deg)

10-60 deg	-72.08	-51.39	-29.13	-5.99	17.33	40.12
70-120 deg	61.70	81.40	98.42	113.52	124.33	131.36
130-180 deg	134.40	133.35	128.26	119.26	106.65	90.79
190-240 deg	72.08	51.39	29.13	5.99	-17.33	-40.12

250-300 deg	-61.70	-81.40	-98.42	-113.52	-124.33	-131.36
310-360 deg	-134.40	-133.35	-128.26	-119.26	-106.65	-90.79

Source ID: TRU_31

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-17.94	-45.13	-70.94	-94.60	-115.39	-132.66
70-120 deg	-145.91	-154.73	-158.84	-188.74	-217.97	-240.58
130-180 deg	-255.87	-263.39	-262.91	-254.44	-238.24	-214.80
190-240 deg	-233.33	-270.50	-299.45	-319.30	-329.45	-329.59
250-300 deg	-319.72	-300.13	-271.42	-264.89	-255.79	-238.92
310-360 deg	-214.78	-184.13	-147.87	-107.13	-63.13	-17.63

Across Flow [m] (10 to 360 deg)

10-60 deg	-38.07	-18.91	0.83	20.54	39.63	57.52
70-120 deg	73.66	87.56	98.59	107.69	112.69	114.25
130-180 deg	112.35	107.03	98.46	86.90	72.70	56.29
190-240 deg	38.07	18.91	-0.83	-20.54	-39.63	-57.52
250-300 deg	-73.66	-87.56	-98.59	-107.69	-112.69	-114.25
310-360 deg	-112.35	-107.03	-98.46	-86.90	-72.70	-56.29

Source ID: TRU_32

Source Pathway

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-22.43	-55.28	-86.44	-114.98	-140.02	-160.81
70-120 deg	-176.71	-187.25	-192.09	-221.71	-249.66	-270.02
130-180 deg	-282.18	-285.76	-280.66	-267.04	-245.29	-216.10
190-240 deg	-228.84	-260.35	-283.95	-298.92	-304.82	-301.45
250-300 deg	-288.92	-267.61	-238.17	-231.92	-224.10	-209.47
310-360 deg	-188.48	-161.76	-130.12	-94.54	-56.07	-16.33

Across Flow [m] (10 to 360 deg)

10-60 deg	-5.10	12.78	30.28	46.85	62.00	75.27
70-120 deg	86.25	94.61	99.88	103.20	102.54	98.75
130-180 deg	91.97	82.40	70.32	56.10	40.18	23.04
190-240 deg	5.10	-12.78	-30.28	-46.85	-62.00	-75.27
250-300 deg	-86.25	-94.61	-99.89	-103.20	-102.54	-98.75
310-360 deg	-91.97	-82.40	-70.32	-56.10	-40.18	-23.04

Source ID: TRU_33

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19

250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-27.60	-66.17	-102.74	-136.18	-165.48	-189.76
70-120 deg	-208.27	-220.45	-225.93	-255.16	-281.71	-299.69
130-180 deg	-308.57	-308.07	-298.21	-279.29	-251.88	-216.82
190-240 deg	-223.67	-249.45	-267.65	-277.72	-279.36	-272.50
250-300 deg	-257.36	-234.41	-204.33	-198.47	-192.05	-179.80
310-360 deg	-162.09	-139.45	-112.58	-82.28	-49.49	-15.61
Across Flow [m] (10 to 360 deg)						
10-60 deg	28.35	44.83	59.94	73.24	84.31	92.81
70-120 deg	98.50	101.20	100.60	98.03	91.64	82.46
130-180 deg	70.77	56.94	41.37	24.55	6.98	-10.80
190-240 deg	-28.35	-44.83	-59.94	-73.24	-84.31	-92.81
250-300 deg	-98.50	-101.20	-100.60	-98.03	-91.64	-82.46
310-360 deg	-70.77	-56.94	-41.37	-24.55	-6.98	10.80

Source ID: TRU_34

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39

130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-32.14	-76.40	-118.35	-156.69	-190.28	-218.08
70-120 deg	-239.26	-253.16	-259.38	-288.33	-313.58	-329.30
130-180 deg	-335.02	-330.56	-316.05	-291.94	-258.96	-218.11
190-240 deg	-219.13	-239.22	-252.05	-257.21	-254.56	-244.18
250-300 deg	-226.37	-201.69	-170.88	-165.30	-160.18	-150.19
310-360 deg	-135.64	-116.97	-94.74	-69.63	-42.41	-14.32
Across Flow [m] (10 to 360 deg)						
10-60 deg	61.51	76.70	89.56	99.69	106.80	110.66
70-120 deg	111.15	108.27	101.89	93.50	81.41	66.85
130-180 deg	50.26	32.14	13.05	-6.44	-25.74	-44.25
190-240 deg	-61.51	-76.70	-89.56	-99.69	-106.80	-110.66
250-300 deg	-111.15	-108.27	-101.89	-93.50	-81.41	-66.85
310-360 deg	-50.26	-32.14	-13.05	6.44	25.74	44.25

Source ID: TRU_35

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Source Pathway

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-38.61	-89.05	-136.77	-180.34	-218.43	-249.88
70-120 deg	-273.74	-289.29	-296.04	-324.41	-347.99	-361.00
130-180 deg	-363.03	-354.04	-334.28	-304.37	-265.22	-218.00
190-240 deg	-212.66	-226.58	-233.62	-233.56	-226.41	-212.37
250-300 deg	-191.89	-165.57	-134.22	-129.22	-125.77	-118.50
310-360 deg	-107.63	-93.48	-76.50	-57.20	-36.15	-14.43

Across Flow [m] (10 to 360 deg)

10-60 deg	97.60	111.11	121.25	127.70	130.28	128.89
70-120 deg	123.59	114.53	101.78	87.02	68.77	48.43
130-180 deg	26.61	3.99	-18.76	-40.93	-61.86	-80.91
190-240 deg	-97.60	-111.11	-121.25	-127.70	-130.28	-128.89
250-300 deg	-123.59	-114.53	-101.78	-87.02	-68.77	-48.43
310-360 deg	-26.61	-3.99	18.76	40.93	61.86	80.91

Source ID: TRU_36

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26

250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-42.93	-98.78	-151.63	-199.86	-242.03	-276.84
70-120 deg	-303.24	-320.43	-327.88	-355.98	-378.33	-389.19
130-180 deg	-388.21	-375.44	-351.27	-316.42	-271.96	-219.23
190-240 deg	-208.34	-216.85	-218.77	-214.04	-202.81	-185.41
250-300 deg	-162.39	-134.43	-102.38	-97.65	-95.43	-90.31
310-360 deg	-82.44	-72.08	-59.52	-45.15	-29.41	-13.20
Across Flow [m] (10 to 360 deg)						
10-60 deg	129.17	141.45	149.44	152.88	151.68	145.88
70-120 deg	135.63	121.27	103.01	82.70	59.03	33.57
130-180 deg	7.09	-19.61	-45.71	-70.43	-93.00	-112.75
190-240 deg	-129.17	-141.45	-149.44	-152.88	-151.68	-145.88
250-300 deg	-135.63	-121.27	-103.01	-82.70	-59.03	-33.57
310-360 deg	-7.09	19.61	45.71	70.43	93.00	112.75

Source ID: TRU_37

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-48.27	-110.02	-168.42	-221.71	-268.27	-306.67
70-120 deg	-335.75	-354.63	-362.74	-390.44	-411.34	-419.74

130-180 deg	-415.39	-398.41	-369.33	-329.03	-278.73	-219.96
190-240 deg	-203.00	-205.61	-201.97	-192.19	-176.57	-155.59
250-300 deg	-129.88	-100.22	-67.52	-63.19	-62.42	-59.75
310-360 deg	-55.27	-49.11	-41.46	-32.54	-22.64	-12.47

Across Flow [m] (10 to 360 deg)

10-60 deg	163.63	174.46	179.99	180.06	174.65	163.94
70-120 deg	148.24	128.04	103.74	77.37	47.80	16.77
130-180 deg	-14.76	-45.85	-75.54	-102.94	-127.21	-147.61
190-240 deg	-163.63	-174.46	-179.99	-180.06	-174.65	-163.94
250-300 deg	-148.24	-128.04	-103.74	-77.37	-47.80	-16.77
310-360 deg	14.76	45.85	75.54	102.94	127.21	147.61

Source ID: TRU_38

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26

Lengths [m] (10 to 360 deg)

10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43

Along Flow [m] (10 to 360 deg)

10-60 deg	-53.89	-120.57	-183.60	-241.05	-291.17	-332.44
70-120 deg	-363.62	-383.74	-392.21	-419.38	-438.86	-445.01
130-180 deg	-437.63	-416.96	-383.62	-338.63	-283.34	-219.45
190-240 deg	-197.38	-195.05	-186.79	-172.86	-153.67	-129.81
250-300 deg	-102.01	-71.11	-38.05	-34.26	-34.90	-34.49
310-360 deg	-33.02	-30.56	-27.16	-22.94	-18.02	-12.98

Source Pathway

Across Flow [m] (10 to 360 deg)

10-60 deg	192.56	201.98	205.26	202.31	193.20	178.23
70-120 deg	157.84	132.66	103.23	71.75	37.24	1.60
130-180 deg	-34.09	-68.75	-101.32	-130.80	-156.32	-177.08
190-240 deg	-192.56	-201.98	-205.26	-202.31	-193.20	-178.23
250-300 deg	-157.84	-132.66	-103.23	-71.75	-37.24	-1.60
310-360 deg	34.09	68.75	101.32	130.80	156.32	177.08

Source ID: EGEN1

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	259.80	268.48	269.00	261.36	245.77	222.71
70-120 deg	192.89	157.20	116.74	145.63	182.60	214.01
130-180 deg	238.93	256.58	266.44	268.21	261.82	247.48
190-240 deg	259.80	268.48	269.00	261.36	245.77	222.71
250-300 deg	192.89	157.20	116.74	145.63	182.60	214.01
310-360 deg	238.93	256.58	266.44	268.21	261.82	247.48

Lengths [m] (10 to 360 deg)

10-60 deg	145.63	182.60	214.01	238.93	256.58	266.44
70-120 deg	268.21	261.82	247.48	259.80	268.48	269.00
130-180 deg	261.36	245.77	222.71	192.89	157.20	116.74
190-240 deg	145.63	182.60	214.01	238.93	256.58	266.44
250-300 deg	268.21	261.82	247.48	259.80	268.48	269.00
310-360 deg	261.36	245.77	222.71	192.89	157.20	116.74

Along Flow [m] (10 to 360 deg)

10-60 deg	-47.43	-89.21	-128.29	-163.46	-193.67	-217.99
70-120 deg	-235.69	-246.22	-249.28	-261.28	-268.07	-266.72
130-180 deg	-257.27	-240.00	-215.44	-184.33	-147.62	-106.43
190-240 deg	-98.20	-93.38	-85.73	-75.47	-62.92	-48.46
250-300 deg	-32.52	-15.60	1.80	1.48	-0.41	-2.28
310-360 deg	-4.08	-5.76	-7.27	-8.55	-9.58	-10.31

Across Flow [m] (10 to 360 deg)

10-60 deg	131.38	133.83	132.22	126.59	117.12	104.09
70-120 deg	87.89	69.02	48.06	25.38	2.08	-21.28
130-180 deg	-43.99	-65.37	-84.77	-101.58	-115.31	-125.54
190-240 deg	-131.38	-133.83	-132.22	-126.59	-117.12	-104.09

250-300 deg	-87.89	-69.02	-48.06	-25.38	-2.08	21.28
310-360 deg	43.99	65.37	84.77	101.58	115.31	125.54

Source ID: EGEN2

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	256.08	260.85	257.69	246.70	228.22	202.80
70-120 deg	171.22	134.44	93.57	122.56	160.64	193.84
130-180 deg	221.14	241.73	254.97	260.47	258.05	247.79
190-240 deg	256.08	260.85	257.69	246.70	228.22	202.80
250-300 deg	171.22	134.44	93.57	122.56	160.64	193.84
310-360 deg	221.14	241.73	254.97	260.47	258.05	247.79

Lengths [m] (10 to 360 deg)

10-60 deg	122.56	160.64	193.84	221.14	241.73	254.97
70-120 deg	260.47	258.05	247.79	256.08	260.85	257.69
130-180 deg	246.70	228.22	202.80	171.22	134.44	93.57
190-240 deg	122.56	160.64	193.84	221.14	241.73	254.97
250-300 deg	260.47	258.05	247.79	256.08	260.85	257.69
310-360 deg	246.70	228.22	202.80	171.22	134.44	93.57

Along Flow [m] (10 to 360 deg)

10-60 deg	-48.91	-90.44	-129.22	-164.07	-193.94	-217.91
70-120 deg	-235.27	-245.47	-248.22	-255.56	-258.18	-252.96
130-180 deg	-240.05	-219.85	-192.97	-160.22	-122.61	-81.27
190-240 deg	-73.65	-70.20	-64.62	-57.07	-47.79	-37.06
250-300 deg	-25.20	-12.58	0.43	-0.52	-2.67	-4.73
310-360 deg	-6.65	-8.37	-9.83	-11.00	-11.83	-12.30

Across Flow [m] (10 to 360 deg)

10-60 deg	127.52	127.76	124.11	116.70	105.74	91.57
70-120 deg	74.61	55.39	34.48	12.37	-10.12	-32.30
130-180 deg	-53.50	-73.08	-90.43	-105.03	-116.45	-124.32
190-240 deg	-127.52	-127.76	-124.11	-116.70	-105.74	-91.57
250-300 deg	-74.61	-55.39	-34.48	-12.37	10.12	32.30
310-360 deg	53.50	73.08	90.43	105.03	116.45	124.32

Source ID: EGEN3

Source Pathway

Heights [m] (10 to 360 deg)

10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19

Widths [m] (10 to 360 deg)

10-60 deg	134.64	157.60	175.78	188.61	195.71	196.86
70-120 deg	192.04	181.37	165.20	178.33	190.32	196.52
130-180 deg	196.75	191.00	179.45	162.45	140.51	114.30
190-240 deg	134.64	157.60	175.78	188.61	195.71	196.86
250-300 deg	192.04	181.37	165.20	178.33	190.32	196.52
310-360 deg	196.75	191.00	179.45	162.45	140.51	114.30

Lengths [m] (10 to 360 deg)

10-60 deg	178.33	190.32	196.52	196.75	191.00	179.45
70-120 deg	162.45	140.51	114.30	134.64	157.60	175.78
130-180 deg	188.61	195.71	196.86	192.04	181.37	165.20
190-240 deg	178.33	190.32	196.52	196.75	191.00	179.45
250-300 deg	162.45	140.51	114.30	134.64	157.60	175.78
310-360 deg	188.61	195.71	196.86	192.04	181.37	165.20

Along Flow [m] (10 to 360 deg)

10-60 deg	-11.97	-10.73	-9.16	-7.31	-5.24	-3.01
70-120 deg	-0.69	1.65	3.94	-18.20	-43.75	-67.96
130-180 deg	-90.12	-109.53	-125.62	-137.89	-145.97	-149.61
190-240 deg	-166.36	-179.59	-187.36	-189.44	-185.76	-176.44
250-300 deg	-161.76	-142.16	-118.24	-116.44	-113.86	-107.81
310-360 deg	-98.49	-86.18	-71.25	-54.15	-35.41	-15.59

Across Flow [m] (10 to 360 deg)

10-60 deg	-49.12	-35.06	-19.92	-4.19	11.68	27.18
70-120 deg	41.87	55.28	67.01	77.20	84.43	89.10
130-180 deg	91.06	90.26	86.71	80.53	71.90	61.09
190-240 deg	49.12	35.06	19.92	4.19	-11.68	-27.18
250-300 deg	-41.87	-55.28	-67.01	-77.20	-84.43	-89.10
310-360 deg	-91.06	-90.26	-86.71	-80.53	-71.90	-61.09

Source ID: EGEN4_1

Heights [m] (10 to 360 deg)

10-60 deg	0.00	0.00	0.00	0.00	12.19	12.19
70-120 deg	12.19	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	12.19
190-240 deg	0.00	0.00	0.00	0.00	12.19	12.19

250-300 deg	12.19	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	0.00	0.00	0.00	0.00	447.52	410.79
70-120 deg	361.57	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	430.26
190-240 deg	0.00	0.00	0.00	0.00	447.52	410.79
250-300 deg	361.57	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	0.00	0.00	0.00	0.00	444.84	462.26
70-120 deg	465.63	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	232.43
190-240 deg	0.00	0.00	0.00	0.00	444.84	462.26
250-300 deg	465.63	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	0.00	0.00	0.00	0.00	-310.76	-358.05
70-120 deg	-394.46	-418.88	-430.58	-459.81	-480.13	-485.86
130-180 deg	-476.83	-453.31	-416.02	-366.08	-305.02	-234.70
190-240 deg	0.00	0.00	0.00	0.00	-134.08	-104.21
250-300 deg	-71.17	-35.97	0.32	6.18	6.37	6.37
310-360 deg	6.17	5.79	5.23	4.51	3.66	2.27
Across Flow [m] (10 to 360 deg)						
10-60 deg	0.00	0.00	0.00	0.00	229.55	210.62
70-120 deg	185.30	154.34	118.48	80.10	38.45	-4.38
130-180 deg	-47.08	-88.34	-126.92	-161.64	-191.46	-215.45
190-240 deg	0.00	0.00	0.00	0.00	-229.55	-210.62
250-300 deg	-185.30	-154.34	-118.48	-80.10	-38.45	4.38
310-360 deg	47.08	88.34	126.92	161.64	191.46	215.45

Source ID: EGEN4_2

Heights [m] (10 to 360 deg)						
10-60 deg	12.19	12.19	12.19	12.19	12.19	12.19
70-120 deg	12.19	12.19	12.19	0.00	0.00	0.00
130-180 deg	0.00	0.00	0.00	12.19	12.19	12.19
190-240 deg	12.19	12.19	12.19	12.19	12.19	12.19
250-300 deg	12.19	12.19	12.19	0.00	0.00	0.00
310-360 deg	0.00	0.00	0.00	12.19	12.19	12.19
Widths [m] (10 to 360 deg)						
10-60 deg	453.63	473.76	479.49	470.66	447.52	410.79
70-120 deg	361.57	301.37	232.43	0.00	0.00	0.00

130-180 deg	0.00	0.00	0.00	465.63	454.86	430.26
190-240 deg	453.63	473.76	479.49	470.66	447.52	410.79
250-300 deg	361.57	301.37	232.43	0.00	0.00	0.00
310-360 deg	0.00	0.00	0.00	465.63	454.85	430.26
Lengths [m] (10 to 360 deg)						
10-60 deg	251.27	315.63	370.39	413.90	444.84	462.26
70-120 deg	465.63	454.86	430.26	0.00	0.00	0.00
130-180 deg	0.00	0.00	0.00	361.57	301.37	232.43
190-240 deg	251.27	315.63	370.39	413.90	444.84	462.26
250-300 deg	465.63	454.85	430.26	0.00	0.00	0.00
310-360 deg	0.00	0.00	0.00	361.57	301.37	232.43
Along Flow [m] (10 to 360 deg)						
10-60 deg	-271.48	-334.14	-386.65	-427.42	-455.19	-469.13
70-120 deg	-468.82	-454.27	-425.91	0.00	0.00	0.00
130-180 deg	0.00	0.00	0.00	-148.11	-77.45	-4.44
190-240 deg	20.21	18.52	16.26	13.51	10.35	6.88
250-300 deg	3.19	-0.59	-4.35	0.00	0.00	0.00
310-360 deg	0.00	0.00	0.00	-213.46	-223.92	-227.99
Across Flow [m] (10 to 360 deg)						
10-60 deg	188.41	160.11	126.94	89.92	50.16	8.88
70-120 deg	-32.67	-73.23	-111.78	0.00	0.00	0.00
130-180 deg	0.00	0.00	0.00	-236.01	-226.84	-210.78
190-240 deg	-188.41	-160.11	-126.94	-89.92	-50.16	-8.88
250-300 deg	32.67	73.23	111.78	0.00	0.00	0.00
310-360 deg	0.00	0.00	0.00	236.01	226.84	210.78

Source ID: EGEN4_3

Heights [m] (10 to 360 deg)						
10-60 deg	0.00	0.00	0.00	0.00	0.00	0.00
70-120 deg	0.00	12.19	12.19	12.19	12.19	12.19
130-180 deg	12.19	12.19	12.19	12.19	12.19	0.00
190-240 deg	0.00	0.00	0.00	0.00	0.00	0.00
250-300 deg	0.00	12.19	12.19	12.19	12.19	12.19
310-360 deg	12.19	12.19	12.19	12.19	12.19	0.00
Widths [m] (10 to 360 deg)						
10-60 deg	0.00	0.00	0.00	0.00	0.00	0.00
70-120 deg	0.00	301.37	232.43	251.27	315.63	370.39
130-180 deg	413.90	444.84	462.26	465.63	454.86	0.00
190-240 deg	0.00	0.00	0.00	0.00	0.00	0.00
250-300 deg	0.00	301.37	232.43	251.27	315.63	370.39
310-360 deg	413.90	444.84	462.26	465.63	454.85	0.00

Source Pathway

AERMOD

Lengths [m] (10 to 360 deg)						
10-60 deg	0.00	0.00	0.00	0.00	0.00	0.00
70-120 deg	0.00	454.86	430.26	453.63	473.76	479.49
130-180 deg	470.66	447.52	410.79	361.57	301.37	0.00
190-240 deg	0.00	0.00	0.00	0.00	0.00	0.00
250-300 deg	0.00	454.85	430.26	453.63	473.76	479.49
310-360 deg	470.66	447.52	410.79	361.57	301.37	0.00
Along Flow [m] (10 to 360 deg)						
10-60 deg	0.00	0.00	0.00	0.00	0.00	0.00
70-120 deg	0.00	-426.54	-438.31	-467.38	-487.30	-492.42
130-180 deg	-482.58	-458.07	-419.65	-368.47	-306.10	0.00
190-240 deg	0.00	0.00	0.00	0.00	0.00	0.00
250-300 deg	0.00	-28.31	8.05	13.74	13.54	12.93
310-360 deg	11.92	10.55	8.86	6.90	4.73	0.00
Across Flow [m] (10 to 360 deg)						
10-60 deg	0.00	0.00	0.00	0.00	0.00	0.00
70-120 deg	0.00	155.42	118.21	78.50	35.55	-8.48
130-180 deg	-52.25	-94.44	-133.75	-169.00	-199.11	0.00
190-240 deg	0.00	0.00	0.00	0.00	0.00	0.00
250-300 deg	0.00	-155.42	-118.21	-78.50	-35.55	8.48
310-360 deg	52.25	94.44	133.75	169.00	199.11	0.00

Emission Rate Units for Output

For Concentration

Unit Factor:	1E6
Emission Unit Label:	GRAMS/SEC
Concentration Unit Label:	MICROGRAMS/M**3

Source Pathway

Source Groups

Source Group ID:	List of Sources in Group (Source Range or Single Sources)
TRU4-SW	TRU_27 TRU_28 TRU_29 TRU_30 TRU_31 TRU_32
TRU4-SE	TRU_33 TRU_34 TRU_35 TRU_36 TRU_37 TRU_38
TRU4-NW	TRU_22 TRU_23 TRU_24 TRU_25 TRU_26
TRU4-NE	TRU_16 TRU_17 TRU_18 TRU_19 TRU_20 TRU_21
ONSITE	ONSITE
OFFSITE4	OFFISTE4
OFFSITE3	OFFSITE3
OFFSITE2	OFFSITE2
OFFSITE1	OFFSITE1

Source Group ID:	List of Sources in Group (Source Range or Single Sources)
EGEN4_3	EGEN4_3
EGEN4_2	EGEN4_2
EGEN4_1	EGEN4_1
EGEN3	EGEN3
EGEN2	EGEN2
EGEN1	EGEN1
Docks3	IDLEX_13 IDLEX_14 IDLEX_15
Docks2	IDLEX_07 IDLEX_08 IDLEX_09 IDLEX_10 IDLEX_11 IDLEX_12
Docks1	IDLEX_01 IDLEX_02 IDLEX_03 IDLEX_04 IDLEX_05 IDLEX_06
Dock4-SW	IDLEX_27 IDLEX_28 IDLEX_29 IDLEX_30 IDLEX_31

	IDLEX_32

Source Group ID: **Dock4-SE**	List of Sources in Group (Source Range or Single Sources)
	IDLEX_33
	IDLEX_34
	IDLEX_35
	IDLEX_36
	IDLEX_37
	IDLEX_38

Source Group ID: **Dock4-NW**	List of Sources in Group (Source Range or Single Sources)
	IDLEX_22
	IDLEX_23
	IDLEX_24
	IDLEX_25
	IDLEX_26

Source Group ID: **Dock4-NE**	List of Sources in Group (Source Range or Single Sources)
	IDLEX_16
	IDLEX_17
	IDLEX_18
	IDLEX_19
	IDLEX_20
	IDLEX_21

Source Group ID: **ALL**	List of Sources in Group (Source Range or Single Sources)
	All Sources Included

Receptor Pathway

Receptor Networks

Note: Terrain Elavations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Discrete Receptors

Discrete Cartesian Receptors

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	314050.00	3923150.00	RES	155.96	
2	314150.00	3923150.00	UCART1	157.61	
3	314250.00	3923150.00	UCART1	158.43	
4	314350.00	3923150.00	UCART1	159.63	
5	314450.00	3923150.00	UCART1	160.95	
6	314550.00	3923150.00	UCART1	162.53	
7	314650.00	3923150.00	UCART1	163.79	
8	314750.00	3923150.00	UCART1	164.79	
9	314850.00	3923150.00	UCART1	165.50	
10	314950.00	3923150.00	UCART1	167.40	
11	315050.00	3923150.00	UCART1	167.79	
12	313750.00	3923250.00	RES	153.72	
13	313850.00	3923250.00	RES	154.65	
14	313950.00	3923250.00	RES	156.28	
15	314050.00	3923250.00	RES	157.55	
16	314150.00	3923250.00	UCART1	158.92	
17	314250.00	3923250.00	UCART1	160.04	
18	314350.00	3923250.00	UCART1	161.26	
19	314450.00	3923250.00	UCART1	162.41	
20	314550.00	3923250.00	UCART1	163.67	
21	314650.00	3923250.00	UCART1	165.21	
22	314750.00	3923250.00	UCART1	166.57	
23	314850.00	3923250.00	UCART1	167.65	
24	314950.00	3923250.00	UCART1	169.09	
25	315050.00	3923250.00	UCART1	169.21	
26	315150.00	3923250.00	UCART1	169.07	
27	315250.00	3923250.00	UCART1	169.64	
28	313550.00	3923350.00	UCART1	152.12	
29	313650.00	3923350.00	UCART1	153.72	
30	313750.00	3923350.00	UCART1	155.04	

31	313850.00	3923350.00	UCART1	156.68
32	313950.00	3923350.00	UCART1	157.53
33	314050.00	3923350.00	UCART1	158.65
34	314150.00	3923350.00	UCART1	160.26
35	314250.00	3923350.00	UCART1	161.48
36	314350.00	3923350.00	UCART1	162.51
37	314450.00	3923350.00	UCART1	163.72
38	314550.00	3923350.00	UCART1	165.07
39	314650.00	3923350.00	UCART1	166.34
40	314750.00	3923350.00	UCART1	167.97
41	314850.00	3923350.00	UCART1	169.27
42	314950.00	3923350.00	UCART1	170.62
43	315050.00	3923350.00	UCART1	170.91
44	315150.00	3923350.00	UCART1	170.90
45	315250.00	3923350.00	UCART1	171.59
46	315350.00	3923350.00	UCART1	172.31
47	313550.00	3923450.00	UCART1	153.26
48	313650.00	3923450.00	UCART1	155.74
49	313750.00	3923450.00	UCART1	156.52
50	313850.00	3923450.00	UCART1	157.38
51	313950.00	3923450.00	UCART1	158.64
52	314050.00	3923450.00	UCART1	158.58
53	314150.00	3923450.00	UCART1	161.59
54	314250.00	3923450.00	UCART1	162.94
55	314350.00	3923450.00	UCART1	164.06
56	314450.00	3923450.00	UCART1	165.25
57	314550.00	3923450.00	UCART1	166.61
58	314650.00	3923450.00	UCART1	167.75
59	314750.00	3923450.00	UCART1	169.04
60	314850.00	3923450.00	UCART1	170.66
61	314950.00	3923450.00	UCART1	172.44
62	315050.00	3923450.00	UCART1	172.77
63	315150.00	3923450.00	UCART1	173.01
64	315250.00	3923450.00	UCART1	173.54
65	315350.00	3923450.00	UCART1	174.82
66	315450.00	3923450.00	UCART1	176.17
67	313450.00	3923550.00	UCART1	153.44
68	313550.00	3923550.00	UCART1	156.78

69	313650.00	3923550.00	UCART1	156.31
70	313750.00	3923550.00	UCART1	157.78
71	313850.00	3923550.00	UCART1	159.29
72	313950.00	3923550.00	UCART1	160.61
73	314050.00	3923550.00	UCART1	162.03
74	314150.00	3923550.00	UCART1	165.57
75	314250.00	3923550.00	UCART1	165.67
76	314350.00	3923550.00	UCART1	165.65
77	314450.00	3923550.00	UCART1	165.70
78	314550.00	3923550.00	UCART1	163.44
79	314650.00	3923550.00	UCART1	169.47
80	314750.00	3923550.00	UCART1	171.65
81	314850.00	3923550.00	UCART1	172.38
82	314950.00	3923550.00	UCART1	174.95
83	315050.00	3923550.00	UCART1	174.91
84	315150.00	3923550.00	UCART1	175.06
85	315250.00	3923550.00	UCART1	175.94
86	315350.00	3923550.00	UCART1	176.30
87	315450.00	3923550.00	UCART1	177.53
88	315550.00	3923550.00	UCART1	177.93
89	313450.00	3923650.00	UCART1	156.19
90	313550.00	3923650.00	UCART1	156.21
91	313650.00	3923650.00	UCART1	157.38
92	313750.00	3923650.00	UCART1	159.78
93	313850.00	3923650.00	UCART1	160.44
94	313950.00	3923650.00	UCART1	161.97
95	314050.00	3923650.00	UCART1	163.59
96	314150.00	3923650.00	UCART1	165.01
97	314250.00	3923650.00	UCART1	165.85
98	314350.00	3923650.00	UCART1	167.02
99	314450.00	3923650.00	UCART1	168.24
100	314550.00	3923650.00	UCART1	169.45
101	314650.00	3923650.00	UCART1	170.68
102	314750.00	3923650.00	UCART1	172.21
103	314850.00	3923650.00	UCART1	173.21
104	315250.00	3923650.00	UCART1	178.19
105	315350.00	3923650.00	UCART1	177.87
106	315450.00	3923650.00	UCART1	177.68

107	315550.00	3923650.00	UCART1	179.91
108	315650.00	3923650.00	UCART1	180.12
109	313450.00	3923750.00	UCART1	155.94
110	313550.00	3923750.00	UCART1	157.90
111	313650.00	3923750.00	UCART1	159.16
112	313750.00	3923750.00	UCART1	160.80
113	313850.00	3923750.00	UCART1	161.46
114	313950.00	3923750.00	UCART1	163.22
115	314050.00	3923750.00	UCART1	164.37
116	314150.00	3923750.00	UCART1	165.31
117	314250.00	3923750.00	UCART1	166.95
118	314350.00	3923750.00	UCART1	168.76
119	314450.00	3923750.00	UCART1	169.97
120	314550.00	3923750.00	UCART1	171.06
121	314650.00	3923750.00	UCART1	172.31
122	314750.00	3923750.00	UCART1	173.72
123	314850.00	3923750.00	UCART1	174.88
124	315350.00	3923750.00	UCART1	180.89
125	315450.00	3923750.00	UCART1	181.59
126	315550.00	3923750.00	UCART1	181.29
127	315650.00	3923750.00	UCART1	181.44
128	313450.00	3923850.00	UCART1	156.59
129	313550.00	3923850.00	UCART1	158.27
130	313650.00	3923850.00	UCART1	159.88
131	313750.00	3923850.00	UCART1	161.37
132	313850.00	3923850.00	UCART1	162.83
133	313950.00	3923850.00	UCART1	164.11
134	314050.00	3923850.00	UCART1	165.75
135	314150.00	3923850.00	UCART1	166.98
136	314250.00	3923850.00	UCART1	168.65
137	314350.00	3923850.00	UCART1	170.25
138	314450.00	3923850.00	UCART1	171.34
139	314550.00	3923850.00	UCART1	172.76
140	314650.00	3923850.00	UCART1	174.01
141	314750.00	3923850.00	UCART1	175.23
142	314850.00	3923850.00	UCART1	176.51
143	315350.00	3923850.00	UCART1	182.28
144	315450.00	3923850.00	UCART1	182.72

145	315550.00	3923850.00	UCART1	183.17
146	315650.00	3923850.00	UCART1	183.68
147	313450.00	3923950.00	UCART1	157.78
148	313550.00	3923950.00	UCART1	158.84
149	313650.00	3923950.00	UCART1	160.63
150	313750.00	3923950.00	UCART1	162.37
151	313850.00	3923950.00	UCART1	164.19
152	313950.00	3923950.00	UCART1	165.88
153	314050.00	3923950.00	UCART1	167.42
154	315050.00	3923950.00	UCART1	180.64
155	315150.00	3923950.00	UCART1	181.85
156	315250.00	3923950.00	UCART1	182.70
157	315350.00	3923950.00	UCART1	183.58
158	315450.00	3923950.00	UCART1	184.09
159	315550.00	3923950.00	UCART1	184.86
160	315650.00	3923950.00	UCART1	185.42
161	315750.00	3923950.00	UCART1	186.22
162	313450.00	3924050.00	UCART1	158.27
163	313550.00	3924050.00	UCART1	159.51
164	313650.00	3924050.00	UCART1	162.08
165	313750.00	3924050.00	UCART1	162.61
166	313850.00	3924050.00	UCART1	165.12
167	313950.00	3924050.00	UCART1	166.28
168	314050.00	3924050.00	UCART1	167.95
169	315050.00	3924050.00	UCART1	182.41
170	315150.00	3924050.00	UCART1	183.61
171	315250.00	3924050.00	UCART1	184.25
172	315350.00	3924050.00	UCART1	185.28
173	315450.00	3924050.00	UCART1	185.70
174	315550.00	3924050.00	UCART1	186.08
175	315650.00	3924050.00	UCART1	187.78
176	315750.00	3924050.00	UCART1	187.07
177	313450.00	3924150.00	UCART1	159.52
178	313550.00	3924150.00	UCART1	157.05
179	313650.00	3924150.00	UCART1	163.09
180	313750.00	3924150.00	UCART1	163.83
181	313850.00	3924150.00	UCART1	165.59
182	313950.00	3924150.00	UCART1	167.32

183	314050.00	3924150.00	UCART1	169.08
184	315050.00	3924150.00	UCART1	184.65
185	315150.00	3924150.00	UCART1	185.51
186	315250.00	3924150.00	UCART1	186.31
187	315350.00	3924150.00	UCART1	187.14
188	315450.00	3924150.00	UCART1	187.49
189	315550.00	3924150.00	UCART1	188.01
190	315650.00	3924150.00	UCART1	188.75
191	315750.00	3924150.00	UCART1	189.16
192	313450.00	3924250.00	UCART1	162.56
193	313550.00	3924250.00	UCART1	163.08
194	313650.00	3924250.00	UCART1	163.08
195	313750.00	3924250.00	UCART1	164.89
196	313850.00	3924250.00	UCART1	166.60
197	313950.00	3924250.00	UCART1	168.33
198	314050.00	3924250.00	UCART1	170.05
199	315050.00	3924250.00	UCART1	185.32
200	315150.00	3924250.00	UCART1	186.86
201	315250.00	3924250.00	UCART1	188.22
202	315350.00	3924250.00	UCART1	188.91
203	315450.00	3924250.00	UCART1	189.46
204	315550.00	3924250.00	SCHOOL	189.43
205	315650.00	3924250.00	SCHOOL	190.90
206	315750.00	3924250.00	UCART1	191.29
207	313450.00	3924350.00	UCART1	163.06
208	313550.00	3924350.00	UCART1	163.06
209	313650.00	3924350.00	UCART1	164.02
210	313750.00	3924350.00	UCART1	164.65
211	313850.00	3924350.00	UCART1	168.88
212	313950.00	3924350.00	UCART1	169.34
213	314050.00	3924350.00	UCART1	169.52
214	314150.00	3924350.00	UCART1	172.91
215	314250.00	3924350.00	UCART1	174.80
216	314350.00	3924350.00	UCART1	176.89
217	314450.00	3924350.00	UCART1	177.77
218	314550.00	3924350.00	UCART1	179.17
219	315050.00	3924350.00	UCART1	187.14
220	315150.00	3924350.00	UCART1	188.71

221	315250.00	3924350.00	UCART1	190.11
222	315350.00	3924350.00	UCART1	190.94
223	315450.00	3924350.00	UCART1	191.34
224	315550.00	3924350.00	UCART1	192.31
225	315650.00	3924350.00	UCART1	193.35
226	315750.00	3924350.00	UCART1	193.19
227	313450.00	3924450.00	UCART1	163.05
228	313550.00	3924450.00	UCART1	163.67
229	313650.00	3924450.00	UCART1	165.27
230	313750.00	3924450.00	UCART1	170.84
231	313850.00	3924450.00	UCART1	169.86
232	313950.00	3924450.00	UCART1	170.03
233	314050.00	3924450.00	UCART1	169.82
234	314150.00	3924450.00	UCART1	171.43
235	314250.00	3924450.00	UCART1	176.07
236	314350.00	3924450.00	UCART1	176.57
237	314450.00	3924450.00	UCART1	178.46
238	314550.00	3924450.00	UCART1	180.62
239	315050.00	3924450.00	UCART1	188.69
240	315150.00	3924450.00	UCART1	190.26
241	315250.00	3924450.00	UCART1	191.52
242	315350.00	3924450.00	UCART1	193.02
243	315450.00	3924450.00	UCART1	193.79
244	315550.00	3924450.00	UCART1	194.48
245	315650.00	3924450.00	UCART1	194.89
246	315750.00	3924450.00	UCART1	195.29
247	313450.00	3924550.00	UCART1	163.88
248	313550.00	3924550.00	UCART1	163.90
249	313650.00	3924550.00	UCART1	167.66
250	313750.00	3924550.00	UCART1	170.87
251	313850.00	3924550.00	UCART1	170.52
252	313950.00	3924550.00	UCART1	170.55
253	314050.00	3924550.00	UCART1	170.29
254	314150.00	3924550.00	UCART1	170.57
255	314250.00	3924550.00	UCART1	177.22
256	314350.00	3924550.00	UCART1	178.81
257	314450.00	3924550.00	UCART1	180.07
258	314550.00	3924550.00	UCART1	181.72

259	315050.00	3924550.00	UCART1	189.73
260	315150.00	3924550.00	UCART1	190.88
261	315250.00	3924550.00	UCART1	192.65
262	315350.00	3924550.00	UCART1	194.81
263	315450.00	3924550.00	UCART1	194.87
264	315550.00	3924550.00	UCART1	196.00
265	315650.00	3924550.00	UCART1	196.25
266	315750.00	3924550.00	UCART1	197.32
267	313450.00	3924650.00	UCART1	164.97
268	313550.00	3924650.00	UCART1	165.51
269	313650.00	3924650.00	UCART1	168.07
270	313750.00	3924650.00	UCART1	170.19
271	313850.00	3924650.00	UCART1	170.64
272	313950.00	3924650.00	UCART1	170.85
273	314050.00	3924650.00	UCART1	171.12
274	314150.00	3924650.00	UCART1	172.93
275	314250.00	3924650.00	UCART1	177.64
276	314350.00	3924650.00	UCART1	180.09
277	314450.00	3924650.00	UCART1	181.85
278	314550.00	3924650.00	UCART1	183.89
279	315050.00	3924650.00	UCART1	191.31
280	315150.00	3924650.00	UCART1	192.74
281	315250.00	3924650.00	UCART1	194.24
282	315350.00	3924650.00	UCART1	196.29
283	315450.00	3924650.00	UCART1	196.58
284	315550.00	3924650.00	UCART1	198.11
285	315650.00	3924650.00	UCART1	198.16
286	315750.00	3924650.00	UCART1	199.09
287	313550.00	3924750.00	UCART1	166.81
288	313650.00	3924750.00	UCART1	167.62
289	313750.00	3924750.00	UCART1	169.71
290	313850.00	3924750.00	UCART1	171.32
291	313950.00	3924750.00	UCART1	172.44
292	314050.00	3924750.00	UCART1	174.42
293	314150.00	3924750.00	UCART1	175.88
294	314250.00	3924750.00	UCART1	178.03
295	314350.00	3924750.00	UCART1	180.36
296	314450.00	3924750.00	UCART1	182.71

297	314550.00	3924750.00	UCART1	184.65
298	314650.00	3924750.00	UCART1	185.86
299	314750.00	3924750.00	UCART1	187.30
300	314850.00	3924750.00	UCART1	188.84
301	314950.00	3924750.00	UCART1	190.91
302	315050.00	3924750.00	UCART1	191.78
303	315150.00	3924750.00	UCART1	194.38
304	315250.00	3924750.00	UCART1	195.34
305	315350.00	3924750.00	UCART1	197.12
306	315450.00	3924750.00	UCART1	198.41
307	315550.00	3924750.00	UCART1	199.02
308	315650.00	3924750.00	UCART1	199.85
309	315750.00	3924750.00	UCART1	202.01
310	313650.00	3924850.00	UCART1	168.85
311	313750.00	3924850.00	UCART1	170.52
312	313850.00	3924850.00	UCART1	172.70
313	313950.00	3924850.00	UCART1	174.33
314	314050.00	3924850.00	UCART1	176.33
315	314150.00	3924850.00	UCART1	177.60
316	314250.00	3924850.00	UCART1	179.00
317	314350.00	3924850.00	UCART1	180.41
318	314450.00	3924850.00	UCART1	182.40
319	314550.00	3924850.00	UCART1	185.42
320	314650.00	3924850.00	UCART1	187.60
321	314750.00	3924850.00	UCART1	189.28
322	314850.00	3924850.00	UCART1	190.71
323	314950.00	3924850.00	UCART1	192.06
324	315050.00	3924850.00	UCART1	193.70
325	315150.00	3924850.00	UCART1	194.57
326	315250.00	3924850.00	UCART1	196.72
327	315350.00	3924850.00	UCART1	198.75
328	315450.00	3924850.00	UCART1	199.69
329	315550.00	3924850.00	UCART1	200.53
330	315650.00	3924850.00	UCART1	201.13
331	315750.00	3924850.00	UCART1	202.75
332	313750.00	3924950.00	UCART1	171.33
333	313850.00	3924950.00	UCART1	173.38
334	313950.00	3924950.00	UCART1	175.72

335	314050.00	3924950.00	UCART1	177.59
336	314150.00	3924950.00	UCART1	179.42
337	314250.00	3924950.00	UCART1	181.15
338	314350.00	3924950.00	UCART1	182.71
339	314450.00	3924950.00	UCART1	183.59
340	314550.00	3924950.00	UCART1	184.96
341	314650.00	3924950.00	UCART1	188.05
342	314750.00	3924950.00	UCART1	190.23
343	314850.00	3924950.00	UCART1	192.18
344	314950.00	3924950.00	UCART1	193.55
345	315050.00	3924950.00	UCART1	195.07
346	315150.00	3924950.00	UCART1	196.43
347	315250.00	3924950.00	UCART1	198.09
348	315350.00	3924950.00	UCART1	199.99
349	315450.00	3924950.00	UCART1	201.31
350	315550.00	3924950.00	UCART1	202.35
351	315650.00	3924950.00	UCART1	202.85
352	313950.00	3925050.00	UCART1	176.31
353	314050.00	3925050.00	UCART1	178.50
354	314150.00	3925050.00	UCART1	180.25
355	314250.00	3925050.00	UCART1	183.46
356	314350.00	3925050.00	UCART1	185.39
357	314450.00	3925050.00	UCART1	186.12
358	314550.00	3925050.00	UCART1	187.47
359	314650.00	3925050.00	UCART1	189.28
360	314750.00	3925050.00	UCART1	190.80
361	314850.00	3925050.00	UCART1	192.40
362	314950.00	3925050.00	UCART1	194.46
363	315050.00	3925050.00	UCART1	196.31
364	315150.00	3925050.00	UCART1	198.24
365	315250.00	3925050.00	UCART1	199.34
366	315350.00	3925050.00	UCART1	200.61
367	315450.00	3925050.00	UCART1	202.30
368	315550.00	3925050.00	UCART1	203.95
369	315650.00	3925050.00	UCART1	204.59
370	314050.00	3925150.00	UCART1	177.65
371	314150.00	3925150.00	UCART1	179.42
372	314250.00	3925150.00	UCART1	180.01

373	314350.00	3925150.00	UCART1	180.70
374	314450.00	3925150.00	UCART1	184.18
375	314550.00	3925150.00	UCART1	186.47
376	314650.00	3925150.00	UCART1	188.28
377	314750.00	3925150.00	UCART1	192.96
378	314850.00	3925150.00	UCART1	194.28
379	314950.00	3925150.00	UCART1	197.68
380	315050.00	3925150.00	UCART1	198.85
381	315150.00	3925150.00	UCART1	199.63
382	315250.00	3925150.00	UCART1	201.23
383	315350.00	3925150.00	UCART1	201.87
384	315450.00	3925150.00	UCART1	203.40
385	315550.00	3925150.00	UCART1	205.07
386	314150.00	3925250.00	UCART1	178.99
387	314250.00	3925250.00	UCART1	179.28
388	314350.00	3925250.00	UCART1	181.18
389	314450.00	3925250.00	UCART1	183.56
390	314550.00	3925250.00	UCART1	185.98
391	314650.00	3925250.00	UCART1	188.54
392	314750.00	3925250.00	UCART1	192.60
393	314850.00	3925250.00	UCART1	196.47
394	314950.00	3925250.00	UCART1	197.87
395	315050.00	3925250.00	UCART1	197.06
396	315150.00	3925250.00	UCART1	198.46
397	315250.00	3925250.00	UCART1	200.11
398	315350.00	3925250.00	UCART1	200.22
399	315450.00	3925250.00	UCART1	205.68
400	314250.00	3925350.00	UCART1	181.91
401	314350.00	3925350.00	UCART1	182.80
402	314450.00	3925350.00	UCART1	189.72
403	314550.00	3925350.00	UCART1	191.83
404	314650.00	3925350.00	UCART1	193.21
405	314750.00	3925350.00	UCART1	196.69
406	314850.00	3925350.00	UCART1	197.06
407	314950.00	3925350.00	UCART1	198.10
408	315050.00	3925350.00	UCART1	199.03
409	315150.00	3925350.00	UCART1	202.33
410	315250.00	3925350.00	UCART1	199.99

411	315350.00	3925350.00	UCART1	202.18
412	314450.00	3925450.00	UCART1	189.93
413	314550.00	3925450.00	UCART1	193.26
414	314650.00	3925450.00	UCART1	194.72
415	314750.00	3925450.00	UCART1	196.04
416	314850.00	3925450.00	UCART1	197.41
417	314950.00	3925450.00	UCART1	199.48
418	315050.00	3925450.00	UCART1	199.93
419	315150.00	3925450.00	UCART1	200.07
420	315250.00	3925450.00	UCART1	205.03
421	315086.66	3923842.45	RES	179.05
422	315086.66	3923817.48	RES	178.79
423	315108.06	3923838.88	RES	179.04
424	315105.69	3923815.10	RES	178.77
425	315174.65	3923919.74	RES	177.90
426	315215.08	3923917.37	RES	177.95
427	315257.89	3923917.37	RES	178.12
428	315295.42	3923916.38	RES	182.78
429	315167.52	3923847.21	RES	180.82
430	315190.11	3923847.21	RES	181.07
431	315221.96	3923844.99	RES	182.13
432	315163.95	3923824.61	RES	180.78
433	315192.49	3923826.99	RES	181.07
434	315245.27	3923843.64	RES	181.95
435	315163.66	3923805.89	RES	180.07
436	315190.11	3923807.97	RES	180.38
437	315222.06	3923825.65	RES	181.92
438	315188.92	3923786.56	RES	180.25
439	315242.53	3923823.73	RES	181.81
440	315162.47	3923784.18	RES	179.94
441	314958.81	3923770.76	RES	176.92
442	314987.58	3923770.09	RES	176.82
443	314962.16	3923753.36	RES	176.53
444	314988.24	3923749.35	RES	176.24
445	314959.48	3923729.95	RES	176.44
446	314988.24	3923729.95	RES	176.19
447	314958.14	3923713.90	RES	176.18
448	314986.24	3923711.89	RES	175.91

449	314958.14	3923690.49	RES	176.11
450	314984.90	3923689.15	RES	175.85
451	314958.81	3923672.43	RES	175.79
452	314986.91	3923673.77	RES	175.61
453	314959.48	3923651.69	RES	175.75
454	314983.56	3923651.02	RES	175.57
455	314959.48	3923632.96	RES	175.46
456	314984.23	3923631.62	RES	175.24
457	314960.92	3923609.80	RES	175.42
458	314983.56	3923610.22	RES	175.22
459	315048.45	3923768.08	RES	177.42
460	315074.53	3923766.74	RES	177.94
461	315099.28	3923765.40	RES	178.42
462	315049.11	3923749.35	RES	176.59
463	315073.19	3923747.34	RES	176.86
464	315096.61	3923746.01	RES	178.00
465	315044.43	3923727.28	RES	176.34
466	315070.44	3923725.94	RES	176.63
467	315097.27	3923724.60	RES	177.94
468	315045.77	3923709.89	RES	176.06
469	315072.53	3923709.89	RES	176.34
470	315097.94	3923709.89	RES	177.43
471	315045.10	3923686.47	RES	175.95
472	315071.19	3923687.14	RES	176.24
473	315095.94	3923685.81	RES	177.23
474	315044.43	3923669.08	RES	175.68
475	315071.19	3923669.08	RES	176.00
476	315102.63	3923667.75	RES	176.76
477	315043.76	3923646.34	RES	175.59
478	315071.19	3923647.01	RES	175.96
479	315098.61	3923647.01	RES	176.71
480	315043.09	3923628.28	RES	175.35
481	315069.18	3923628.28	RES	175.63
482	315102.63	3923626.94	RES	176.02
483	315041.91	3923607.79	RES	175.34
484	315067.84	3923608.21	RES	175.60
485	315100.62	3923606.88	RES	176.02
486	315161.49	3923766.07	RES	179.22

487	315183.56	3923767.41	RES	179.49
488	315159.90	3923743.83	RES	179.08
489	315186.24	3923745.34	RES	179.42
490	315158.99	3923725.34	RES	178.45
491	315184.90	3923727.95	RES	178.75
492	315160.15	3923706.54	RES	178.38
493	315180.89	3923707.21	RES	178.63
494	315160.15	3923690.49	RES	177.85
495	315187.58	3923685.14	RES	178.00
496	315158.81	3923668.41	RES	177.73
497	315188.25	3923667.08	RES	178.02
498	315157.48	3923649.68	RES	177.02
499	315223.03	3923805.54	RES	181.50
500	315246.44	3923804.87	RES	181.25
501	315225.03	3923786.81	RES	181.15
502	315247.11	3923787.48	RES	180.95
503	315224.37	3923770.76	RES	180.55
504	315246.44	3923770.09	RES	180.27
505	315223.03	3923752.03	RES	180.16
506	315245.77	3923752.03	RES	179.89
507	315225.03	3923734.63	RES	179.88
508	315244.43	3923734.63	RES	179.66
509	315223.03	3923712.56	RES	179.69
510	315243.09	3923713.90	RES	179.52
511	315220.35	3923696.51	RES	179.40
512	315326.99	3923924.33	RES	183.73
513	315320.46	3923947.21	RES	183.77
514	315329.17	3923971.17	RES	184.11
515	315323.73	3923987.51	RES	184.36
516	315328.08	3924010.39	RES	184.77
517	315326.99	3924030.00	RES	185.06
518	315333.53	3924045.25	RES	185.37
519	315332.44	3924059.41	RES	185.60
520	315332.44	3924082.29	RES	186.00
521	315332.44	3924097.54	RES	186.31
522	315333.53	3924123.68	RES	186.75
523	315334.62	3924134.58	RES	186.97
524	315336.80	3924159.63	RES	187.42

525	315335.71	3924169.44	RES	187.61
526	315334.62	3924193.40	RES	187.99
527	315332.44	3924216.28	RES	188.42
528	315336.80	3924229.35	RES	188.63
529	315338.98	3924244.60	RES	188.89
530	315337.89	3924236.98	RES	188.75
531	315335.71	3924251.14	RES	189.01
532	315337.89	3924269.66	RES	189.33
533	315337.89	3924291.44	RES	189.70
534	315345.51	3924327.39	RES	190.41
535	315340.07	3924343.73	RES	190.90
536	315340.07	3924368.79	RES	191.37
537	315343.34	3924385.13	RES	191.60
538	315344.42	3924408.01	RES	192.14
539	315345.51	3924424.35	RES	192.46
540	315345.51	3924465.74	RES	193.40
541	315348.78	3924478.81	RES	193.65
542	315352.05	3924502.78	RES	194.06
543	315349.87	3924518.03	RES	194.31
544	315355.32	3924539.82	RES	194.62
545	315356.41	3924577.95	RES	195.27
546	314074.41	3923738.41	NON-RES	164.65
547	314152.46	3923718.89	NON-RES	165.53
548	314280.18	3923708.25	NON-RES	166.95
549	314624.33	3923582.30	NON-RES	169.72
550	314388.39	3923589.40	NON-RES	165.79
551	314278.41	3923589.40	NON-RES	165.70
552	314193.26	3923587.62	NON-RES	165.68

Plant Boundary Receptors

Receptor Groups

Record Number	Group ID	Group Description
1	UCART1	Receptors generated from Uniform Cartesian Grid
2	SCHOOL	
3	RES	
4	NON-RES	

Meteorology Pathway

AERMOD

Met Input Data

Surface Met Data

Filename: Bakersfield_18-22.SFC
Format Type: Default AERMET format

Profile Met Data

Filename: Bakersfield_18-22.PFL
Format Type: Default AERMET format

Wind Speed

☐ Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 149.00 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface Upper Air		2018 2018			OAKLAND/WSO AP

Data Period

Data Period to Process

Start Date: 1/1/2018 Start Hour: 1 End Date: 12/31/2022 End Hour: 24

Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

Output Pathway

Tabular Printed Outputs

Short Term Averaging Period	RECTABLE Highest Values Table										MAXTABLE Maximum Values Table	DAYTABLE Daily Values Table
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th		
1	■	☐	☐	☐	☐	☐	☐	☐	☐	☐		No

Contour Plot Files (PLOTFILE)

Path for PLOTFILES: OPHRA.AD

Averaging Period	Source Group ID	High Value	File Name
Period	Docks1		DOCK1_PE.PLT
1	Docks1	1st	DOCK1_01.PLT
1	Docks2	1st	DOCK2_01.PLT
Period	Docks2		DOCK2_PE.PLT
Period	Docks3		DOCK3_PE.PLT
1	Docks3	1st	DOCK3_01.PLT
1	Dock4-NE	1st	DOCK4NE_01.PLT
Period	Dock4-NE		DOCK4NE_PE.PLT
Period	Dock4-NW		DOCK4NW_PE.PLT
1	Dock4-NW	1st	DOCK4NW_01.PLT
1	Dock4-SW	1st	DOCK4SW_01.PLT
Period	Dock4-SW		DOCK4SW_PE.PLT
Period	Dock4-SE		DOCK4SE_PE.PLT
1	Dock4-SE	1st	DOCK4SE_01.PLT
Period	ONSITE		ONSITE_PE.PLT
1	ONSITE	1st	ONSITE_01.PLT
1	OFFSITE1	1st	OFFSITE1_01.PLT
1	OFFSITE2	1st	OFFSITE2_01.PLT
Period	OFFSITE2		OFFSITE2_PE.PLT
Period	OFFSITE1		OFFSITE1_PE.PLT
Period	TRU4-NE		TRU4NE_PE.PLT
1	TRU4-NE	1st	TRU4NE_01.PLT
1	TRU4-NW	1st	TRU4NW_01.PLT
1	TRU4-SW	1st	TRU4SW_01.PLT
1	TRU4-SE	1st	TRU4SE_01.PLT
Period	TRU4-SE		TRU4SE_PE.PLT
Period	TRU4-SW		TRU4SW_PE.PLT
Period	TRU4-NW		TRU4NW_PE.PLT
Period	EGEN1		EGEN1_PE.PLT
Period	EGEN2		EGEN2_PE.PLT
Period	EGEN3		EGEN3_PE.PLT
Period	EGEN4_1		EGEN4_1_PE.PLT
Period	EGEN4_2		EGEN4_2_PE.PLT
Period	EGEN4_3		EGEN4_3_PE.PLT

Output Pathway

AERMOD

1	EGEN1	1st	EGEN1_01.PLT
1	EGEN2	1st	EGEN2_01.PLT
1	EGEN3	1st	EGEN3_01.PLT
1	EGEN4_1	1st	EGEN4_1_01.PLT
1	EGEN4_2	1st	EGEN4_2_01.PLT
1	EGEN4_3	1st	EGEN4_3_01.PLT
Period	OFFSITE3		Offsite3_PE.PLT
1	OFFSITE3	1st	Offsite3_1hr.PLT
Period	OFFSITE4		Offsite4_PE.PLT
1	OFFSITE4	1st	Offsite4_1hr.PLT

Results Summary

Airport Commerce Center Industrial Project
Operational HRA for HARP ADMRT supplemental

PM10 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		29.74400		314650.00	3923850.00	-99.00	-99.00	-99.00	
PERIOD		62.92700		314650.00	3923850.00	-99.00	-99.00	-99.00	
PERIOD		5.93690		314650.00	3923850.00	-99.00	-99.00	-99.00	

PM10 - Concentration - Source Group: DOCK4-NE

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	289.00923	ug/m^3	314550.00	3924350.00	179.17	0.00	179.17	12/11/2019, 17
PERIOD		11.39826	ug/m^3	314550.00	3923850.00	172.76	0.00	172.76	

PM10 - Concentration - Source Group: DOCK4-NW

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		9.96330	ug/m^3	314350.00	3924350.00	176.89	0.00	177.79	
1-HR	1ST	382.42098	ug/m^3	314450.00	3924350.00	177.77	0.00	177.77	8/31/2019, 4

Results Summary

Airport Commerce Center Industrial Project
Operational HRA for HARP ADMRT supplemental

PM10 - Concentration - Source Group: DOCK4-SE

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		26.78308	ug/m^3	314650.00	3923850.00	174.01	0.00	174.01	
1-HR	1ST	398.83281	ug/m^3	314650.00	3923850.00	174.01	0.00	174.01	2/13/2020, 24

PM10 - Concentration - Source Group: DOCK4-SW

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	348.63311	ug/m^3	314450.00	3923850.00	171.34	0.00	171.34	10/2/2021, 7
PERIOD		16.81718	ug/m^3	314450.00	3923850.00	171.34	0.00	171.34	

PM10 - Concentration - Source Group: DOCKS1

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		14.93960	ug/m^3	314550.00	3924550.00	181.72	0.00	181.72	
1-HR	1ST	373.72603	ug/m^3	314550.00	3924550.00	181.72	0.00	181.72	2/5/2021, 3

PM10 - Concentration - Source Group: DOCKS2

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	431.35488	ug/m^3	315050.00	3924350.00	187.14	0.00	187.14	11/21/2020, 8
PERIOD		14.55195	ug/m^3	314550.00	3924350.00	179.17	0.00	179.17	

Results Summary

Airport Commerce Center Industrial Project
Operational HRA for HARP ADMRT supplemental

PM10 - Concentration - Source Group: DOCKS3

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		11.18042	ug/m^3	314550.00	3924350.00	179.17	0.00	179.17	
1-HR	1ST	479.44550	ug/m^3	315050.00	3924250.00	185.32	0.00	185.32	11/21/2020, 8

PM10 - Concentration - Source Group: EGEN1

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		13.05751	ug/m^3	315050.00	3924350.00	187.14	0.00	187.14	
1-HR	1ST	337.09278	ug/m^3	314850.00	3924750.00	188.84	0.00	188.84	10/6/2019, 7

PM10 - Concentration - Source Group: EGEN2

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		12.11306	ug/m^3	315050.00	3924250.00	185.32	0.00	185.32	
1-HR	1ST	348.59737	ug/m^3	315050.00	3924350.00	187.14	0.00	187.14	8/19/2019, 6

PM10 - Concentration - Source Group: EGEN3

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		8.03107	ug/m^3	315050.00	3923950.00	180.64	0.00	180.64	
1-HR	1ST	436.43399	ug/m^3	315050.00	3924150.00	184.65	0.00	184.65	11/21/2020, 8

Results Summary

Airport Commerce Center Industrial Project
Operational HRA for HARP ADMRT supplemental

PM10 - Concentration - Source Group: EGEN4_1

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		12.63147	ug/m^3	314750.00	3923850.00	175.23	0.00	175.23	
1-HR	1ST	381.81192	ug/m^3	314550.00	3923850.00	172.76	0.00	172.76	11/15/2019, 6

PM10 - Concentration - Source Group: EGEN4_2

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		6.37419	ug/m^3	314650.00	3923850.00	174.01	0.00	174.01	
1-HR	1ST	302.79837	ug/m^3	314550.00	3923850.00	172.76	0.00	172.76	8/23/2020, 2

PM10 - Concentration - Source Group: EGEN4_3

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		7.03833	ug/m^3	314850.00	3923850.00	176.51	0.00	176.51	
1-HR	1ST	217.66071	ug/m^3	314450.00	3924350.00	177.77	0.00	177.77	12/18/2020, 5

PM10 - Concentration - Source Group: OFFSITE1

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	626.17033	ug/m^3	313450.00	3923950.00	157.78	0.00	157.78	1/11/2019, 1
PERIOD		47.72868	ug/m^3	314650.00	3923850.00	174.01	0.00	174.01	

Results Summary

Airport Commerce Center Industrial Project
Operational HRA for HARP ADMRT supplemental

PM10 - Concentration - Source Group: OFFSITE2

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	364.39835	ug/m^3	315050.00	3924650.00	191.31	0.00	191.31	2/11/2021, 7
PERIOD		28.45264	ug/m^3	314550.00	3924650.00	183.89	0.00	183.89	

PM10 - Concentration - Source Group: OFFSITE3

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		46.88318	ug/m^3	314950.00	3923350.00	170.62	0.00	170.62	
1-HR	1ST	506.66557	ug/m^3	314958.81	3923770.76	176.92	0.00	176.92	3/21/2022, 18

PM10 - Concentration - Source Group: OFFSITE4

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		50.29013	ug/m^3	314950.00	3925250.00	197.87	0.00	197.87	
1-HR	1ST	627.32615	ug/m^3	315050.00	3925250.00	197.06	0.00	200.81	3/21/2022, 18

PM10 - Concentration - Source Group: ONSITE

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		18.34127	ug/m^3	314550.00	3924350.00	179.17	0.00	179.17	
1-HR	1ST	300.05234	ug/m^3	315050.00	3924150.00	184.65	0.00	184.65	11/21/2020, 8

Results Summary

Airport Commerce Center Industrial Project
Operational HRA for HARP ADMRT supplemental

PM10 - Concentration - Source Group: TRU4-NE

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		12.14908	ug/m^3	314550.00	3923850.00	172.76	0.00	172.76	
1-HR	1ST	326.03154	ug/m^3	314350.00	3924350.00	176.89	0.00	177.79	3/31/2020, 6

PM10 - Concentration - Source Group: TRU4-NW

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	412.28499	ug/m^3	314450.00	3924350.00	177.77	0.00	177.77	8/31/2019, 4
PERIOD		10.77859	ug/m^3	314350.00	3924350.00	176.89	0.00	177.79	

PM10 - Concentration - Source Group: TRU4-SE

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	419.45072	ug/m^3	314650.00	3923850.00	174.01	0.00	174.01	2/13/2020, 24
PERIOD		29.98627	ug/m^3	314650.00	3923850.00	174.01	0.00	174.01	

PM10 - Concentration - Source Group: TRU4-SW

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
1-HR	1ST	361.50425	ug/m^3	314450.00	3923850.00	171.34	0.00	171.34	10/2/2021, 7
PERIOD		17.91313	ug/m^3	314450.00	3923850.00	171.34	0.00	171.34	

Appendix C

PG&E Preliminary Engineering Study Report

Preliminary Engineering Study Report

ACC Bakersfield JV, LLC

Airport Commerce Center

Merle Haggard Dr and Wings Way,

Bakersfield



Pacific Gas and Electric Company

WE DELIVER ENERGY.

April 2026

Table of Contents

1. Introduction 2

2. Project and Interconnection Information 3

3. Study Assumptions 3

4. Present Available Capacity 4

5. Project Cost and Timeline Estimates 5

6. Evaluation of Distribution Alternatives 5

Option 1: Bona Fide Capacity Project/No Up-front Customer Cost Responsibility, Install a new 12kV circuit breaker at Kern Oil Substation and install 8,500' of 1100AL UG cable ... 5

7. Transmission Impacts Analysis 6

8. Study Updates 7

9. Study Schedule 7

1. Introduction

ACC Bakersfield JV, LLC has submitted an application to Pacific Gas & Electric Company (PG&E) for ACC Bakersfield JV, LLC near Merle Haggard Rd and Wings Way with an estimated demand of 10.1 MW by Q2 2029.

PG&E has determined that a Preliminary Engineering Study (PES) will be needed to determine the options to serve the Project and identify any impacts caused by this interconnection. This PES identifies:

- Distribution system options to serve the Project on PG&E's existing distribution facilities
- Transmission and distribution system impacts caused solely by the Project
- Transmission and distribution system reinforcements necessary to mitigate any adverse impacts of caused by the Project under peak-load conditions

This study assumes no additional generation, renewable or otherwise, will be installed at the site. Should ACC Bakersfield JV, LLC wish to install generation, renewable or otherwise, at the site later, an application is required.

This study will determine which, if any, primary facilities, conductor, and equipment will need to be installed, upgraded, and/or modified on the existing distribution network to provide adequate capacity. This study will be limited to what primary line, substation work, and transmission line work is required to serve the project regardless of whether the project is served at primary voltage with a single meter (12,000 volts) or secondary voltage 480 volts) with multiple transformers and meter locations.

This Agreement does not constitute an agreement to extend power to the Customer's Project. The extension of power from PG&E's Distribution System and other services that the Project may require will be addressed in separate agreements in accordance with PG&E tariff rules then in effect. Should the Customer pursue electric distribution or service extensions, that work would be performed under PG&E's standard form, Distribution Service and Extension Agreement Declarations (Form 65-0980). The Customer will be responsible for separately making all necessary arrangements for extension of power.

If no customer comments have been received after ten business days of receiving the draft PES report, this PES report will be deemed final. This PES report is valid for three months from the date the final report is issued to the customer. After that, a new study will be required.

2. Project and Interconnection Information

ACC Bakersfield JV, LLC has requested 10.1 MW near Merle Haggard Dr and Wings Way. The new business location will be used for four commercial warehouses, two restaurants, and Truck EV charging.



Figure 2-1: Vicinity Sketch – Merle Haggard Dr and Wings Way, Bakersfield

Table 1: Load Ramp Up Schedule from Customer

Month/Year	MW
7/1/2027	7
4/10/2028	8.32
4/10/2029	10.12

Table 2-1: Load Ramp Schedule, provided by customer on 09/25/2025

3. Study Assumptions

The infrastructure evaluation will identify any new PG&E substation facilities or existing facility upgrades necessary to serve Should ACC Bakersfield JV, LLC using the following assumptions:

- The connection voltage will be one primary service at circuit voltage of 12 kV.

- A peak electrical demand and schedule provided by the customer in Table 2.1 with a maximum net electrical demand of 10.1 MW.

- A revised electrical demand based on PG&E's assessment of the data provided.

4. Present Available Capacity

ACC Bakersfield JV, LLC near Merle Haggard Rd and Wings Way is presently served by Kern Oil 1116. Per PG&E Electric Rule 2[1], 12 kV circuits are typically rated at 12 MW total. Given this total capacity, current load projections as well as existing applications for customer growth, PG&E's projections for available capacity are insufficient to accommodate the additional demand of 10.1 MW.

Present available capacity for this load application is 0 MW which is subject to change. These capacity estimates are forecasts only and apply at peak loading conditions. Additionally, these forecasts can be impacted by new customer loads as well as increased loads for existing customers.

It is essential that load estimates provided by ACC Bakersfield JV, LLC should be as accurate as possible so that PG&E can propose the most appropriate and relevant options for serving this load. It is in interest of both PG&E and Should ACC Bakersfield JV, LLC to ensure that unnecessary infrastructure is neither designed nor constructed.

The customers proposed load density is higher than the PG&E calculated load density using load density estimates from Electric Design Manual Section 4.5[2]. Given the provided site breakdown from ACC Bakersfield JV, LLC, the total revised load estimate is shown below.

ACC Bakersfield JV, LLC			
	Squarefoot	**Watts/Squarefoot**	**Watts (kW)**
Building Space	1,354,896	3.5	4742
Office Space	150,544	4	602
Restaurant	9,410	5.4	51
EV			1800
Total			**7195**

Table 4-1: Customer Load Calculated based on PG&E load standard

[1] https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_RULES_2.pdf
[2] https://ecmapps.ss.pge.com/TILVIEWER/d2Redirection/090f3f228fa4a070/false

5. Project Cost and Timeline Estimates

Any costs provided in the final report are non-binding good faith cost estimates only. All costs shown in the final study will be considered AACE Class 5[3] estimates.

Any timelines provided in the PES will be non-binding good faith estimates only. Detailed timeline estimates can be provided upon completion of the Engineering and Design process if ACC Bakersfield JV, LLC decides to proceed with the project. Timelines may be subject to change based on funding considerations or other extenuating circumstances.

6. Evaluation of Distribution Alternatives

Any extension of 12 kV line sections would be subject to approval and permitting by various agencies. Right-of-way acquisition of these lines would be the responsibility of PG&E. Per Electric Rule 2, the maximum load that can be served from a single 12 kV feeder is 12 MVA or 11.88 MW at 99% power factor.

Option 1: Bona Fide Capacity Project/No Up-front Customer Cost Responsibility, Install a new 12kV circuit breaker at Kern Oil Substation and install 8,500' of 1100AL UG cable

As shown in **Table 4-1**, the requested 10.1 MW has been revised to 7.2 MW. Based on the proposed 7.2 MW, system upgrades will be required to serve the project. This option will require distribution/substation level work to create capacity to supply the facility at Merle Haggard and Wings Way.

Initial scope of the work required to serve the 7.2 MW are detailed below. Further detail on the scope, costs, and timeline to be determined during the project design phase:

- Install a new 12kV circuit breaker at Kern Oil Substation served from Bank 1
- Repull 8,500 ft of 1100AL UG cable in existing conduit along Merle Haggard Dr.
- Install miscellaneous distribution equipment

Overall, these mitigations have an expected completion date of approximately 24 to 36 months from when the PG&E work is initiated.

[3] *AACE is an acronym for the Association for the Advancement of Cost Engineering. AACE Class 5 is based on historical information with less than 2% of project definition required. The probable accuracy of the AACE Class 5 cost is +100%, -50%.*

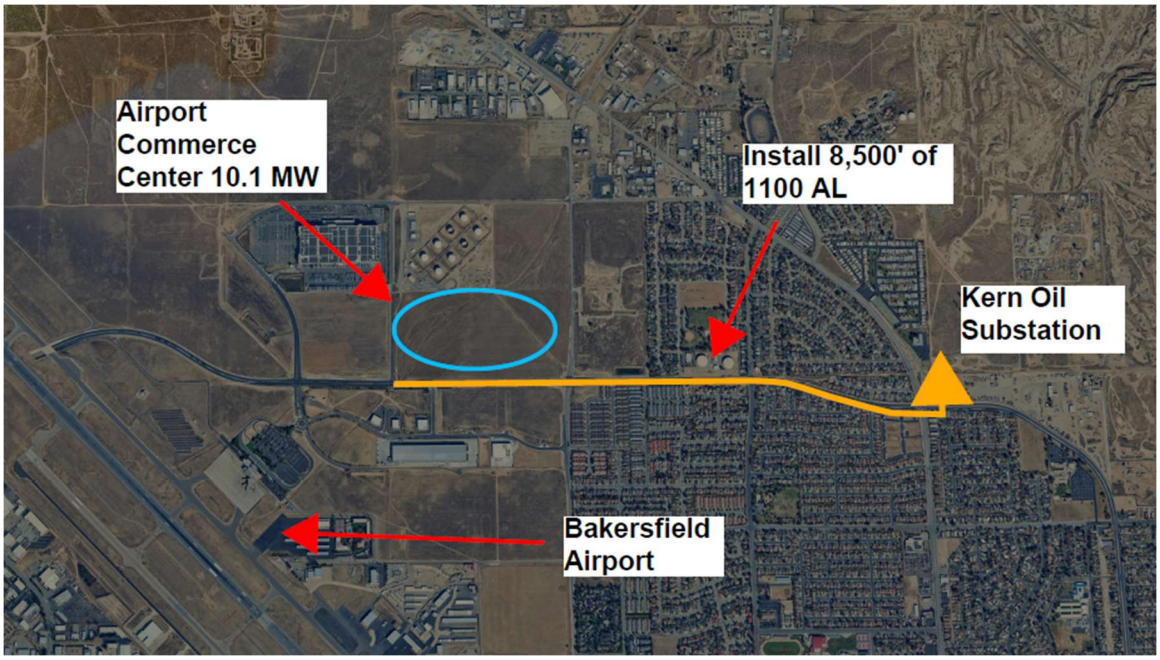


Figure 6-1: New Feeder Installation

Work Description	$ Cost (x1000)
Install New Circuit Breaker at Kern Oil Bank 1	$1,400
Install 8,500 feet of 1100AL cable	$2,500
Install Miscellaneous distribution equipment	$400
Estimated Cost	**$4,300**
Contingency (AACE Class 5: -50% / +100%)	-$2,150 / +$4,300
Total Cost with Contingency	$2,150 - $8,600

Table 6-1: Description of work

*Note: Estimated Cost is based on historical averages for similar scopes of work. Cost estimates provided in PES Reports are typically at an Association for the Advancement of Cost Engineering (AACE) Class 5, with an expected accuracy range of -50% to +100%

7. Transmission Impacts Analysis

Transmission Planning performed power flow study for this 7.2 MW load request at Kern Oil substation transformer 1. The project can contribute to pre-project thermal constraints during

P4 and P5 contingencies, however, there are approved TPP projects Kern Substation 115kV Bus Upgrade (BAAH) and Kern 230-115KV DC Supply & Control Circuit Project to mitigate the thermal issues. In addition, operational solutions are also proposed in the TPP process to bridge to the long-term mitigation. Therefore, no mitigation is required from the project.

8. Study Updates

The PES is performed in accordance with the assumptions listed in the Section titled "Study Assumptions". In the event that these assumptions become invalid, an updating study may be required to re-evaluate ACC Bakersfield JV, LLC interconnection impact on PG&E's electric transmission and distribution system. Changes that might prompt an updating study are:

- Change in the interconnection date or the timing of subsequent load additions.
- Change in the projected amount of initial load or subsequent loads.
- Change in the nature of the load.
- Change in the interconnection plan.

ACC Bakersfield JV, LLC would be responsible for paying for any such updated study.

9. Study Schedule

PG&E's study schedule for ACC Bakersfield JV, LLC near Merle Haggard Rd and Wings Way, Bakersfield

Task	Milestone Description	Target Date
1	Engineering Advance received	December 17th, 2024
2	Customer information Checklist received	September 25th, 2025
3	PG&E submits Draft PES Plan	December 12th, 2025
4	ACC Bakersfield JV, LLC submits comments on Draft PES Study Plan	January 15th, 2026
5	PG&E submits Draft PES report	April 30th, 2026
6	ACC Bakersfield JV, LLC submits comments on Draft PES report	May 5th, 2026
7	PG&E submits finalized PES report	May 19th

Pacific Gas and Electric Company

WE DELIVER ENERGY

Preliminary Engineering Study Agreement

ACC Bakersfield JV, LLC has reviewed the Preliminary Engineering Study for capacity for their proposed project at near Merle Haggard Rd and Wings Way and agrees with the proposed Preliminary Engineering Study. ACC Bakersfield JV, LLC has paid a total of $30,000 in study fees as of December 17th, 2024.

Where the applicant requests PG&E to install special facilities and PG&E agrees to make such an installation, the additional costs there of shall be borne by the applicant, including such continuing ownership costs as may be applicable.

☐ ACC Bakersfield JV, LLC agrees to the study and assumptions outlined in this Study Report.

ACC Bakersfield JV, LLC has opted to choose:

☐ Option 1: Bona Fide Capacity Project / No Up-front Customer Cost Responsibility Option

Dated this _____ day of _____, 2026

ACC Bakersfield JV, LLC**:**

BY: _____
(Signature)

_____
(Type or Print Name)

MAILING ADDRESS:

_____

_____

_____

_____

Appendix D

Power-Availability Memorandum

MEMORANDUM

TO: **ACC Bakersfield JV, LLC**
DATE: **August 5, 2026**
SUBJECT: **Feasibility of Additional Heavy Duty EV Truck Charging**
PROJECT: **Airport Commerce Center**

1. Purpose

This technical memorandum evaluates whether additional heavy-duty truck electric-vehicle (EV) charging can be incorporated into the Airport Commerce Center project under the electrical service configuration currently evaluated by Pacific Gas and Electric Company (PG&E).

This evaluation is based on the April 2026 Preliminary Engineering Study Report for ACC Bakersfield JV, LLC (PG&E PES), together with the current project schedule requiring building energization by the second quarter of 2029. Based on the information presently available, additional heavy-duty truck charging beyond the EV load already included in PG&E's accepted project demand cannot be demonstrated as technically feasible under the currently planned utility infrastructure.

2. Project Electrical Demand

ACC Bakersfield JV, LLC originally submitted an estimated project demand of approximately 10.1 megawatts (MW), with the load anticipated by the second quarter of 2029. The proposed development includes four commercial warehouse buildings, two restaurants, and EV charging.

As part of the PES, PG&E independently revised the project demand using its applicable load-density criteria. PG&E's accepted load calculation is summarized below.

Load Component	PG&E Demand
Warehouse building space	4.742 MW
Office space	0.602 MW
Restaurant uses	0.051 MW
Combined passenger and truck EV charging	1.800 MW
Total PG&E-calculated project demand	**7.195 MW**

Source: PG&E Preliminary Engineering Study Report, April 2026, Table 4-1.

The 1.8 MW EV allowance is intended to serve a combination of passenger-vehicle and truck charging. No separate heavy-duty truck charging demand, charger quantity, charger rating, or simultaneous charging profile has been established beyond this combined allowance. PG&E's currently accepted 7.195 MW demand therefore already incorporates the EV load presently included in the project.

Based on preliminary electrical demand estimates, it is assumed that approximately 759 KW of demand will be required for passenger EV chargers, with a remaining balance of 1,041 KW of capacity available for heavy duty truck EV chargers. Based on an estimated demand of 180 KW per heavy duty truck EV charger, the available capacity can service approximately 5 truck charging ports. If a load management system is employed, the available utility capacity may be able to provide electrical service to additional charging ports.

3. Existing Utility Capacity and Required Improvements

The project is presently located within the service area of PG&E's Kern Oil 1116 circuit. The PES states that a typical 12-kilovolt (kV) circuit is rated at approximately 12 MW and that, after accounting for existing loads, projected load growth, and other customer applications, the available capacity for the project's load application is presently 0 MW. PG&E therefore determined that the existing distribution system cannot accommodate the project without utility-system improvements.

To serve the revised approximately 7.2 MW project demand, PG&E identified a new 12 kV circuit originating from Kern Oil Substation Bank 1. The utility scope of work includes:

- Installation of a new 12 kV circuit breaker at Kern Oil Substation;
- Installation or replacement of approximately 8,500 linear feet of 1100 kcmil aluminum underground cable through existing conduit; and
- Installation of miscellaneous distribution equipment.

PG&E estimates that these improvements would require approximately 24 to 36 months from initiation of PG&E's work.
PG&E identifies 11.88 MW at a 99-percent power factor as the maximum load that may be served from a single 12 kV feeder. This rating represents the maximum feeder-loading criteria and should not be interpreted as confirmation that all capacity between the project's 7.195 MW demand and the feeder's theoretical 11.88 MW limit is available for additional project load. The difference between these values is approximately 4.685 MW. However, that amount has not been identified or reserved by PG&E as available capacity for additional site electrical demands. The PES evaluates the distribution improvements needed to serve the approximately 7.2 MW accepted project load.

4. Conclusion
Based on the April 2026 PG&E PES and the presently available project information, the Airport Commerce Center may reasonably rely on a total PG&E-calculated demand of approximately 7.195 MW, of which 1.8 MW is allocated collectively to passenger-vehicle and truck EV charging.

Additional heavy-duty truck charging beyond that existing allowance is not included in PG&E's current evaluation and cannot be assumed to be serviceable from the theoretical unused rating of the planned 12 kV feeder. The feeder rating is a maximum operating criterion rather than a PG&E commitment or reservation of incremental capacity.

5. Qualifications and Limitations
This memorandum is based on the April 2026 PG&E PES, which is the latest PG&E study available to Morrow Management, and on project information provided as of the date of this memorandum. PG&E states that its capacity estimates are forecasts, apply under peak-loading conditions, and may be affected by new customer loads or increased loads from existing customers. The PG&E PES also states that it does not constitute an agreement to extend electrical service and that final service arrangements would be addressed through separate agreements under PG&E's applicable tariff rules.

Prepared By: David Wolff
Title: Senior Project Manager

This Page Intentionally Left Blank